



California University of Pennsylvania  
Undergraduate Catalog  
2011-2012

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# California University of Pennsylvania

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Emergency Medical Service Institute  
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[www.caate.net](http://www.caate.net)

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[cacrep@cacrep.org](mailto:cacrep@cacrep.org)

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American Physical Therapy Association  
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703-684-2782 Fax 703-684-7343  
[www.apta.org](http://www.apta.org)

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[www.nasponline.org](http://www.nasponline.org)

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North American Society of Sport Management Program Review Council  
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[nast.arts-accredit.org](http://nast.arts-accredit.org)

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National Recreation and Park Association  
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[www.nrpa.org/coa](http://www.nrpa.org/coa)

Accredited in Applied Sociology by the  
Commission on Applied and Clinical Sociology  
Department of Human Behavior  
College of Southern Nevada  
Las Vegas, NV 89146  
702-651-5705 Fax 702-651-5843  
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# *From the President*

The mission of California University of Pennsylvania is to build the character and careers of our students. While building careers may be expected of universities, building character may seem less so. But the rationale for building character, as well as careers, is best seen in these words by Theodore Roosevelt: "To educate a person in mind but not in morals is to educate a menace to society."

Since 1852, eager students have seized the opportunity to develop their character and careers here and, in so doing, have improved their lives and the lives of those around them.

To advance its ultimate mission of building the character and careers of students, the University relies upon committed faculty, motivated students, challenging programs and exceptional facilities. We invite you to meet our faculty and students, to evaluate our academic programs, and to tour our facilities.

Because learning at California University is not restricted to one's academic major, the university experience here is a broad one, involving many co-curricular and extracurricular opportunities. Students can select from a number of academic minors and concentrations and from an array of student activities, ranging from athletics to honor societies, from Greek organizations to service learning, and from scores of student clubs and organizations.

Cal U is a student-centered university that is committed above all to academic excellence and intellectual rigor in the context of personal and institutional integrity, civility and responsibility. We provide a welcoming, family atmosphere. We are large enough to offer a variety of programs, yet small enough to know many students by name.

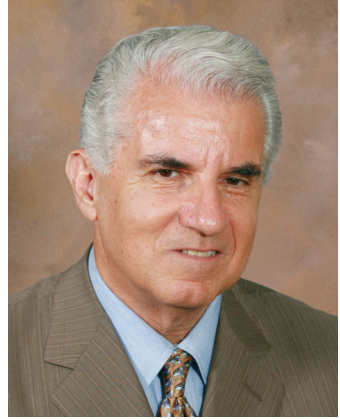
Please excuse our dust as we continue to grow at Cal U. The expansion and renovation of Herron Hall is complete, and students, faculty and staff are enjoying this state-of-the-art fitness and recreation center. A multilevel parking facility has been completed behind Manderino Library, providing sheltered parking for students, employees and campus visitors. In the coming months, we look forward to opening our magnificent new Convocation Center on the river's shore.

In fall 2007 we opened a new residence hall on the main campus, bringing to six the total number of suite-style, energy-efficient student housing facilities. The very successful off-campus residence complex, Vulcan Village, is located adjacent to Roadman Park on the south campus and offers students the option of garden-style apartment living. These high-quality residences reflect our commitment to students and their families. All residence halls include amenities quite popular with students — air conditioning, private or semi-private baths, Internet connections, and sprinkler and security systems.

We are a University on the move, and I invite you to visit us.



Angelo Armenti, Jr.



*California University of Pennsylvania  
President Angelo Armenti, Jr.*

# California University of Pennsylvania

## Identity

California University of Pennsylvania, a comprehensive regional institution of higher education and a member of the Pennsylvania State System of Higher Education, is a diverse, caring and scholarly learning community dedicated to excellence in the liberal arts, science and technology, and professional studies, and devoted to building character and careers, broadly defined. The University is inspired by its core values of integrity, civility and responsibility and is guided by its bill of rights and responsibilities: We have the right to safety and security, and we have the responsibility to ensure the safety and security of others; We have the right to be treated with respect, and we have the responsibility to treat others with respect; We have the right to expect the best, and we have the responsibility to give our best; We have the right to be treated fairly, and we have the responsibility to treat others fairly.

## Mission: Building Character and Careers

To advance its ultimate mission of building the character and careers of students, the University shall focus its efforts on three goals: student achievement and success, institutional excellence, and community service. These interrelated ends will be facilitated by the following means: high-quality faculty, students, programs and facilities. These means, in turn, will be funded through an energetic program of resource acquisition and stewardship.

## Vision

To be recognized as the best comprehensive public university in America.

How is this accomplished?

- Offer an exceptional, one-of-a-kind character- and career-building experience;
- Focus character building on the University's three core values and four rights and responsibilities;
- Define career building broadly to include lifewide (multiple life roles) and lifelong (legacy) aspects;
- Recruit and retain a distinguished faculty who challenge and mentor students to attain their fullest potential;
- Recruit and retain a talented, diverse and highly motivated student body;
- Maintain an administrative staff dedicated to the highest professional standards and service;
- Maintain a learning community known for its academic excellence, intellectual rigor and civil discourse;
- Instill not just learning, but the love of learning;
- Be widely known as a center for thought, inquiry, dialogue and action in matters of character and leadership;
- Maintain a campus of natural and architectural beauty featuring state-of-the-art facilities and equipment;
- Reflect a special mission in science and technology through programs in science, technology and applied engineering, as well as through emphasis on technology and information literacy across the curriculum;
- Be widely known for high-quality undergraduate and selected masters-level graduate programs;
- Foster increasingly higher admissions criteria, academic quality and scholarly expectations;

- Incorporate continuous improvement into all programs and activities to ensure competitive excellence;
- Prepare students for the world of work or further education, from multiple locations, through multiple technologies, in order to meet the ever-changing needs of the commonwealth and the world;
- Sustain a reputation for the University's academic excellence, its daring and entrepreneurial spirit, and the integrity, success and loyalty of its graduates;
- Instill a culture of philanthropy among students, faculty, staff and alumni;
- Create an ever-larger community of supporters and an endowment that will perpetuate the work of the University and enable constant innovation and renewal.

### **Legacy**

Founded in 1852, and now in its second 150 years of service, the University is committed above all to academic excellence and intellectual rigor in the context of personal and institutional integrity, civility and responsibility.

*Adopted by the Council of Trustees of California University of Pennsylvania*

*on June 4, 2003.*

# About California University

The University lies within the borough of California, a community of approximately 6,000 residents located on the banks of the Monongahela River, less than an hour's drive south of Pittsburgh. It is accessible via Interstate 70 Exits 15 (PA 43), 16 (Speers) or 17 (PA 88, Charleroi) or via U.S. 40 (PA 43 or 88). The Mon Valley Fayette Expressway (PA 43) links California to the federal Interstate Highway System. The University is approximately 30 minutes from Exit 8 (New Stanton) on the Pennsylvania Turnpike, and an hour from Pittsburgh International Airport.

The main campus consists of 98 acres, including the Phillipsburg annex. The 98-acre recreation complex, George H. Roadman University Park, is located one mile from campus. This complex includes a football stadium, an all-weather track, tennis courts, a baseball diamond, a softball diamond, soccer and rugby fields, a cross country course, areas for intramural sports, and picnic facilities.

Adjoining Roadman Park is the 98-acre SAI Farm, purchased in 2010 from the Harris family. The parcel includes a cross-country course, recreation space, and a farmhouse that is being renovated for student meetings. Together, Roadman Park and the SAI Farm comprise Cal U's south campus.

Between 2004 and 2007 the University opened six new residence halls on the main campus, where students live in suites of two or four students, usually sharing a bathroom with no more than one other person. All residence halls are air-conditioned and have state-of-the-art sprinkler systems.

Roadman Park is the site of an upper-campus student housing complex, Vulcan Village, that is home to more than 760 students who live in attractive, furnished garden-style apartments — most with individual baths, a living room, dining area, completely furnished kitchen, including dishwasher and microwave, and a full-size washer and dryer.

The geographic location of the University gives the resident student opportunities to explore and pursue a wide variety of activities. Located on the Appalachian Plateau, an area of rolling hills, the University is a short drive from camping, hiking, fishing, hunting, white-water rafting, canoeing and skiing. In addition to varied cultural activities on campus, the student has easy access to the Pittsburgh metropolitan area, located only 35 miles north of the campus. This provides an opportunity to enjoy the Pittsburgh Symphony Orchestra; the Pittsburgh Ballet; the Civic Light Opera; the David L. Lawrence Convention Center; the Pittsburgh Steelers, Penguins and Pirates; various museums; and all of the excitement and attractions of a major metropolitan area.

## History

In June 2001, the University began a 17-month celebration of its sesquicentennial. The institution that is now California University of Pennsylvania began as an academy nearly 160 years ago. It has evolved over the years into a multipurpose university, one of the 14 state-owned institutions that comprise the Pennsylvania State System of Higher Education.

## Milestones

**1852:** A two-story academy, offering education from kindergarten through college, was established in the recently founded community of California, Pa.

**1865:** The academy obtained a charter as a normal school for its district and became a teacher-preparatory institution.

**1874:** The institution was renamed the South-Western Normal School.

**1914:** The commonwealth acquired the institution and renamed it the California State Normal School. The curriculum became exclusively a two-year preparatory course for elementary school teachers.

**1928:** The institution became California State Teachers College, returning to its previous status as a four-year-degree-granting institution, concentrating on industrial arts and special education.

**1959:** Liberal arts curricula were introduced and the college became California State College.

**1962:** A graduate program was introduced.

**1974:** The college developed a special mission in science and technology.

**1983:** On July 1, 1983, the college became a part of the State System of Higher Education and changed its name to California University of Pennsylvania.

**1983:** The College of Science and Technology became fully operational.

**1992:** Angelo Armenti, Jr. was appointed President of California University.

**1996:** The College of Science and Technology was renamed Eberly College of Science and Technology in honor of the Eberly Foundation for its philanthropic generosity.

**1997:** Cal U Southpointe Center in the Southpointe Technology Center in Canonsburg, Pa., opened, offering a variety of courses and programs.

**1998:** The University formally adopted three core values: integrity, civility and responsibility.

**2002:** The University Council of Trustees formally adopted a list of rights and responsibilities.

**2004:** The University responded to the needs of today's students and completely redesigned the concept of residence life with three new lower-campus residence halls and the upper-campus Jefferson@California complex.

**2006:** Two new residence halls opened on campus, completing a new quad around the Natali Student Center.

**2007:** Carter Hall, the sixth and final residence hall, was opened in August 2007.

**2010:** Purchase of the 6-acre Philipsburg School property near the main campus and the 98-acre Harris property adjoining Roadman Park enlarged the campus by 50 percent.

(Additional information about the University and its history may be found in the book, *California University of Pennsylvania: The People's College in the Monongahela Valley*, by Regis J. Serinko, published in 1992.)





# Financial Aid

## Mission Statement

The primary mission of the Financial Aid Office at California University of Pennsylvania is to provide financial planning and assistance to students and their families in meeting the costs of education. In fulfilling this mission, each student will be given careful consideration, and the University will determine financial assistance based on federal, state and institutional guidelines. Financial aid programs have been established to provide access to higher education with guidelines to ensure fairness in disbursing available funds to qualifying students. The Financial Aid Office strives to ensure that courteous, timely and accurate financial aid services are delivered to all students seeking assistance from our office.

## Location and Office Hours

The Financial Aid Office is located on the first floor of Dixon Hall. The office hours are 8 a.m. to 4 p.m. Monday through Friday. Appointments are encouraged, but a daily on-call counselor is available to assist walk-ins. Students can contact the Financial Aid Office by calling 724-938-4415 or faxing 724-938-4551. In addition, general financial aid information may be obtained on the Financial Aid Office home page at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid). Specific financial aid and student account information is available 24 hours a day through the [Vulcan Information Portal \(VIP\)](#).

## Eligibility Requirements

In order to be eligible for most federal financial aid programs, students must meet the following eligibility requirements:

- Demonstrate financial need, except for some loan programs;
- Have a high school diploma or a General Education Development (GED), pass a test approved by the U.S. Department of Education, or meet other standards established by your state and approved by the U.S. Department of Education;
- Be enrolled or accepted for enrollment as a regular student working toward a degree or certificate in an eligible program;
- Be a U.S. citizen or eligible noncitizen;
- Have a valid Social Security number;
- Meet minimum satisfactory academic progress standards;
- Must have resolved any drug conviction issue;
- Must not be in default on a federal student loan and do not owe money back on a federal grant; and
- Register with the Selective Service, if required. Students can register online at the Selective Service System's website, [www.sss.gov](http://www.sss.gov).

## Financial Aid Application Process

In order to qualify for assistance from federal, state and University financial aid programs, a student must complete the 2011-12 Free Application for Federal Student Aid (FAFSA). This form is completed via the Web at [www.fafsa.gov](http://www.fafsa.gov). Students must reapply each year as soon as possible after January 1. Students who file their FAFSA by May 1 will receive priority consideration for all federal financial aid programs available at California University of Pennsylvania. However, the federal processor must receive the FAFSA by May 1 for state grant consideration.

As with first-time FAFSA filers, all continuing students must use the Web to reapply for financial aid. The federal FAFSA processor will automatically send email reminders to prior-year FAFSA filers. The email renewal reminders inform students they can complete

their FAFSA at [www.fafsa.gov](http://www.fafsa.gov). Students can complete the 2011-2012 FAFSA application anytime after Jan. 1, 2011. Students who filed a FAFSA last year will be asked to prefill their 2011-12 FAFSA with data from the previous year. Students who agree will be presented with a 2011-12 FAFSA that is automatically filled with certain data from their prior-year application.

After completing a 2011-2012 FAFSA, the student and parent (if applicable) may sign electronically with a federal personal identification number (see [FAFSA on the Web Tips](#) for additional information). For dependent students, both the student and the parent will need to request a PIN in order to electronically sign the FAFSA. Once students submit the application, they will be taken to a confirmation page that shows their confirmation number and estimated expected family contribution (EFC). Students who provide a valid email address will receive an email with a link to their student aid report (SAR) information within five days after filing the FAFSA. Students who do not provide a valid email address will receive a paper student aid report (SAR), or SAR acknowledgment, in the mail about two weeks after submitting their online FAFSA.

### **FAFSA on the Web Tips**

1. Complete the entire form. If the answer is zero or the question does not apply, enter "0."
2. File by deadline date; 30 days prior recommended (April 1).
3. Request a PIN at [www.pin.ed.gov](http://www.pin.ed.gov) so that you can electronically sign your FAFSA. Parents with PINs can also electronically sign or you can print a paper signature page from FAFSA on the Web, sign it and mail it to the address provided. Remember, if you are dependent, your parent also needs to sign.
4. Be sure to list California University of Pennsylvania (Code Number 003316) in order that Cal U may receive your electronic record.
5. Provide a valid email address.

Please take the time to read the instructions before completing a FAFSA. Most questions can be answered through the instruction information contained on the form or at the FAFSA website. In addition, our Financial Aid Office home page contains many helpful topics and links that may provide students with additional assistance in completing the FAFSA. Our home page can be found at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid), or contact our office by phone at 724-938-4415.

*Note:* California University does not have an institutional financial aid application.

### ***FAFSA on the Web Worksheet***

If you complete the electronic version of the FAFSA, it is recommended that you complete the FAFSA on the Web worksheet prior to entering your information. This helpful worksheet is a line-for-line copy of the online FAFSA, thereby ensuring accuracy in completing the FAFSA via the Web. As with FAFSA on the Web, the worksheet also has helpful instructions throughout the form. The FAFSA on the Web worksheet can be downloaded directly from FAFSA at [www.fafsa.gov](http://www.fafsa.gov) or obtained at the Financial Aid Office.

### **Federal Campus-based Aid**

At California University, we want to have the results of your 2011-2012 FAFSA by May 1, 2011, for you to be considered first-priority for federal campus-based aid (Federal Supplemental Educational Opportunity Grant, Perkins Loan and Federal Work-Study). In order for California University to receive the results of your FAFSA by our first-priority deadline, we strongly recommend that you file your FAFSA as soon as possible, but no later than April 1, 2011, even if you have to use estimated financial information. This will allow the federal government enough time to process your FAFSA and send the results to California University by May 1, 2011. If you cannot or do not file your FAFSA by our first-priority deadline, please file as soon as you can. You will still be considered for the Pell Grant, student loans, work-study, etc.

## **PHEAA State Grant**

In order to receive state grant assistance from PHEAA, students must file their 2011-2012 FAFSA or Renewal FAFSA by May 1, 2011. All students are urged to apply even if the deadline has passed, since late applications are considered if funds permit.

## **Handling Special Circumstances**

Although the process of determining a student's eligibility for financial aid is the same for all students, an adjustment sometimes can be made if a student has special circumstances. Special circumstances may include a reduction in income due to loss of employment, death or disability of a wage earner, divorce or separation, loss of social security benefits, unusual medical expenses, etc. In addition, a student who does not meet the federal definition of an independent student for financial aid purposes may be able to document those exceptional circumstances in order to be considered an independent student.

The Financial Aid Office has a change of income information form (CIIF), which should be used when the special circumstances involve a loss of \$10,000 or more in income/benefits or unreimbursed medical expenses, which exceed 7.5 percent of the family's adjusted income. The change of income information form for the 2011-12 award year will be available starting June 1, 2011, by contacting the Financial Aid Office.

Students who want to appeal their dependency status for financial aid purposes should file the dependency appeal form. A student who does not meet the federal definition of an independent student normally must file as a dependent student and include parental information on the FAFSA. Only students with exceptional circumstances should file the dependency appeal form. Unfortunately, parents' unwillingness to help pay for college, not being claimed as an exemption on parents' tax return, or living on your own does not make a student independent for financial aid purposes. The dependency appeal form is available upon request from the Financial Aid Office.

## **After You Apply**

### ***FAFSA Results***

The federal government will process students' Free Application for Federal Student Aid (FAFSA) and electronically send the results to the Financial Aid Office provided students listed California University of Pennsylvania as one of the schools to receive the results of their FAFSA. Students should receive a paper student aid report (SAR) in the mail approximately 7-10 days after the federal processor receives their FAFSA. Students should review the SAR to see if any corrections are necessary. Otherwise, students can keep the SAR for their records.

When students apply for federal student aid, the information reported on the FAFSA is used in a formula approved by Congress. This federal formula determines a student's expected family contribution (EFC), the amount the family (student and parents, if applicable) is expected to contribute toward the student's education. The basic elements included in determining the EFC are:

- Contribution from the parents' income and assets;
- Contribution from the student's income and assets;
- Number of members in the household; and
- Number of family members enrolled at least half-time in college.

To determine eligibility for other federal aid, a student's EFC is used in the following equation:

$$\text{Cost of Attendance minus Expected Family Contribution (EFC) = Financial Need}$$

Students' demonstrated financial need will determine which programs they qualify for. Even if students have no financial need, they will still qualify for the unsubsidized federal

Stafford Loan and/or Parent Loan for Undergraduate Students (PLUS). A student's parent must be willing to apply for the PLUS Loan and have a satisfactory credit history.

### **Verification**

Each year the U.S. Department of Education selects financial aid applicants for federal verification review. This process requires California University of Pennsylvania to verify the accuracy of data reported by students on their FAFSA forms. There are several possible reasons that a FAFSA record is selected to be verified. Some applications are selected randomly. Others are categorized as having a high probability of error (e.g., applications on which students provided estimated, not actual, income tax information). Also, some applications may be selected because of incomplete data or conflicting information.

The email notification or paper student aid report (SAR) from the federal processor will indicate if a student's application is selected for verification review. The Financial Aid Office at California University will also notify students that their FAFSA has been selected to be verified and will ask them to submit copies of certain documents they used to complete their FAFSA as follows:

- a complete signed copy of both the student's and parents' (if the student is dependent) U.S. income tax returns (this includes any related 1099 forms and supporting schedules); and
- a verification form which the Financial Aid Office will send the student. (The verification form is also available online at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid).)

All documents should be sent to the Financial Aid Office for processing. These documents become part of a student's Cal U financial aid file.

The information on the documents submitted is then compared to the FAFSA information provided to us by the federal FAFSA processor. For many students, the process consists simply of a review of the tax returns and the verification form they submit. But sometimes follow-up requests for additional information may be necessary. This occurs if inconsistencies are discovered which must be resolved. When this happens, the Financial Aid Office typically sends requests for additional information by mail.

To expedite the verification review, students should submit all requested documents to the Financial Aid Office as soon as possible. Make sure all documents submitted are clearly labeled with the student's name and campuswide identification number (CWID).

Typically, the students selected for verification will receive an award packet; however, these awards are tentative (estimate only) pending the completion and outcome of verification. If any errors are discovered during the verification process, the Financial Aid Office will correct a student's FAFSA. The federal FAFSA processor will send the student a revised student aid report (SAR), which will reflect the corrections we make to the student's FAFSA. If the error(s) changes the amount of your financial aid, you will receive a new award notification.

### **Cost of Attendance**

Each year the University establishes a total cost-of-attendance budget based on a student's housing status (commuter, dormitory or off-campus), enrollment status (full-time or part-time), and residency status (in-state or out-of-state). The cost-of-attendance budget represents the total educational expenses a student may incur while attending our University, and is a critical element in determining a student's eligibility for federal Stafford Loan assistance. The elements of this budget are both direct institutional expenses (tuition/fees and/or University room/board), as well as indirect costs (off-campus housing, books/supplies, and/or personal expenses) not billed by the University.

### **Award Notification**

California University typically starts the awarding process in early April of each year. If you are an accepted freshman/new student and we have received the results of your

FAFSA by the date we begin our awarding cycle, you can expect to receive your award notification by April 1. For students who have not been accepted and/or their FAFSA has not been received at the point the awarding process begins, the Financial Aid Office will send an award notification to these students throughout the year as their file becomes complete (accepted to the University and receipt of FAFSA record).

*Note:* Only accepted students receive an award notification.

Upper-class award notifications will be sent once we have received the results of your FAFSA and have determined that you are making satisfactory academic progress for financial aid purposes (typically starting mid-May). You will be able to access your awards on the Vulcan Information Portal (VIP).

### **Grants**

Grants are considered gift aid and do not have to be repaid. Most grant aid is based on some type of need-based eligibility requirement; therefore, you must complete the FAFSA to apply for most grants. Sources of grants include federal, state, private and institutional funds. Although grants are a very desirable source of financial aid, the availability of grants is generally limited to the neediest students.

#### ***Federal Pell Grants***

Federal Pell Grants are awarded based on the analysis of the FAFSA, cost of attendance and enrollment status (full-time or part-time). Pell Grants are awarded only to undergraduate students who have not earned a bachelor's degree or professional degree. Pell Grants often provide a foundation of financial aid to which other aid is added for the neediest students.

The Pell Grant award will range from \$555 to \$5,550 for the 2011-2012 award year.

#### ***Federal Supplemental Educational Opportunity Grants***

The Federal Supplemental Educational Opportunity Grant (FSEOG) is for undergraduate students with exceptional financial need, i.e., students with the lowest expected family contributions (EFCs). Preference is given to Pell Grant recipients who file their FAFSA by our first priority deadline of May 1 in order to be considered for this grant; therefore, you should submit your FAFSA by April 1 of the award year. The FSEOG annual award typically ranges from \$1,000 to \$1,500.

#### ***TEACH Grant***

The Teacher Education Assistance for College and Higher Education (TEACH) Grant is for academically qualified undergraduate and graduate students who plan on becoming a teacher under specified conditions. Students can receive up to \$4,000 a year, not to exceed \$16,000 for undergraduate and \$8,000 for graduate study. Eligible students must be accepted into the undergraduate and graduate Teacher Education Program at Cal U and agree to teach full time in a high-need subject area for at least four years at schools that serve students from low-income families. Part-time students are eligible, but the grant will be reduced based on the student's enrollment status.

**Student Eligibility Requirements.** Students must file the Free Application for Federal Student Aid (FAFSA) each year that they receive the grant (student does not have to demonstrate financial need in order to qualify); be a U.S. citizen or eligible noncitizen; have a cumulative grade-point average (GPA) of at least 3.25; have successfully passed the Praxis I exam; and major in one of the high-need subject areas as follows:

- Special Education
- Special Education/Early Childhood
- Teacher Education in the following areas:
  - Biology
  - Chemistry

- Earth & Space Science
- French
- Mathematics
- Physics
- Spanish

**Note:** The TEACH Grant must be repaid as a direct unsubsidized Stafford Loan if the student changes his/her major from one of the high-need subject areas listed above.

Students must also attend an in-person TEACH Grant counseling session (conducted by the Financial Aid Office); complete an online TEACH Grant counseling session; and sign a TEACH Grant Agreement to Serve and Promise to Pay each year.

**TEACH Grant Agreement to Serve and Promise to Pay.** Each year a student receives a TEACH Grant, the student must sign a TEACH Grant Agreement to Serve and Promise to Pay (ATS) service agreement that will be available electronically at the Department of Education website at <https://teach-ats.ed.gov/ats/index.action>. The TEACH Grant service agreement specifies the conditions under which the grant will be awarded, the teaching service requirements, and includes an acknowledgment by the student that they understand that if they do not meet the teaching service requirements they must repay the grant as a federal direct unsubsidized loan, with interest accrued from the date the grant funds were first disbursed.

**Teaching Obligation.** To avoid repaying the TEACH Grant with interest, a student must be a highly qualified, full-time teacher in a high-need subject area for at least four years at a school serving low-income students. The student must complete the four years of teaching within eight years of finishing the program for which the student received the grant.

### **Pennsylvania State Grants**

PHEAA Grants provide need-based state grant assistance of up to \$3,000 (estimated) per year. The grant program is funded by the Commonwealth of Pennsylvania and is administered by PHEAA Grant Division. Students may receive up to eight full-time semesters of PHEAA Grant assistance or 16 semesters of part-time assistance.

To be eligible each academic year, a student must:

- Be a Pennsylvania resident;
- Be a high school graduate or recipient of a GED;
- Not have a bachelor's degree;
- Complete the FAFSA by May 1 each year;
- Be enrolled on at least a half-time basis in a PHEAA-approved undergraduate program of study; and
- Demonstrate academic progress for continued aid.

### **Athletic Grant-in-Aid**

California University of Pennsylvania is a Division II member of the National Collegiate Athletic Association (NCAA). There are 11 intercollegiate teams for men and women. If you are interested in participating in intercollegiate athletics and possibly obtaining an athletic scholarship, you should contact the head coach of your preferred sport.

### **Student Employment**

California University offers employment opportunities for students, commonly known as "work-study." California University student employment programs provide students the opportunity to: 1) earn money to assist with their educational expenses; 2) gain valuable work experience; and 3) work with staff, faculty and/or community members. Students

who work a moderate number of hours per week often are able to manage their time better than those students who do not work at all. Of course, there are many factors you will want to consider when deciding if working is appropriate for you.

If you do decide to work on a part-time basis while pursuing your education, California University has two student employment programs: Federal and Institutional Work-Study. In order to establish a reasonable balance between their academic efforts and their work schedule, students are typically limited to working eight hours per week during the academic year. Students in both programs are paid the prevailing federal/state minimum wage (currently \$7.25 an hour).

California University is an Equal Opportunity/Affirmative Action Employer. The Financial Aid Office reaffirms the University's commitment to the policy that there shall be no discrimination against any individual in educational or employment opportunities because of race, color, religion, national origin, sex, status as a disabled veteran or veteran of the Vietnam era, or disability. Also, there shall be no discrimination because of age except in compliance with requirements of retirement plans or state and federal laws and guidelines.

### **Federal and Institutional Work-Study**

Federal Work-Study is a federal financial aid program that allows you to earn money to help pay educational expenses and encourages community service work and work related to your course of study to the extent possible. In order to qualify for Federal Work-Study, you must demonstrate sufficient financial need as determined from the results of your FAFSA. In addition, the Financial Aid Office must receive the results of your FAFSA by our first-priority deadline of May 1. Our Institutional Work-Study Program, which is funded by the University, provides student employment opportunities to enrolled students regardless of financial need or the date your FAFSA is submitted to the Financial Aid Office.

### ***Application Procedures***

In order to be eligible for either the Federal or the Institutional Work-Study programs, you must complete the FAFSA and answer that you are interested in work-study. You must also be currently enrolled at least half-time and maintaining satisfactory academic progress.

You should print a copy of your award notice and take it along with you when you apply for a position. It is the student's responsibility to find a position on campus, California University does not assign or place students in positions. The Financial Aid Office will post job vacancies that we are aware of on our [job postings page](#). Students are encouraged to check the postings on a daily basis. Jobs are posted when new positions become available and when vacancies occur.

### **Summer Employment**

During summer sessions a limited number of work-study employment opportunities are available to qualified students. Students interested in summer employment must complete a FAFSA and a Summer Work-Study application. You can obtain this application at the Financial Aid Office.

### **Payroll Procedures**

Please note that your earnings are not credited to your bill with the University, but are paid directly to you in the form of paycheck. The pay schedule is every two weeks. Students pick up their paychecks from their student employment department, or they may choose the direct deposit option.

All students employed by California University must visit the Payroll Office to complete the following payroll forms before they may begin employment:

- A work-study eligibility card signed by the hiring department;
- Federal I-9 employment authorization form, which requires both your driver's license and a Social Security card (or other acceptable documents);

- W-4 withholding form to determine the number of exemptions you are claiming for federal, state and local income tax withholding purposes;
- Exemption or personal history form to determine if retirement will be deducted from your earnings; and
- Payroll authorization card.

### **Scholarships**

California University of Pennsylvania offers academically talented and creatively gifted students a variety of University and endowed scholarship opportunities. Each scholarship has special selection and awarding criteria, which was agreed upon by the University and the scholarship donor (if applicable). In order to streamline the selection process, California University does not use a scholarship application. Rather, all accepted students and currently enrolled students are considered for all possible University scholarships. However, selected applicants for some of the scholarship awards may be required to complete additional information for final determination of the award.

The scholarships offered range from \$100 to full-tuition for an academic year. Many of the scholarships are renewable awards based on the student maintaining minimum academic standards and demonstrating financial need, if applicable. The Financial Aid Office or designated selection committee will select the best applicant(s) from the pool of students who meet the minimum qualifications for the scholarship.

Most incoming freshman scholarships are awarded by May 1; therefore, all new students wishing to be considered must have applied and been accepted to the University by March 15. Most scholarships are awarded solely on academic merit or special talent; however, some also require verification of financial need. Therefore, you are strongly encouraged to complete the Free Application for Federal Student Aid (FAFSA) by March 15 if you wish to be considered for all scholarship possibilities. If you do not have a FAFSA on file at the time we make our scholarship selections, you will not be considered for any scholarship that has a need-based requirement.

If you are accepting an awarded scholarship, it means that you agree to abide by any applicable University, federal and/or state regulations. In addition, you must:

- Be registered for at least 12 credit-hours for each semester during the academic year for which you receive a scholarship; and
- Be making satisfactory academic progress (not on financial aid suspension) as defined by the Financial Aid Office.

Please refer to the [Scholarships](#) page for the current listing of scholarships available. If a specific scholarship requires an additional application to be completed, an embedded link to a PDF version of the scholarship application will be available to download.

### **Loans**

California University of Pennsylvania participates in the Federal Direct Student Loan Program for all of our Stafford Loans, parent PLUS loans and graduate PLUS loans. The loans are made directly with the U.S. Department of Education and not with a bank or lending institution.

Student loans are a major source of financial aid for many students. All loans, including student loans, represent debts that must be repaid; however, most student loans do not go into repayment until after you leave school or graduate. In addition to delayed repayment, most student loans have relatively low interest rates, several repayment options from which to choose, circumstances under which you can postpone repayment, and other favorable terms and conditions. Student loans can be thought of as an investment in your future as long as you are prepared to meet your repayment responsibilities. Failure to repay your student loans will have serious adverse consequences.



It is true that most students would prefer not to borrow, but student loans represent the largest source of financial aid assistance available to students today. Building a budget is one of the most important aspects of student loan borrowing. When borrowing, it is important to carefully plan your budget so that you only borrow what you need. In addition, it is important to keep track of the total amount borrowed each year so that you can determine what your repayment amount will be when you graduate. To assist you in managing your student loan debt, we suggest that you check out our Financial Aid Calculators menu topic found at the Financial Aid Office home page at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid). You will find helpful calculators to determine your estimated monthly payments, determine the cost of capitalizing your loans, and compute an estimate of the savings you will get from various loan discount programs. In addition, the Career Services Office can provide you with information concerning entry-level salaries in most fields.

At California University, the federal government funds nearly 95 percent of all loans processed. More than 54 percent of all financial aid awarded at California University comes from the federal Stafford Loan programs.

### ***Federal Perkins Loan***

The Federal Perkins Loan is a federally funded, 5-percent fixed-rate loan. California University is the lender using funds from the federal government and/or payments collected from previous borrowers. The interest rate on the Perkins Loan is 5 percent, and repayment starts nine months after you leave school or graduate. In order to apply for the Perkins Loan, you must complete the Free Application for Federal Student Aid (FAFSA) or the Renewal FAFSA for the appropriate school year. California University must receive the results of your FAFSA by our first-priority deadline of May 1. You will need to submit your FAFSA by April 1 to allow time for processing to meet this deadline. In addition, you must have financial need in order to qualify for a Perkins Loan. In general, California University makes Perkins Loans that range from \$1,000 to \$3,000 per school year to be disbursed in equally for each semester.

If you are awarded and do not decline your Perkins Loan, you will be sent a Perkins Loan packet which contains information regarding the signing of your Perkins Loan master promissory note and statement of rights and responsibilities. You must complete and return these forms to the Bursar's Office in order to finalize receipt of your Perkins Loan.

In addition, all Perkins Loan borrowers must complete a Perkins Loan entrance interview. This requirement can be completed online by selecting Perkins Loan Entrance Interview from the menu topic at the Financial Aid Office home page at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid). Once at the site, click on Entrance and Exit Counseling and select Perkins Entrance and follow the instructions.

You must complete a Perkins Loan exit interview when you graduate or leave school for other reasons. This exit interview will give you more information about your repayment options, deferments, cancellation provisions, etc. You will be mailed a Perkins Loan exit interview packet from the Bursar's Office. The Perkins Loan exit interview is completed online at the Educational Computer Systems Inc. (ECSI – Perkins Loan servicer) website at [www.ecsi.net/cgi-bin/bcgi.exe](http://www.ecsi.net/cgi-bin/bcgi.exe). In order to complete the exit process, you must enter California University's school code number, which is "19," and then proceed with the rest of the questions to complete the online interview. Failure to complete the exit interview will result in a hold being placed on your grades, diploma, etc. If you are leaving school for other reasons, such as transferring to a different school, you should contact the Bursar's Office at 724-938-4431 to make arrangements to complete your Perkins Loan exit interview.

### ***Federal Direct Student Loan Programs (FDSLP)***

In order to apply for any type of Federal Direct Loan (subsidized, unsubsidized and/or a PLUS loan), you must complete the Free Application for Federal Student Aid (FAFSA) for the appropriate school year and meet all general student eligibility requirements necessary to receive federal financial aid.

In addition, you may receive a loan if you are a regular student (must be admitted to California University as a degree-seeking student; nondegree students are not eligible), enrolled in an eligible program of study, and attending at least half-time each term. Half-time enrollment is defined as six hours for undergraduate students and five graduate hours for graduate students.

***Federal Direct Stafford Loan Program (Subsidized/Unsubsidized)***

The Federal Direct Stafford Loan is a low-interest, fixed-rate loan that the student borrows. The loan can be either subsidized or unsubsidized or a combination of both. In order to qualify for a subsidized loan, you must have financial need. To determine if you have financial need, your expected family contribution (EFC), which is determined by the results of your FAFSA, is subtracted from the cost of education. Also, any other aid that you are receiving or are expected to receive is subtracted from the cost of education to determine if you have any remaining financial need and, therefore, qualify for a federal subsidized loan. If you qualify for a Federal Direct Subsidized Stafford Loan, the federal government pays the interest on the loan, i.e., subsidizes the loan, while you are in school, during your six-month grace period prior to repayment, and during any authorized period of deferment.

Students without financial need are eligible for the Federal Direct Unsubsidized Stafford Loan. This means that you will be responsible for the interest on the loan from the time you receive the funds until the loan is paid in full. However, if you do not want to make interest payments, you can choose to allow the interest to accumulate, or accrue, on the loan while you are in school and during your six-month grace period before repayment. If you decide to delay interest repayment, the interest that accumulates will be capitalized; i.e., it will be added to your loan principal when you begin repayment. This means your total loan principal will increase. It is better to pay the interest, if you can, because you will save money in the end. However, not all students can afford to pay the interest while still in school and that is why you have the option of letting the interest accumulate. To determine how much your interest payments will be, go to our Financial Aid Office home page and select Financial Aid Calculators. You will find an interest capitalization calculator to assist you in determining which option is best for you.

How much you can borrow in a subsidized and/or unsubsidized loan depends upon several factors, including your grade level in school and your dependency status for financial aid purposes.

*Federal Direct Stafford Loan Borrowing Chart*

<b>Base Amount</b>		
<b>Grade Level</b>	<b>Credit Hours</b>	<b>Annual Loan Amount</b>
Freshman	0-29	Up to \$3,500
Sophomore	30-59	Up to \$4,500
Junior/Senior	60 or Higher	Up to \$5,500
<b>Additional Unsubsidized Stafford Loan</b>		
<b>Grade Level</b>	<b>Credit Hours</b>	<b>Annual Loan Amount</b>
All Undergraduates	N/A	Up to \$2,000

If parents are denied PLUS loan eligibility, a dependent undergraduate can qualify for the following additional unsubsidized Stafford Loan:

### **Additional Unsubsidized Stafford Loan (Parents of Student Denied PLUS Loan Eligibility)**

Grade Level	Credit Hours	Annual Loan Amount
Freshman/Sophomore	N/A	Up to \$4,000
Junior/Senior	N/A	Up to \$5,000

The interest rate for the Stafford Loan follows:

- Subsidized – 3.4% – July 1, 2011, to June 30, 2012
- Unsubsidized – 6.8%

### **Federal Direct Loan Application & Electronic Master Promissory Note (eMPN) Process**

If you have never borrowed from the Federal Direct Stafford Loan program, you will need to complete a master promissory note (MPN) in order to receive your loan proceeds. The MPN is valid for 10 years. To complete the MPN please follow the steps below:

1. Complete the 2011-2012 Free Application for Federal Student Aid (FAFSA).
2. Have a federal PIN (personal identification number). If you lost your PIN or do not have a PIN, you may reset or obtain a new PIN at [www.pin.ed.gov](http://www.pin.ed.gov).
3. Go to <https://studentloans.gov>, sign in and select Sign Master Promissory Note and follow the steps. You will be asked to provide the names, addresses and telephone numbers for two references who have known you for at least three years. The first reference should be a parent or legal guardian and the second should be someone living at a separate address.

*Note:* Please make sure that you allow enough time to complete the entire process in a single session because you will not be able to save the information.

### **Federal Direct PLUS Loan Program**

The Parent Loan for Undergraduate Students (PLUS) is a credit-worthy, fixed-rate loan at 7.9 percent for the parent or legal guardian of dependent undergraduate students who need additional assistance to cover their educational costs and have borrowed the maximum amount through the Stafford program. After completing the FAFSA, parent(s) of a dependent undergraduate can request up to the student's cost of education less all other financial aid received. Repayment normally begins within 60 days after the second disbursement of the loan. Listed below are the steps in the PLUS application and master promissory note (MPN) process:

1. Complete the 2011-2012 Free Application for Federal Student Aid (FAFSA).
2. Go to <https://studentloans.gov>, sign in and select Complete PLUS Request Process.
3. A credit check will be performed on the borrow completing the application.
4. If approved, complete the PLUS master promissory note (MPN) also at <https://studentloans.gov>. The parent will need their Federal Student Aid PIN they used on the FAFSA to sign the MPN electronically.
5. Upon completion of the MPN, funds will be released to the school and applied to the student's account.
6. If a loan is denied, the student may be eligible to borrow additional loan monies through the Federal Direct Unsubsidized Stafford Loan program (assuming the student's total financial aid assistance does not exceed the cost of education). To request the additional loan, please contact the Financial Aid Office.

## Private Alternative Loans

In addition to the federal loan programs, there are also private sources of educational loans. These loans are sponsored by banks, state agencies or private guarantors and are available to credit-worthy students. Since these loans are not subsidized by the federal government, they are usually higher-cost loans (higher interest rate) to the borrower and should only be considered as a last resort after all other financial aid options have been explored. Most alternative loans require a co-signer; however, repayment of principal and interest may be deferred in most cases. If you are interested in pursuing a low-interest alternative educational loan, please apply online through one of the preferred alternative lenders. You can find our preferred private alternative lender list by selecting Loans and then Private Alternative Loan at our Financial Aid Office home page at [www.calu.edu/financial-aid](http://www.calu.edu/financial-aid).

## Disbursement of Financial Aid

### *Crediting Financial Aid to a Student's Account*

In general, once a student's financial aid award(s) has been finalized (all requested forms received, verification completed, enrollment verified and default status reviewed), the aid awarded for that semester will be credited to their account beginning with the second week of the semester. Stafford Loan and PLUS loan proceeds must have a completed master promissory note and entrance counseling session completed before they can disburse. Federal Work-Study and Institutional Work-Study funds are disbursed biweekly to the student in the form of a payroll check based on the number of hours worked during the pay period.

## How Registration Affects Financial Aid Eligibility

### *Definition of Eligible Enrollment Status*

Federal regulations and institutional guidelines require students to be registered before any financial aid monies can be disbursed. In addition, all federal and state financial aid programs specify minimum enrollment requirements in order for a student to receive any (maximum or partial) assistance. These requirements are broken into four enrollment classifications: full-time, three-quarter-time, half-time and less-than-half-time. The chart below indicates the number of credits used to determine a student's enrollment status.

<b>Enrollment Status</b>	<b>Number of Credits</b>
Full-Time	12 Credits or more
Three-Quarter-Time	9 to 11 Credits
Half-Time	6 to 8 Credits
Less-Than-Half-Time	5 Credits or less

### *Eligibility Chart*

Listed below is an eligibility chart that defines the credit-hour requirements for all aid programs, as well as the percentage of the maximum award a student may qualify for under the enrollment classifications.

<b>Financial Aid Program</b>	<b>Enrollment Status</b>	<b>Eligible For Award</b>	<b>% of Maximum Award</b>
Pell Grant	Full-time	YES	100%
	3/4-time	YES	75%
	1/2-time	YES	50%
	Less-than-1/2-time	YES	VARIES
PHEAA Grant	Full-time	YES	100%

<b>Financial Aid Program</b>	<b>Enrollment Status</b>	<b>Eligible For Award</b>	<b>% of Maximum Award</b>
	1/2- or 3/4-time	YES	VARIES
	Less-than-1/2-time	NO	NO AWARD
Stafford Loans	Full-time to 1/2-time	YES	100%
	Less-than-1/2-time	NO	NO AWARD
Federal SEOG and Perkins Loan	Full-time	YES	100%
	3/4-time to 1/2- time	YES	50%
	Less than 1/2-time	NO	NO AWARD
Federal TEACH Grant	Full-time	YES	100%
	3/4-time	YES	75%
	1/2-time	YES	50%
	Less-than-1/2-time	YES	VARIES
Federal Work-Study	Full-time to 1/2-time	YES	100%
	Less-than-1/2-time	NO	NO AWARD

*Note:* Federal and state financial aid awards may be adjusted according to this chart for any student whose enrollment status (as defined above) changes before 60 percent of the enrollment period, e.g., fall or spring semester, or a special summer session, has elapsed.

### **Financial Aid Refunds**

Financial aid which exceeds the amount the student owes to the University (tuition/fees, University meal plans and room charges) will be disbursed to the student in the form of a refund check to cover noninstitutional educational costs, such as books and supplies, off-campus housing and transportation. Typically, these refunds are mailed to eligible students starting the second week of the semester if the student has satisfied the eligibility requirements for each award.

*Note:* Even though refund checks will be available starting the second week of the semester, refund checks may be delayed or cancelled if you meet one or more of the following: your federal and/or state aid has not been finalized, you have not enrolled for sufficient credits, your master promissory note (MPN) was filed late and/or your MPN or Free Application for Federal Student Aid (FAFSA) is delayed due to missing or incorrect information.

### **Financial Planning**

Students planning to attend California University of Pennsylvania should be aware that the cash from many of the financial aid programs is not available until the second week of the semester for which the funds are intended. Students should plan to come to the University with enough personal money for early term purchases (books, materials, art supplies, etc.) without depending upon financial aid funds.

### **Refund/Repayment Policies**

#### *Refund Policy*

Students who officially withdraw from the University or from specific classes during the semester may be eligible for a refund of a portion of the tuition, fees, room and board paid to California University for that semester. Refunds are based on the official date of withdrawal as recorded by the Academic Records Office (for additional information see [Refund Policy](#)). Students who do not follow the official withdrawal procedure but who

stop attending classes for all of their courses will be considered to have withdrawn at the 50-percent point of the semester unless attendance is documented after that time.

### ***Return of Title IV Funds Formula***

Two formulas exist for determining the amount of the refund: California University's refund policy (for additional information see University [Refund Policy](#)) and the federal return of Title IV aid formula. The federal formula is applicable to any student receiving federal aid and withdraws from the University during the first 60 percent of a semester. These students will have their federal financial aid (Pell Grants, Supplemental Education Opportunity Grants, ACG and SMART grants, Perkins Loans, Stafford and Plus loans) adjusted based on the percent of the semester completed before the withdrawal. In essence, students will be entitled to retain the same percent of the federal financial aid received as the percent of the semester completed. This percent is calculated by dividing the number of days in the semester (excluding breaks of five days or longer) into the number of days completed prior to the withdrawal (excluding breaks of five days or longer). There will be no adjustment to federal financial aid after the completion of at least 60 percent of the semester. If any refund remains after the required return of Title IV aid, the refund will be used to repay California University funds, state grant funds, and other private sources and the student in proportion to the amount paid by each nonfederal source, as long as there was no unpaid balance due at the time of withdrawal. If there is an unpaid balance, then all aid sources will be repaid before any refund is paid to the student.

### ***Distribution Policy***

Once the amount of the federal funds to be returned has been calculated, the funds will be returned to the appropriate program(s) in the following priority order:

1. Unsubsidized Stafford Loan
2. Subsidized Stafford Loans
3. Perkins Loans
4. PLUS Loans
5. Pell Grant
6. Academic Competitiveness Grant (ACG)
7. SMART Grant
8. TEACH Grant

### **Supplemental Educational Opportunity Grant**

#### ***Repayment of Unearned Financial Aid Assistance***

Students who receive a refund of financial aid before withdrawing from the University may owe a repayment of federal financial aid funds received. Students will be notified by the Bursar's Office and will be given 30 days to repay the funds to the University. Students who fail to return the unearned portion of federal financial aid funds given to them will have a "hold" placed on their University records, thereby preventing them from registering for future semesters until repayment is made in full.

### **Maintaining Financial Aid Eligibility**

#### ***NEW Satisfactory Academic Progress Policy for 2011-2012***

The new Satisfactory Academic Progress Policy will go into effect starting with the Fall 2011 semester. At the end of the Fall 2011 semester the Financial Aid Office will review Academic Progress for students using the criteria listed in this policy. Students will now be reviewed for progress at the end of each semester of enrollment (including Summer).

### *Overview*

Federal regulations require California University of Pennsylvania to establish Satisfactory Academic Progress (SAP) standards for students applying for or receiving financial aid assistance.

The school's policies for SAP are designed to review a student's academic performance in terms of quantitative and qualitative measures to ensure the student is making progress towards the completion of the academic program.

The SAP policies apply to all Title IV financial assistance programs including Federal Work-Study, SEOG, Federal Perkins Loans, Federal Stafford Loans, and Federal Direct PLUS loans.

Students at California University of Pennsylvania must meet all of the requirements stated in the Satisfactory Academic Progress Policy regardless of whether or not they previously received financial aid.

Cal U is responsible for ensuring that all students who receive Title IV assistance are meeting these standards.

### *Policies*

The SAP policy for CAL U for Title IV students is the same as or stricter than the university's standards for students enrolled in the same educational program who are not receiving Title IV aid.

Satisfactory Academic Progress standards include:

1. Qualitative (GPA)
2. Quantitative (credit hours earned)
3. Maximum Time Frame

For all degree-seeking students, SAP will be calculated at the end of each semester of enrollment, typically in January, June, and August.

### *Qualitative*

Undergraduate students must maintain at least a 2.00 cumulative grade point average to remain in good academic standing.

Graduate students must maintain at least a 3.0 cumulative grade point average to remain in good academic standing.

### *Quantitative*

Students must earn 67% of credits attempted to maintain good standing and be considered making Satisfactory Academic Progress.

The completed percentage is determined by dividing credits earned by the number of credits attempted.

- Withdrawals, incompletes, and failures are considered attempted but not earned.
- Repeated courses are included in the calculation of both attempted and earned units.
- Audited courses are not considered units attempted or earned.

### *Maximum Time Frame*

Maximum Time Frame is defined as the required length of time it will take a student to complete his/her degree. A student will remain eligible for Federal Aid for up to 150% total **attempted credits**. For example, if you are pursuing a degree which requires 120 semester hours, you may not receive financial aid after you have attempted 180 hours. This includes transfer credits. Most majors require 120 credits for graduation.

Some exceptions: B.S. in Education (certificate in Biology) requires 124 credits (193 credits max). A dual Major in Education is 144 credits (216 credits max). A Bachelor of Science in computer engineering technology, a B.S. in electrical engineering, and a B.S. in computer science require 124 credits (186 credits max). Most graduate degrees require 45 credits (68 credits max). Please contact your Academic Advisor to see how many credits are required to complete your degree. Then you will be able to determine your Maximum Time Frame.

### *Special Grades*

**I (Incomplete):** An incomplete grade does not earn credit or influence the grade point average in the semester in which the course work was taken. However, an incomplete grade will count toward your total credits attempted. Once the incomplete has been resolved and a passing grade has been earned, the credits and the grade will then be counted toward satisfying the minimum credit hours and the grade point average requirements.

**W (Withdrawal):** All withdrawal categories do not earn credit toward graduation or toward satisfying the minimum credit hours requirement of the Satisfactory Academic Progress policy. However, these credits will count toward your total attempted credits and could possibly affect the Maximum Time Frame requirement.

**P (Pass):** If this grade is given, the credits will apply toward graduation and will also be counted toward satisfying the minimum earned credit hours standard but it will not affect the student's grade point average.

**Repeated Courses:** For a course that has been repeated, the last grade earned will be used in calculating the student's grade point average with the credits being counted only for the semester in which it was repeated. However, each time a student registers for a course, those credits are counted toward the student's Maximum Time Frame.

### *Military/Transfer Credits*

In most cases, military training and/or service school experience credits can be counted toward the total credit hours earned by a student for satisfying the minimum credit hours requirement for academic progress. However, these credits will only be used during the student's first year of attendance at California University of Pennsylvania.

All credits transferred to the University will be counted toward the Maximum Time Frame requirement for academic progress.

### *Review Period*

Each student is reviewed at the end of each pay period (semester) to ensure that Satisfactory Academic Progress has been achieved. A student who does not meet SAP requirements will be placed on **Financial Aid Warning** status.

### *Financial Aid Warning*

Financial Aid Warning is a status assigned to a student who fails to make Satisfactory Academic Progress at a school that evaluates progress at the end of each payment period (semester), and chooses to allow students who fail its progress standards to continue to receive aid.

### *Financial Aid Suspension*

If a student fails to achieve Satisfactory Academic Progress while on Financial Aid Warning status, he/she will be placed on **Financial Aid Suspension** for the following semester. These students **will not** be eligible for financial aid until all requirements for Satisfactory Academic Progress have been achieved.

### *Financial Aid Probation*

Financial Aid Probation is a status assigned to a student who fails to make Satisfactory Academic Progress and who has appealed and has had eligibility for aid reinstated. During the probationary period, students are given one semester to satisfactorily either raise



their GPA or percentage of earned units. If the GPA or percentage of units completed is successful, the probation is removed. Financial Aid denial and suspension will result if the student's GPA or units completed is not successfully raised.

### *Eligibility for Reinstatement*

In order to regain financial aid eligibility, a student must successfully meet all requirements for Satisfactory Academic Progress. Students may use any semester(s) of the academic year to eliminate his/her deficiency. However, he/she is financially responsible for all expenses incurred during the time it takes to regain eligibility. Course work taken at another college or university may be used to resolve the Minimum Credit Hours Earned requirement. However, credits taken elsewhere will not resolve the Qualitative (GPA) component of the Satisfactory Academic Progress Policy.

### *Progress Appeal Procedures*

All Title IV aid recipients have the right to appeal a Financial Aid Suspension decision by submitting a **Satisfactory Academic Progress Appeal Form** to the Financial Aid Office. The student will be required to submit as part of the appeal, information regarding why he/she failed to make SAP. The student must also explain what has changed in his/her situation that would allow the student to demonstrate satisfactory academic progress at the next evaluation.

A student may file an appeal if there is an unusual and/or mitigating circumstance that affected their academic progress. Such circumstances may include a severe illness or injury to the student or immediate family member; the death of a student's relative; activation into military service or other circumstances as deemed appropriate for consideration by the SAP Appeals Committee.

Appeal forms with all supporting documentation must be submitted by the deadline. Students will be notified in writing shortly after filing the appeal.

When reviewing an Appeal it will be determined if the student will be able to meet the SAP standards after the subsequent pay period; or if the student can meet SAP standards by following an Academic Plan established by the Financial Aid Office.

Students who have their Financial Aid reinstated through an Appeal will be placed on **Financial Aid Probation**.

If the appeal is denied, a final appeal may be made to Financial Aid within 10 days of the date on the denial letter.

### *PHEAA Academic Progress*

Even though the PHEAA State Grant is not a Title IV aid program, Satisfactory Academic Progress requirements must also be met in order to remain eligible. A student must successfully complete a minimum number of credits during each academic year that a State Grant is awarded in order to maintain eligibility for the upcoming year.

<b>Enrollment Status</b>	<b>Semesters Received</b>	<b>Credits Earned Per Year</b>
Full-Time (12 or more credits)	2	24
Part-Time (6 – 11 credits)	2	12

For PHEAA Grant purposes, repeated courses can only be counted once in meeting the credit hours standard requirement.

A student is only eligible to receive a maximum of 8 full-time semesters or 16 part-time semesters of PHEAA Grant eligibility.

## Financial Aid Glossary

**1040 Form, 1040A Form, 1040E Form:** The federal income tax return that is required to be filed by each person who received income during the previous year.

**Academic Year:** The period of time school is in session, consisting of 30 weeks of instruction.

**Appeal:** An appeal is a formal request made by the student to have a financial aid administrator review a student's unusual circumstances, which may affect the student's aid eligibility (i.e., death of a parent, unemployment, etc.)

**Award Letter:** An official letter issued by the Financial Aid Office that lists the financial aid awarded to the student. Students are required to either accept or decline the awards they wish to receive, sign the award letter and return it to the Financial Aid Office. Award information is also available on our secure Vulcan Information Portal (VIP).

**Bursar's Office:** The Bursar's Office is the University office responsible for the billing and collection of University charges, receiving loan proceeds and issuing refund checks.

**Campus-Based Aid Programs:** There are three financial aid programs funded by the federal government but administered by the school, using federal guidelines. These programs are the federal Supplemental Educational Opportunity Grant (FSEOG), federal Perkins Loan Program, and the Federal Work-Study Program.

**College Work-Study:** College Work-Study is a part-time job for undergraduate students. This is often referred to as the Federal Work-Study Program.

**Commuter Student:** A student who resides at home and commutes to school daily.

**Cost of Attendance:** The cost of attendance (COA), also known as the cost of education or "budget," is the total amount used to calculate a student's aid eligibility. This amount includes tuition and fees, room and board, allowances for books and supplies, transportation, and personal and incidental expenses.

**Custodial Parent:** In the event a student's parents are separated or divorced, the custodial parent is the one who is providing more than half of the student's support. If both parents provide equal support, then the custodial parent is designated by the one with whom the student lived the most during the past 12 months.

**Dependent Student:** Students who are 23 years old or younger and are supported by their parents. Parents refusing to provide support for their child's education is not sufficient for the child to be declared independent.

**Disbursement:** Disbursement is the release of loan proceeds to the school for delivery to the borrower.

**Disclosure Statement:** The disclosure statement is a statement from the lending institution that provides the borrower with information regarding the approved amount of the loan, interest rate, origination and insurance fees, and any other finance charges incurred.

**Electronic Funds Transfer:** Used by most lenders to wire funds for Stafford Loan proceeds directly to participating schools without requiring a check for the student to endorse.

**Enrollment Status:** Indication of total credits scheduled for an enrollment period. For financial aid purposes, students must be enrolled at least half-time to receive aid.

**Expected Family Contribution (EFC):** Based on data reported on the FAFSA, the EFC is the amount of assistance that the family is expected to contribute toward a student's educational expenses from their own resources.

**Federal Direct Stafford Loan:** A Stafford Loan comes in two forms: subsidized and unsubsidized. The government pays the interest on a subsidized loan while the student is in school, during the six-month grace period and during any deferment periods, whereas the student is required to pay the interest on an unsubsidized loan.

**Free Application for Federal Student Aid (FAFSA):** The FAFSA is used to apply for all need-based aid. The information contained within this document is used to calculate all financial aid for the student.

**Gift Aid:** Gift aid is financial aid that is not repaid, such as scholarships and grants.

**Grant:** Type of financial aid based on financial need that a student does not repay.

**Independent Student:** An independent student must meet at least one of the following criteria:

- Age 24 or older;
- Veteran of the U.S. Armed Forces;
- Enrolled in a graduate or professional program beyond a bachelor's degree;
- Married;
- Orphan or ward of the court, or a ward of the court until age 18; or
- Legal dependents other than spouse for which student is responsible.

**Loan:** Loans are borrowed money that a student must repay with interest.

**Need:** The difference between the cost of attendance and the expected family contribution is known as financial need.

**Pell Grant:** A Pell Grant is a federal need-based grant.

**PLUS Loan:** A fixed-rate loan at 7.9 percent that parents of dependent students and graduate students can apply for to assist them in covering educational costs.

**Scholarship:** A scholarship is gift aid, which is not repaid.

**Subsidized Loan:** A subsidized loan is one on which the government pays the interest while the student is in school, during a six-month grace period and during any deferment periods. Subsidized loans are based on need and may not be used to finance the family contribution.

**Supplemental Educational Opportunity Grant (SEOG):** The SEOG is a federal grant program.

**Unmet Need:** Unmet need is the difference between the student's financial need and the total need-based aid.

**Unsubsidized Stafford Loan:** An unsubsidized Stafford Loan is one on which the government does not pay the interest. The borrower is responsible for the interest on an unsubsidized loan from the date the loan is disbursed, even while the student is still in school.

**Untaxed Income:** Contribution to IRAs, Keoghs, tax-sheltered annuities, and 401(k) plans, as well as Worker's Compensation and Welfare benefits.

**U.S. Department of Education:** The U.S. Department of Education administers several federal student financial aid programs, including the federal Pell Grant, the federal SEOG, the Federal Work-Study, the federal Perkins Loan, the federal Stafford Loan and the federal PLUS loan.

**Verification:** Verification is a review process in which the Financial Aid Office determines the accuracy of the information provided by the student and parents on their FAFSA. During this process, the student will be required to submit requested documentation.



# *Academic Organization*

Under the direction of the provost, three undergraduate colleges and the School of Graduate Studies and Research administer the academic affairs of the University. Each of these divisions is administered by a dean who is responsible for the operation of the college or school. In addition, University College, Lifelong Learning and the Evening-Weekend College, and the Southpointe Center provide specialized programs and services to distinct student populations.

## **The College of Education and Human Services**

The College of Education and Human Services is composed of the departments of Academic Development; Communication Disorders; Counselor Education; Educational Administration and Leadership; Early, Middle and Special Education; Exercise Science and Sport Studies; Health Science; Secondary Education; and Social Work.

Teacher education programs are offered through the departments of Early, Middle and Special Education; Secondary Education; and in technology education through the Department of Applied Engineering and Technology in the Eberly College of Science and Technology. The human services component of the college comprises the departments of Academic Development Services, Communication Disorders, Exercise Science and Sport Studies, Health Science, and Social Work. Counselor Education and Educational Administration and Leadership departments offer graduate programs leading to Commonwealth of Pennsylvania Elementary and Secondary School Counseling Certification, and Commonwealth of Pennsylvania Principal and Superintendent Letters of Eligibility.

### **Teacher Education Program**

California University has a long and distinguished history of preparing teachers for the schools of the commonwealth with nearly 30,000 teacher education alumni. The College of Education and Human Services has developed and maintained a reputation of excellence in the preparation of teachers. Because of its accreditation by NCATE and the Commonwealth of Pennsylvania, and its requirement of the PRAXIS I (Pre-Professional Skills Test) and PRAXIS II (Content Knowledge) teacher certification examinations, California's graduates are able to obtain teacher certification in most states in the United States.

California University has been given a snapshot of where it stands in comparison to other colleges and universities in the commonwealth that prepare teachers. The comparison data is based on the number of students who completed all the academic requirements of the College of Education's programs in elementary, early childhood, secondary, technology and special education from September 2007 to August 2008, totaling 318 students. The Educational Testing Service (ETS) released information to all teacher preparation institutions regarding the HEA Title II report. While the data uses a statewide cohort for comparisons, ETS plainly noted, "Within the same state, comparisons made between institutions are equally unsubstantiated because each institution prepares students for different licenses utilizing different testing requirements." There are other factors that have an impact on percentages, including the number of students taking specific tests, so that the size of the tested population is very important.

California had 99 percent of its teacher preparation students pass the basic skills portions of the PRAXIS I (Pre-Professional Skills Test-PPST) and the Fundamental Subjects Content Knowledge exam. These exams test general knowledge and communication skills. It should be noted that the college requires all students who wish to continue in Teacher Education to pass the PRAXIS I exams before they can be admitted to Teacher Education.

The PRAXIS II exam tests specialty areas. In the academic specialty areas of math, English, biology, social studies, French, Spanish, physics, science, elementary and early childhood, 301 out of the 302 California University students who took the tests passed them for a pass

rate of almost 100 percent. The statewide rate was 97 percent. In technology education, 68 out of 68 students passed the exam for a 100 percent pass rate. The statewide rate was 99 percent. In the teaching of special populations, 60 out of 60 students passed the exam for a 100 percent pass rate. The statewide rate was 100 percent. Please note that the number of program completers will not equal the sum of the number of students taking assessment since a completer can take more than one assessment.

The University was awarded a summary totals and pass rate of 98 percent based on the number of students who successfully completed one or more tests across all categories used by the state for licensure and the total pass rate. This was based on 318 taking the assessment and 313 passing. The statewide rate was 97 percent. California University will use the data collected by ETS to focus continued discussions on teacher preparation, concentrating on continuous improvement and outcome assessment.

### **Decision Point 1: Acceptance as a Pre-Education Candidate**

#### *Freshman with 0-23 credits*

Teacher education candidates who begin at Cal U with 0 to 23 credits follow the standard Cal U admission policies that all incoming candidates follow and may enroll as pre-education.

#### *Transfer Students with 24-90 credits*

The rationale for the GPA admission matrix is to insure that transfer students who are accepted into California University of PA in a teacher certification program have every chance to meet the Admission to Teacher Education and Recommendation for Student Teaching GPA requirements mandated by the Pennsylvania Department of Education.

The manner in which California University of PA calculates the GPA for pre-education transfer students will be standard for each department that is preparing students for their initial teacher certification. Students who wish to transfer to Cal U with 24 or more credits are required to meet the GPA admission matrix shown below. The GPA used for the admission decision must be cumulative from all previous colleges attended. The decision to accept a transfer student as a pre-education major is made by the Office of Admissions and is considered final.

#### *Transfer Students GPA Admission Matrix*

<b>No. of Transfer Credits</b>	<b>Minimum GPA for Admission</b>
0-23	2.00
24-27	2.20
28-31	2.30
32-35	2.40
36-39	2.50
40-43	2.60
44-47	2.70
48-65	2.80
66-90	3.00

Cal U does not accept individuals, including transfer students, with 91 or more credits into an undergraduate teacher education program. Such individuals are advised to complete a noneducation undergraduate degree and prepare themselves to enter Cal U's post-baccalaureate or graduate teacher education programs.

### *Students Changing their Major to Pre-Education*

Cal U students with 66-90 credits wishing to change their major to pre-education must have a 3.00 GPA. They must complete all requirements to be approved for Admission to Teacher Education by the end of the first semester as a pre-education major using the deadline dates of February 1 (fall semester) and June 1 (spring semester).

### **Decision Point 2: Admission to Teacher Education**

Admission to the University is not a guarantee that a student majoring in education will be admitted to Teacher Education, complete the program, student teach and receive teaching certification. The Pennsylvania Department of Education and the College of Education and Human Services have established standards that all education majors must meet in order to enroll in certain courses, student teach and complete the Teacher Education program. Some of these standards are embodied in the Admission to Teacher Education program, which must be completed by the candidate during the semester following the completion of 48 credits. Students who transfer more than 41 credits are given two semesters to complete their Admission to Teacher Education requirements.

### *Program Admission Requirements*

Students must:

- Possess an overall grade-point average of 2.80 to be admitted to Teacher Education in 2009-10.
- Earn at least a “C or better” (2.00) in each required content and educational methodology course as determined by their major department. These courses are identified on the official advisement sheet.
- Have met the Admission to Teacher Education admission window requirements. Admission window is 48 to 65 credit-hours (or the equivalent). Students not admitted to Teacher Education at this time will be denied admission at a later date. Students transferring into a teacher education program with more than 41 credits will be given a two-semester extension (up to 24 earned credits).
- Complete a speech and hearing test.
- Successfully pass the PRAXIS I (PPST Reading, PPST Writing and PPST Mathematics) exams.
- Possess Act 34 (Criminal Record), Act 114 (Federal Criminal History Record) and Act 151 (Child Abuse) clearances at the time of application for Admission to Teacher Education. Students are advised to apply for all clearances immediately as schools require them for early field experience work.
- Complete 3 credit-hours in English Composition I, 3 credit-hours in English Composition II and 6 credit-hours in mathematics. All courses must be at the college level. All courses must be completed with a grade of C or better (2.00).
- Complete the Professional Seminar Series (3 seminars or 1 conference).
- Complete the Conceptual Framework Survey – Level I and the Self-Rating Candidate Professional Disposition Instrument – Level 1 as part of the Introductory Education course.
- Have a professor complete the Candidate Professional Disposition Instrument: Level 2.
- Have a person who has a professional relationship with the candidate complete the Candidate Professional Disposition Instrument: Level 2.

### *Missing the Teacher Education Admission Window*

In some cases, the teacher education candidate may file the appeal form, Appeal to Extend the Admission Window by One Semester, which can be downloaded at the College of

Education and Human Services website or found in the main office located on the second floor of the Keystone Education Center.

The items listed below that are required for Admission to Teacher Education are the ONLY items that are eligible for an extension of the admission window:

- Needing to pass Praxis I exams using either scoring method.
- Candidate must show proof that all exams have been taken at least once.
- It is the responsibility of each teacher education candidate to register and pay for the correct test(s). This test is only offered during the national testing dates, seven times per year. Please plan accordingly so this important test is not missed. Candidates are reminded that registration for Praxis exams is required months in advance of the exam date.
- Needing to complete 6 credits of composition/literature.
- Candidates must show proof of 3 earned credits of English composition/literature.  
*Note:* Developmental English courses do not apply.
- Needing to complete 6 credits of college level math.
- Candidates must show proof of 3 earned credits of college level mathematics.  
*Note:* Developmental mathematics courses do not apply.
- Needing to complete the Introductory Education course for the discipline with a grade of “C” or better.

The items listed below that are required for Admission to Teacher Education are not eligible for an extension of the admission window:

- Not possessing an overall GPA of 2.80 or higher.
- Not possessing Act 34, Act 114 and Act 151 clearances.
- Lacking 3 credits of English composition with a grade of “C” or better. ENG 102 will count for the composition requirement.  
*Note:* Developmental English courses do not apply.
- Lacking 3 credits of college level mathematics with a grade of “C” or better.  
*Note:* Developmental mathematics courses do not apply.

It is the candidate’s responsibility to start the appeal process by completing the appeal to extend the admission window by one semester form. Candidates must submit their appeal to their department office by due dates shown in the table below. To fulfill the requirements of the appeal, students must apply for Admission to Teacher Education by the due dates given in the table below. Failure to apply for Admission to Teacher Education by the dates in the table below will result in the student NOT being able to complete an education degree at Cal U, and therefore, they will need to change their major immediately to a program other than Teacher Education.

#### *Appeal Window Deadlines*

<b>Extension Semester</b>	<b>Appeal Due Date</b>	<b>Deadline for Admission for Teacher Education</b>
Fall Semester	September 15	February 1
Spring Semester	February 15	June 1

#### **Decision Point 3: Recommendation for Student Teaching**

Student teaching is conducted under the supervision of the director of student teaching and department University supervisors. Students who are candidates for certification



are required to student teach for a minimum of 15 weeks. Student teaching is a competency-based program and may continue beyond one semester.

Candidates are certified to teach only if they demonstrate ability to teach effectively. The director of student teaching, the University supervisor, and the cooperating teacher or teachers determine teaching competency. The student teacher is also required to register for a practicum while student teaching. Student teachers are not generally permitted to enroll in other courses during the student teaching experience. Student teaching is normally conducted in selected public schools located in the service area of the University. Alternative programs are also available. Interested students should discuss this possibility with the director of student teaching. The institutional philosophy regarding student teaching is to prepare students adequately to assume their responsibilities in the teaching profession with the knowledge and skills essential to their areas of specialization. Student teaching is designed to provide a climate wherein the student may exhibit creativity and the ability to make critical judgments based upon knowledge and reason.

Recommendations for student teaching may be secured from the College of Education and Human Services website at [www.calu.edu/academics/colleges/education/index.htm](http://www.calu.edu/academics/colleges/education/index.htm). Applications must be submitted prior to June 1 for the fall semester student teaching placement and prior to November 1 for spring semester student teaching placement.

Transfer students are not assigned to student teaching until they have completed at least 24 credits of work at this University. Graduates of other colleges and universities must meet the California University requirements of Admission to Teacher Education before being assigned to student teaching.

### ***Student Teaching Requirements***

Candidates seeking a recommendation for student teaching must provide evidence of meeting these requirements at the time the application form is submitted:

- Passing score on the Fundamental Subjects: Content Knowledge exam (does not apply to Teacher Education programs resulting in grade 7-12 certification).
- Passing score on the Praxis II Subject Assessment exam(s).
- It is the responsibility of each teacher education candidate to register and pay for the correct test(s). This test is only offered during the national testing dates, seven times per year. Please plan accordingly so this important test is not missed. Candidates are reminded that registration for Praxis exams is required months in advance of the exam date.
- Completed required Pre-Service Teacher Professional Seminar Series. These are in addition to the requirements for Admission to Teacher Education:
  - Spring 2009: 3 seminars or 1 conference
  - Fall 2009 and later: 6 seminars or 2 conference
- Attach certificate(s) validating attendance.
- Earn a grade of C or better in every required course in the major. This includes courses that are being taken and required in the major (see department for details).
- Possess an overall 3.00 GPA (Please note that a GPA of 3.00 or better is also required when candidates begin the student teaching experience. Candidates who have a GPA below 3.00 at the start of the semester will be removed from student teaching.).
- Possess a passing score on the Performance Principles Portfolio Review on LiveText from the academic adviser.
- Possess clearances (Act 34, 114 and 151) that are valid through the end of the student teaching experience.

All requirements must be complete at the time of application for a recommendation for student teaching, with the exception of C or better grades in required major courses in which the candidate is currently enrolled or plans to take in the summer before fall semester student teaching. Also, candidates must submit evidence of a \$1,000,000 liability insurance policy. The \$1,000,000 liability insurance policy and C or better grades in the required major courses taken in the semester of the application or in the summer prior to fall student teaching must be presented to the Student Teaching Office prior to the beginning of student teaching. Grades and GPA must continue to be maintained or the candidate will lose the assignment.

### ***Valid Recommendation for Student Teaching***

The recommendation for student teaching is good for one semester only. Candidates who delay student teaching for any reason and wish to student teach in a future semester must reapply and secure a new recommendation for student teaching in accordance with the application deadlines. Students must meet current requirements, even if they have changed since their previous recommendation for student teaching was submitted.

### **Decision Point 4: Completion of Student Teaching**

Candidates will have successfully completed student teaching if they:

- Pass the Pennsylvania Statewide Evaluation Form for Student Professional Knowledge and Practice (PA-430 form) with a score of “1” or higher on each category;
- Receive a “Met” or higher rating on the Candidate Professional Disposition Instrument – Level 3 during Week 7 of student teaching; and
- Pass a departmental exit interview. Each department may have different requirements for the exit interview. Check with your department for details.

### **Decision Point 5: Graduation**

Cal U graduation requirements include the completion of all required courses in the major (including student teaching), all electives, and all general education requirements. Candidates who successfully complete the graduation requirements will earn a Bachelor of Science in Education degree.

Teacher education candidates not successfully completing student teaching, or not meeting all of the requirements for Pennsylvania teacher certification, can choose to graduate with a Bachelor of Science or a Bachelors of Arts degree, depending on their course history. These degrees also have criteria that must be met.

**Note:** Once a candidate graduates, the GPA is permanent. Candidates cannot return to Cal U to retake courses to improve their undergraduate GPA after their graduation.

### **Decision Point 6: Certification**

The final decision point of the Teacher Education program occurs when the candidate applies for a Pennsylvania teaching certification. Cal U does not certify candidates, but does recommend candidates for certification by verifying that they have successfully completed a teacher education program, including graduation. Candidates must complete the PDE 338 C and PDE 338 G forms and submit them to the College of Education before they can be recommended for Pennsylvania certification. It is recommended that the form be completed during student teaching so it can be forwarded to PDE upon graduation.

Candidates must wait until their class has officially graduated, not when they have completed all courses, before they are eligible for PA teacher certification. The Pennsylvania Department of Education has the final decision in all teacher certification requests.

### ***Appeal Procedure for Certification Students***

Students wishing to appeal a decision regarding teaching certification should contact the dean of the College of Education and Human Services to discuss their concern. If accord is not reached at this level, the student may appeal to the vice president for academic affairs.

The final source of appeal is with the Certification Appeals Committee, Department of Education, in Harrisburg, Pennsylvania. This step should be taken only if there is no possibility for a resolution at an earlier stage, and only if the student is convinced that arbitrary and/or capricious standards were applied.

### **U.S. Citizenship – A Requirement for Teacher Certification in Pennsylvania**

A permanent Commonwealth of Pennsylvania teaching certificate will not be granted to any person who is not a citizen of the United States, and no provisional certificate may be granted to any person who is not a citizen or who has not declared in writing to the Department of Education the intention of becoming a citizen.

### **Graduation in General Education**

Students who have been working toward teacher certification but are unable to complete the requirements of the teacher education program or who change their career plans will not graduate with the Bachelor's of Science in Education. Students may elect to change their major and graduate with a bachelor's degree. Students must meet requirements of the new degree in order to graduate. Such requests must be initiated within the College of Education Office.

### **Accommodations for Students with Disabilities**

Accommodations for students with disabilities are approved through the Office for Students with Disabilities (OSD). It is the responsibility of the students to adhere to OSD procedures for self-identifying, providing documentation and requesting accommodations in a timely manner.

Students must meet the academic standards of the classes/programs for which they are applying and/or in which they are enrolled. In those instances where class/program requirements simulate responsibilities of in-service personnel, students must meet the essential functions of the job. For accommodations assistance, contact the Office for Students with Disabilities in Azorsky Hall, Room 105, or by telephone at 724-938-5781, or visit the OSD website at [www.calu.edu/current-students/student-services/disability](http://www.calu.edu/current-students/student-services/disability).

## **The College of Liberal Arts**

The College of Liberal Arts is comprised of the departments of Art and Design; Communication Studies; English; History and Political Science; Justice, Law and Society; Modern Languages and Cultures; Music; Philosophy; Psychology; and Theatre and Dance. These departments offer a diverse array of major and minor programs of study. A broad general education course of study, based on the liberal arts, encourages students to explore a variety of course offerings and to become aware of the ways many different disciplines understand and view the world.

The liberal arts are concerned with human values and social issues. They depend on the ability to think analytically, to understand other cultures and their history, as well as our own, and to appreciate artistic responses to our world. Liberal arts disciplines enrich life by giving it greater meaning and by enabling people to adapt to changing employment, personal and social demands. Many programs offer internship opportunities that allow students to gain professional experience and apply classroom knowledge to the world of work.

Students should select a major by the end of the third regular semester or upon the completion of 45 credit-hours. This does not prohibit students from changing their major later in their careers; however, they will have difficulty completing requirements within eight semesters if they change majors after three semesters. Students who do not wish to pursue a single discipline or course of study have program options in liberal studies, humanities and social sciences. The curriculum in each is flexible and permits interdisciplinary study.

## The Eberly College of Science and Technology

The Eberly College of Science and Technology includes the departments of Applied Engineering and Technology, Biological and Environmental Sciences, Business and Economics, Chemistry and Physics, Earth Science, Mathematics and Computer Science, Nursing, and Professional Studies. The college offers certificates, minors, associate and bachelor's degree programs designed to prepare students to meet present and future requirements of specific professions and/or to undertake further study in graduate and professional schools.

Each curriculum in the Eberly College includes both general education and a professional education component. The general education component ensures that students will receive a well-rounded education; such breadth of knowledge will increase their usefulness as professional employees and as citizens in the community. The professional component includes the necessary technical, scientific, business and/or support courses to provide the basis for immediate employment or advanced study in a professional area. Classroom theory is frequently supplemented by laboratory and workshop experiences where the interrelationship between general principles and application is emphasized. Additionally, several programs provide students with opportunities to participate in either an internship in business or industry or a clinical year of study in a hospital setting where the students' educational experiences are utilized in the workplace. Many of the programs have received or are in the process of pursuing national or international accreditation.

## The School of Graduate Studies and Research

The School of Graduate Studies and Research offers programs of study leading to the Master of Arts, Master of Arts in Teaching, Master of Education, Master of Social Work and the Master of Science degrees, as well as state-accredited supervision certificates. Some of these programs are delivered in the traditional classroom mode, some are 100 percent online, and some are a blend of the two. Students completing their graduate education at California University have enjoyed success in pursuing doctorates and professional degrees at distinguished graduate schools throughout the United States and in many other countries. The academic programs and courses offered by the School of Graduate Studies and Research are listed in the Graduate Catalog. For information or course schedules, contact the Graduate School at 724-938-4187 or visit [www.calu.edu/academics/graduate-programs/](http://www.calu.edu/academics/graduate-programs).

## University College

University College is a means to aid students in achieving educational, career and personal goals through the utilization of a full range of institutional and community resources.

University College provides:

- A guided transition from high school or the world of work into university life by developing personal adviser-advisee relationships (using faculty, staff and peer/student mentors); assessing basic skills and knowledge; assessing career interests and related activities; and helping to develop an academic plan based on student skills and interests.
- An introduction to a liberal education and its importance in lifelong learning by developing proficiency in basic academic skills necessary for academic success at the University (reading, writing and mathematical skills); developing proficiency in personal skills that support learning (study skills, time management and interpersonal skills); and introducing students to the breadth of human knowledge, including historical consciousness, issues of cultural ethnicity and nationality, global interdependence, and values and ethics in personal, professional and community life.
- Opportunities to explore various areas of interest, major areas of study and career options by introducing students to the concepts, strategies and resources associated with career planning; offering on-the-job experiences (co-ops, internships and field

experiences); developing the ability to evaluate career options, to set realistic personal and academic goals, and to measure progress toward the attainment of those goals. Students will develop Career Advantage plans.

### **Academic Scheduling and Placement Testing Centers**

The Academic Scheduling and Placement Testing centers serve to coordinate placement testing, schedule development for entering students, preregistration in developmental courses, and the monitoring of successful completion of such work. The centers also provide retesting opportunities for students, serve as the areas responsible for all students who have not declared a major, who are on academic probation or who need assistance with basic academic skills. The Academic Scheduling Center does not replace faculty advising but helps to coordinate and supplement it.

### **First-Year Seminar**

UNI 100 First-Year Seminar (FYS) is designed to help students make a smooth transition into the University environment. It is a one-credit course required of most first-time students. Topics covered in the course include time management, campus life issues, information literacy, writing/studying skills, math/reading skills, financial aid, academic and career planning, health issues, and individual assistance. Transfer students are not required to complete FYS if they transfer a course equivalent to UNI 100 (FYS) or if they transfer a total of 24 or more credits. Students who take FYS develop a success plan designed to help them persist and graduate in four years. The success plan consists of four components: an academic plan, a personal (extracurricular) plan, a career advantage plan and a financial plan.

### **Academic Assistance Programs**

#### *Academic Warning*

Students whose cumulative GPA falls below a 2.00 for one semester will be placed on academic warning. Students on academic warning will be expected to participate in Academic Healthy U and other services offered by the Office of Student Retention and Success. Students who are on academic warning will meet one-on-one with a trained graduate assistant several times throughout the semester and receive weekly emails with helpful hints and an offer of academic assistance. This program is designed to give students on academic warning additional support to strengthen academic study skills.

#### *Academic Probation*

Students whose cumulative GPA falls below 2.00 for the second consecutive semester are placed on academic probation. Students on academic probation will be expected to participate in the Probationary Assistance (PASS) Program and other services offered by the Office of Student Retention and Success.

The PASS Program provides the additional structure and support that may be necessary for student academic success. Participation in the PASS Program is required of students who are on first academic probation as well as students who have been dismissed for academic reasons and are subsequently readmitted.

The goal of the Probationary Assistance (PASS) Program is to provide students on probation with the tools needed to obtain good academic standing. PASS offers small group sessions of 8-10 students who meet weekly with a trained graduate assistant. The program is designed to help the student build a foundation for success through relevant information, activities and discussions. The small group sessions allow the leader to tailor the meetings to more closely meet the needs of each group. PASS provides an opportunity for each student to create an academic/personal plan for success based on individual goals.

Data indicate that students who participate actively in PASS have a greater probability of succeeding academically than those who do not.

## **Ombudsperson**

The Office of Student Retention and Success is available to students who need information or general assistance, or who encounter difficulties with processes, procedures or personalities on campus. Established means of dealing with such concerns are used (students are informed of the appropriate processes or procedures to follow and are expected to use these). The Office of Student Retention and Success monitors the concern(s) and becomes directly involved only if established means do not resolve the issue(s).

## **Developmental Courses**

At California University student success is the priority. Ensuring that students are scheduled in classes of sufficient but not excessive challenge is a key to academic success. All new freshmen (students attending a postsecondary institution for the first time) and some transfer students have the opportunity to take placement tests before their first registration at California University to determine their levels of ability in mathematics and writing.

Students who do not achieve predetermined scores on these tests must enroll in appropriate developmental courses. These courses, ENG 100: English Language Skills and DMA 092: Introductory Algebra, are described in the course listings in the University catalog. Because these developmental courses are preparatory to a university academic experience, the credits awarded in them do not count toward the fulfillment of the number of credits for graduation, nor may they be used in fulfillment of general education requirements. However, the grades achieved in these courses are used in establishing a student's grade-point average, class standing, eligibility for financial aid and eligibility for participation in co-curricular activities. Moreover, students who do well in preparatory courses also do well in college-level classes. Remember, student success is our priority.

## **Office of Lifelong Learning**

The Office of Lifelong Learning provides educational opportunities to people of all ages through various programs and serves learners interested in both credit and noncredit learning opportunities. Programs of study are flexible and can be customized to meet students' desires to further their education. The classes are offered at times intended to accommodate the busy schedules of most adults. The Office of Lifelong Learning provides "one-stop" ease in processing admission, registration and any questions students may have.

The Office of Lifelong Learning is an admission site for evening degree students and nondegree students.

The Evening College currently offers degrees in liberal arts, social science, and science and technology. Classes may also be taken for personal or professional enrichment without obtaining a degree. Senior citizens may attend credit classes, tuition free, through our 60+ College Advantage Program. Qualified high school students may take credit classes through our Early Admit Program.

The Summer College, which offers graduate and undergraduate courses to current Cal U students and to visiting students from other institutions, is run through the Office of Lifelong Learning. Visiting students wishing to take summer classes need to apply through the Lifelong Learning office. For more information about becoming a visiting student, see [Visiting Student](#).

The Summer Educational Enrichment for Kids (SEEK) Program offers fun and educational noncredit programming for students in grades 1 to 8. Summer noncredit programming is now available for students in grades 9 to 12.

In addition, the Office of Lifelong Learning provides support, assistance and customized programs for employers who are interested in more fully developing the capabilities of their employees.

Office hours are 8 a.m. to 6 p.m. Monday through Thursday and 8 a.m. to 4 p.m. Fridays (except during University recesses). For more information, contact the Office of Lifelong Learning at 724-938-5840.

## **Southpointe Center**

California University offers a number of programs and courses at an off-campus site located in the Southpointe Industrial Complex in Canonsburg, Pa. Programs are geared to the needs of the population and businesses in the area. Most classes are offered in the evenings and on weekends to accommodate adult student schedules. The facility includes computer and multimedia labs, a library with electronic accessibility, and distance learning and video teleconferencing.

Students may earn degrees in several programs at the Southpointe Center. Bachelor's degree completion programs are offered in business and nursing. Master's degrees are offered in business administration and elementary education with certification.

Customized job training, workforce development training, computer software applications and personal wellness are available at the Southpointe Center for businesses and organizations in the region.

For additional information, please contact the center at 1-888-333-2258 or 724-873-2760, or visit the website at [www.calu.edu/academics/colleges/southpointe](http://www.calu.edu/academics/colleges/southpointe).





# Admissions

## How to Apply to California University

Address inquiries to:

Admissions Office  
California University of Pennsylvania  
250 University Avenue  
California, PA 15419-1394

Phone: 724-938-4404

Toll Free: 1-888-412-0479

Fax: 724-938-4564

Email: [inquiry@calu.edu](mailto:inquiry@calu.edu)

Apply online at [www.calu.edu/apply-now](http://www.calu.edu/apply-now).

We encourage applicants to write, email or call for an appointment to visit the University.

## General Admission Requirements

To be considered for admission as a degree-seeking student, applicants must submit the following:

- Completed application form,
- Application fee,
- Official high school transcript which includes class rank (or GED certificate and scores),
- SAT or American College Test (ACT) scores (may be waived for applicants who have been out of high school for at least two years or have an associate, R. N. or bachelor's degree), and
- Transfer students must submit official transcripts from all colleges and universities attended.

Students in special categories of admission should check the section on Specific Admission Requirements for required application materials.

## Specific Admission Requirements

### Freshmen

Students attending a postsecondary institution for the first time are considered new freshmen. All students in this classification must submit the materials included in items 1 through 4 listed under General Admission Requirements.

### Transfers

Students seeking to transfer to California University from another postsecondary institution must submit the materials included in items 1 through 5 listed under General Admission Requirements. Students must declare on the application and request that official transcripts be submitted to the Office of Admissions from all high schools and postsecondary institutions attended at the time of acceptance. Students will not be granted transfer credits from other institutions after acceptance. If a degree has not been earned beyond high school, applicants must also submit high school transcripts and the scores for all standardized tests. The awarding of an associate degree is considered to have satisfied the high school graduation requirement.

Students seeking to transfer to California University must be in good academic and social standing at the last institution attended in order to qualify for admission. In cases where

students have been out of school for at least one semester, special consideration may be given. See [Transfers](#) for more information on transfer credits. Students can apply online at [www.calu.edu/apply-now](http://www.calu.edu/apply-now).

### **Early Admission for High School Students**

High school students may be eligible for early admission to California University through the Office of Lifelong Learning provided the following requirements have been met:

- The student must submit a completed application and pay the application fee.
- The applicant must have completed the sophomore year of high school and be enrolled in a college preparatory curriculum.
- An early admission clearance form must be completed with all necessary signatures affixed.
- The student's official high school transcript must be submitted and reflect a cumulative grade-point average of 3.00 for the past two years. (For upcoming juniors, ninth- and 10th-grade averages will be used.)
- The applicant must have taken the PSAT, SAT or ACT examination and scored at least the University required minimum. Contact Lifelong Learning for the current requirement.
- The student's status will be classified as nondegree for each session while still in high school.
- The student must submit a completed early admission clearance form and a transcript for each session that enrollment at California University is desired.
- At the completion of the student's high school program, a second application must be submitted with the final high school transcript. A second application fee is not required.

For more information, contact the Office of Lifelong Learning at 724-938-5840.

### **Graduates of California University**

Post-associate and post-baccalaureate students who graduated from California University and are seeking an additional degree must reapply to the Admissions Office.

### **Other Post-Baccalaureate Students**

Students who graduated from another institution and want to enroll in undergraduate programs at California University must submit a completed application, application fee and official transcripts from all colleges and universities attended.

### **International Students**

International students are required to submit an international student application form to California University. All official transcripts, TOEFL scores, a statement of financial support and letters of recommendation must be submitted. All credentials presented in support of an application for admission become the property of the University and cannot be returned to the student. Assuming that all records indicate that international students could be successful, final admission is contingent upon acceptable clearance from the education authorities of the home country and from the Department of Justice, Immigration and Naturalization Service of the United States.

Applicants from foreign countries must have competency in the use of English as demonstrated through the Test of English as a Foreign Language (TOEFL) examination. The minimum TOEFL score is 500 on the paper version or 173 on the computerized version or 61 on the Internet-based version. International students must subscribe to the insurance plan of California University. For identification purposes, international students can obtain a United States Social Security number.

## Visiting Students

Students who wish to enroll at California University with the expectation of transferring credits to their home institution and do not wish to receive a degree from California University are classified as visiting students. An application with application fee must be submitted to the Office of Lifelong Learning. Admission is granted for the approved semester only. Fall/spring visiting students must adhere to the regular admission requirements, which include the submission of all official transcripts. However, for summer semester students, official transcripts are not required. Students just need to complete the application and pay the \$25 application fee. For more information, contact the Office of Lifelong Learning at 724-938-5840.

## Nondegree Students

Students may take courses at California University without being a candidate for a degree. Nondegree students must submit a completed application, application fee and all appropriate official transcripts to the Office of Lifelong Learning. Tuition and fees are the same as for degree students. Students may complete up to 30 credits in a nondegree-seeking status. After reaching 30 credits, students must either declare a major or indicate in writing that they do not plan to pursue a degree at California University.

For more information, contact the Office of Lifelong Learning at 724-938-5840.

## Veterans

Veterans of the United States armed forces who have not attended an institution of higher education since their honorable discharge are admitted to California University upon following the general admission procedures. Veterans may be awarded credit for their military training and military schools. All veterans, reservists and National Guard members who have been honorably discharged may be eligible for credits. Credits are awarded primarily in elective categories. Each veteran or reservist seeking such an award must submit a copy of DD 214 to the director of Veterans Affairs. Army veterans who entered the Army after Oct. 1, 1981, should submit an A.A.R.T.S. transcript; Air Force veterans who served after 1974 should submit a C.C.A.F. transcript. Evaluations based on the latest American Council of Education Guides will be forwarded by the Veterans Affairs Office to the Articulation and Transfer Evaluation Office.

## Evaluation of Applicants

All applications are individually evaluated. As soon as applications are complete, decisions are reached and applicants notified. Every attempt is made to complete this process within two weeks.

Admission standards have been established by the University to select those students who will be most likely to succeed in the various programs of the University.

- **Academics.** An applicant must be a graduate of an approved or accredited secondary school or have an equivalent preparation as determined by any state's Department of Education.
- **Assessment and Ability Standards.** An ability to do work in higher education should be evident from an assessment examination such as the SAT or ACT. In certain instances, other kinds of evidence may be used to determine the ability to do such work.
- **Character and Personality.** Applicants must be able to demonstrate that they possess the personality traits, interests, attitudes and personal characteristics necessary for higher education.
- **Admission to Special Curricula.** A student seeking admission to a special curriculum may be required to complete additional requirements or have earned specific credentials.

The Admissions Office considers as many variables as possible in making admission decisions: class rank, cumulative grade-point average, type of curriculum completed in relation to proposed major, guidance counselor or other recommendations, personal

essay, on-campus interview, standardized test scores, activities, and maturity. Each of the variables contributes to the overall assessment of applicants.

### **Student Credentials**

All credentials presented in support of an application for admission become the property of the University and cannot be returned to the student. The complete file will be retained according to the provision of university policy and the Family Rights and Privacy Act of 1974, as amended.

All information filed in support of the application must be complete and authentic. Any false information may be grounds for denial or dismissal.

### **Pennsylvania Residency**

Residency is determined at the time of admission. Change of residency may only occur by appealing to the residency appeals committee. For more information, contact the Office of the Provost and vice president for academic affairs after admission and prior to registration.

### **Advanced Placement Credit**

A student who has taken advanced placement examinations under the auspices of the Educational Testing Service may receive credit for them at California, provided the score is 3.00 or higher.

### **Transfer Student Policies**

Please contact the Articulation and Transfer Evaluation Office at 724-938-5939 or [transfer@calu.edu](mailto:transfer@calu.edu) for answers to any questions regarding articulation agreements or transfer credits.

### **Academic Passport and Student Transfer Policy**

Academic Passport is a transfer program designed to promote and facilitate the transfer of students in community colleges to State System of Higher Education universities, and to support the transfer of undergraduate credits earned by State System students to other System universities.

#### **1. Academic Passport Students:**

##### **a. Transferring with an associate degree:**

Students transferring with an A.A. or A.S. degree must have a 2.0 minimum cumulative grade-point average (GPA) in all course work presented for transfer from each institution attended.

The A.A. or A.S. degree recognized for Academic Passport must contain, as a minimum, 30 hours of liberal arts courses from the following fields of study: composition/communications, humanities/fine arts, behavioral/social sciences, biological/physical sciences, and mathematics and computer science. A maximum of 45 general education credits and liberal arts course credits earned at the two-year college may be transferred to meet lower division requirements (a course-by-course match shall not be required). All additional course credits will be applied first to major courses and, lastly, as electives.

##### **b. Intra-System Transfers:**

Incumbent State System university students who have attained a minimum cumulative GPA of 2.0 or higher with a minimum of 12 credit-hours of college-level course work shall hold an Academic Passport enabling transfer to any other State System university.

Up to a maximum of 45 general education credits and/or liberal arts course credits earned at the sending university shall be used to meet lower-division university general education requirements (a course-by-course match shall not be required). Capacity limits and/or higher admissions standards may apply to certain high demand academic programs.

State System students holding the Academic Passport shall be entitled to take any course offered through distance learning and listed in the catalog at any other System university and have those credits and the grade earned accepted by their home institution.

## 2. Students Transferring Without Academic Passport

Students who have not completed the A.S. or A.A. degree may transfer:

- a. With a minimum of 12 credit-hours of college-level course work, up to a maximum of 45 credits in courses designated and credited as general education by an accredited community college which shall be used to meet lower-division university general education requirements (a course-by-course match will not be required). Additional transfer credits will be applied first to major courses and, lastly, as electives.
- b. With a minimum cumulative GPA of 2.0 or greater in all course work presented for transfer from each institution attended.

### Transfer Credit Evaluation Policy

1. California University will accept the following transfer credits toward a bachelor's degree (four years):
  - a. A maximum of 75 credits from an accredited two-year community or junior college.
  - b. A maximum of 90 credits from an accredited four-year institution.
  - c. A maximum of 90 credits from a combination of accredited two-year and four-year colleges.
2. Students transferring with a degree may transfer a maximum of 30 credits toward an associate degree (two years); students transferring without a degree may transfer a maximum of 15 credits toward an associate degree at California University.
3. Developmental courses are not transferable.
4. Grades of D are not transferable unless they are counted as part of the Academic Passport or if they were completed at a college or university that has an articulation agreement with California University.
5. When credits are transferred, only the credits are counted as advanced standing, the grade-point average of transfer courses is not calculated with California University earned courses.
6. Although credits will always transfer according to these provisions, regulations that govern the national professional accreditation of certain programs offered at California University of Pennsylvania may not permit some courses taken in programs not similarly accredited at other two- and four-year institutions to be transferred as the equivalents of courses that may be similarly titled or described in this catalog.

## Tuition and Fees

For the most up-to-date information on undergraduate tuition, fees, room and board charges, visit [www.calu.edu/bursar](http://www.calu.edu/bursar) and [www.calu.edu/current-students/housing](http://www.calu.edu/current-students/housing).

### Payment of Tuition and Fees for Semester Registration

All fees will be assessed four weeks prior to the beginning of the each term. Payment may be made by cash, check or money order payable to California University of Pennsylvania, or by VISA, MasterCard, American Express or Discover Card. Online payments can be made by ACH check payment and by credit card. If financial aid has been awarded, this amount will be deducted from the bill. Payment plans (with initial payment) may be contracted online at the first due date for each term.

## **Payment Information**

California University of PA is moving to e-billing. Students who take advantage of early/rolling registration should receive a Cal U email announcing that the billing statement is available for viewing online through the Vulcan Informational Portal (VIP) approximately four weeks prior to the start of the term. Students who enroll within four weeks of the first day of the term should be prepared to make payment at the time of registration.

## **Payment Plans**

Payment plans are available each fall and spring semester. Payment plans enable students to pay their costs on a monthly basis. Enrollment for the payment plan can be completed online. Detailed information is also available on the Bursar's Office website.

## **Third-Party Billing**

Some companies and government agencies pay tuition directly to the University. If tuition is to be paid in this manner, authorizing forms or letters must be sent to the Bursar's Office. This payment must be received by the Bursar's Office during the semester in which charges originate and cannot be used in lieu of a personal payment for an authorized payment plan. This payment option does not apply to corporate tuition reimbursement policies or when the payment amount is based on grades and received after the term has ended.

## **Refund Policy**

Tuition and fees are adjusted for class withdrawals during the first week of the fall and spring semesters. After the add/drop period ends, adjustments are made ONLY if a student withdraws from all enrolled classes. Refunds are made to the amount of the charge, not the amount that has been paid to date. The refund policy is available online and in the Bursar's Office.

Financial aid recipients should refer to "refund/repayment policies" in the Financial Aid section of the catalog for the financial aid adjustment policy.

## **Advance Deposit**

All first-year, transfer and readmitted students are required to submit a \$100 advance deposit payable to California University of Pennsylvania. It is to be paid in advance of registration and is credited to the student's account for the first semester. This is a nonrefundable fee.

## **Room Deposit**

An application fee of \$300 is required in order to reserve a room for the following academic year. First-year students will receive a housing contract with their admissions packet. The contract and card must be signed and returned to the Bursar's Office with a \$300 payment. This fee is nonrefundable and is not deducted from room charges.

## **Late Registration Fee**

Students who register after the add/drop date of the semester will be charged a \$25 late registration fee. (The structure of fees is subject to change without prior notice and such changes shall take precedence over existing charges set forth in this catalog.)

## **Late Payment Fee**

A late payment fee of \$25 per month will be assessed when a student fails to pay the required fees by the due date or when a student fails to pay according to an approved payment plan. (The structure of fees is subject to change without prior notice and such changes shall take precedence over existing charges set forth in this catalog.)

## **Return Check Charge**

A \$25 fee will be charged for any check which is made payable to California University of Pennsylvania and returned by the bank because funds are unavailable. (The structure of

fees is subject to change without prior notice and such changes shall take precedence over existing charges set forth in this catalog.)





# Academic Policies

## Academic Advising

Faculty advisers are available to assist students in planning their academic programs, but students have the responsibility for meeting all requirements for their degrees. Students are urged to take advantage of the advisory and consultation services available at the University. Students should feel free to consult with professors, academic advisers, department chairpersons, deans, staff of the Scheduling Center and the provost. All of these University representatives maintain regular office hours for student consultations.

## Academic Dismissal

The University reserves the right to refuse the privilege of further attendance to students who have failed to meet minimum academic requirements. If a student's cumulative grade-point average remains below the required minimum after a probationary semester, the term grade-point average during a probationary semester is below 2.00, and the student fails to meet other requirements, the student will be dismissed from the University.

## Academic Forgiveness

Academic forgiveness is intended for the student who is returning to the University with a grade-point deficiency and who has not been enrolled at California University of Pennsylvania for four consecutive academic years. The student may request academic forgiveness for up to two complete semesters of academic course work. Academic forgiveness allows for courses successfully completed with a D or better to retain academic credit; however, the grade points will be removed from calculation of grade-point average. Awarding of academic forgiveness does not absolve the student from completion of specific academic program requirements, for example, grades of C or better in courses for an education major. Normally, no grades will be removed from the permanent record. Academic forgiveness will be granted only once for any student, and forgiveness extended by California University of Pennsylvania may not be recognized by other academic institutions to which the student may transfer. The University registrar will give consideration for academic forgiveness when a signed written request is received from the provost. All students requesting academic forgiveness must earn at least a 2.0 GPA during the first 12 credit-hours of course work attempted at California University of Pennsylvania after readmission. Students interested in applying for academic forgiveness must make the request in writing or by email to the Office of Student Retention, [studentretention@calu.edu](mailto:studentretention@calu.edu).

## Academic Passport

Academic Passport is a transfer program designed to promote and facilitate the transfer of students in community colleges to Pennsylvania State System of Higher Education universities and to support the transfer of undergraduate credits earned at state system institutions to other system universities.

### *Students transferring with an Associate Degree*

Students with an A.A. or A.S. degree must have a 2.0 minimum cumulative grade-point average (GPA) in all course work presented for transfer from each institution attended.

The A.A. or A.S. degree recognized for Academic Passport must contain, as a minimum, 30 hours of liberal arts among the following fields of study: Composition/Communications, Humanities/Fine Arts, Behavioral/Social Sciences, Biological/Physical Sciences, and Mathematics and Computer Science.

A maximum of 45 general education credits and liberal arts course credits earned at a two-year college may be transferred to meet lower division requirements (a course-by-course match shall not be required). All additional course credits will be applied first to major courses, and then, as electives.

### ***Intra-System Transfers***

Incumbent State System university students who have attained a minimum cumulative GPA of 2.0 or higher with a minimum of 12 credit-hours of college-level course work shall hold an Academic Passport enabling transfer to any other State System university.

Up to a maximum of 45 general education credits and/or liberal arts course credits earned at the sending university shall be used to meet lower-division University general education requirements (a course-by-course match shall not be required).

Capacity limits and/or higher admissions standards may apply to certain high demand academic programs.

State System students holding the Academic Passport shall be entitled to take any course offered through distance learning and listed in the catalog at any other System university and to have those credits and the grade earned accepted by their home institution.

Students Transferring Without Academic Passport May Transfer:

- With a minimum of 12 credit-hours of college-level coursework, a maximum of 45 credits in courses designated and credited as general education by an accredited community college, which shall be used to meet lower-division University general education requirements (a course-by-course match will not be required). Additional transfer credits will be applied first to major courses, and then, as electives.
- With a minimum cumulative GPA of 2.0 or greater in all course work presented for transfer from each institution attended.

### **Academic Probation**

Students whose total number of “attempted” credits (AHRS) has reached or exceeded 12 and whose overall GPA is below 2.00 will be placed on academic warning. Failure to attain a 2.00 cumulative GPA or higher during the academic warning semester will result in the student being permitted to return to the University on Academic Probation. Students on academic probation must agree to satisfy additional requirements during the probationary semester.

Students on academic probation who:

- Attain the minimum overall GPA of 2.00 and satisfy other requirements will be removed from academic probation; or
- Attain a 2.00 GPA during the probationary semester and satisfy other requirements but fail to attain the minimum overall GPA of 2.00 will be permitted to return to the University on continuing academic probation; or
- Do not attain the overall GPA of 2.00 and do not achieve a 2.00 GPA for the probationary semester or fail to satisfy other requirements will be dismissed from the University.

### **Accommodations for Students with Disabilities**

California University of Pennsylvania welcomes otherwise qualified students with disabilities. The University recognizes its responsibility to these students and is committed to providing reasonable accommodations to insure equal access and full participation as guided by Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA). Students with disabilities follow the same admission procedures and standards as required by California University of Pennsylvania’s Admissions Office for all students. Questions regarding admission procedures and acceptance status should be directed to the Admissions Office at 724-938-4404. Questions regarding accommodations for students with disabilities and required documentation should be directed to the Office for Students with Disabilities at 724-938-5781.

Accommodations for students with disabilities are approved through the Office for Students with Disabilities (OSD). It is the responsibility of the students to adhere to OSD procedures for self-identifying, providing documentation and requesting accommodations

in a timely manner. Students must meet the academic standards of the classes/programs for which they are applying and/or in which they are enrolled. In those instances where class/program requirements simulate responsibilities of in-service personnel, students must meet the essential functions of the job. For accommodations assistance, contact the Office for Students with Disabilities in Azorsky 105, by telephone at 724-938-5781 or through the OSD website at <http://www.calu.edu/current-students/student-services/disability/index.htm>.

Parking spaces for persons with disabilities are marked as such on campus. These spaces are solely for the use of persons who have the required department of transportation-issued permit and Cal U parking permit displayed. Persons who may need a temporary disabled parking permit (six weeks or less) must apply and submit appropriate documentation at the Department of Parking & Transportation Office in the Manderino Library.

### **Administrative Withdrawals**

The University administration has the authority to withdraw a student from the University and to revoke that student's registration at any time for the following reasons:

- Registration in violation of University regulations (e.g., academic ineligibility to register);
- Failure to comply with academic requirements (e.g., unsatisfactory class attendance, violation of the learning contract for students on academic probation, etc.);
- Failure to pay University tuition and fees by the due date;
- Disciplinary suspension or dismissal for the remainder of an academic term or longer;
- Severe psychological or health problems such that the student cannot be permitted to continue in attendance; or
- Other reasons deemed appropriate by the proper administrative officer.

A grade WX is recorded for administrative withdrawals. The grade of WX is not computed in the student's grade-point average and, therefore, involves no academic penalty. The registrar must authorize the recording of this grade. If a student registers in violation of the academic eligibility rule, the registration is declared invalid, the tuition and fees paid by the student are refunded in full, and no grades are recorded.

In other cases of administrative withdrawal, the date of the withdrawal and the reason for the withdrawal are used to determine the grade to be recorded and the amount of tuition and fees to be assessed or canceled. In most cases, the regular tuition and fee assessment and refund policies of the University prevail. For administrative withdrawals during the first six weeks of a semester or two weeks in a five-week summer session, the grade of WX is recorded for all courses on a student's schedule. No other grades, such as incomplete, are assigned.

The registrar has the authority to antedate an administrative withdrawal if circumstances warrant such action.

Disciplinary suspensions or dismissals are initiated by the appropriate authority in the Office of Student Development and written notification is sent to the Academic Records Office, which cancels the student's registration and notifies other administrative offices and faculty members as necessary.

If faculty members have reason to inquire about a specific case of administrative withdrawal, they should consult the registrar or the provost. In certain cases, the student's right to confidentiality may not permit full disclosure of the circumstances.

### **Admission to a Closed Section**

A student seeking admission to a closed section should obtain a schedule adjustment form and consult with the instructor or chairperson of the department that offers the course. Admission to a closed section requires the signature of the instructor or department chairperson and the dean of the college that offers the course.

## **Admission to the University**

### ***Regular Admission***

Typically completed by the Office of Undergraduate Admissions or their designees. Criteria used in the admission decision for first-time students include class rank, cumulative grade-point average (2.80 on a 4.00 scale), type of curriculum completed in relation to proposed major, letters of recommendation, on-campus interview, standardized test scores (SAT>950 or ACT>20 or paper-based TOEFL>550 or computer-based TOEFL>213 or iBT TOEFL>79-80), activities and years since high school graduation. Transfer students are subject to the policies of Academic Passport. All students are classified as degree seeking.

### ***Reduce Load Admission (Conditional)***

Typically completed by the Office of Undergraduate Admissions or their designees. Criteria used in the admissions decision include same as regular admission with variances in the grade-point average (2.30 to 2.79 on a 4.00 scale) and/or standard test scores (SAT=920-949 or ACT=20 or paper-based TOEFL=500-549 or computer-based TOEFL=173-210 or iBT TOEFL>61). Students are limited to no more than 15 credits (including developmental courses) during the initial semester of enrollment. Students are classified as degree seeking.

### ***Early Admission for High School Students***

Typically completed by the Office of Undergraduate Admissions or their designees. Applicants must have completed the sophomore year of high school, completed required forms, and earned a cumulative grade point average of 3.00 on a 4.00 scale for the last two years or received scores of at least 1050 on the PSAT or SAT or a composite score of 23 on the ACT. Students are classified as provisional for each semester while still in high school.

### ***Provisional Acceptance***

Completed by authorized University personnel anywhere classes are offered by California University of Pennsylvania. It generally requires professional judgment and is used to facilitate students' enrollment when supporting documentation is not readily available. Upon receipt of required academic credentials, students may receive regular or conditional admission. Students are classified as nondegree seeking and cannot be processed for financial aid while in this status.

### ***Nondegree Acceptance***

Completed by University personnel anywhere classes are offered by California University of Pennsylvania. At the completion of 30 credits, students must declare a major or indicate that they do not plan to pursue a degree at California University. As nondegree students, financial aid cannot be processed.

### ***Denied Acceptance***

Typically completed by the Office of Undergraduate Admissions or their designees. Applicants are prohibited from scheduling or attending any credit classes offered by California University of Pennsylvania. Applicants may request reconsideration by submitting additional evidence of academic preparedness.

## **Appealing a Grade or Other Academic Decisions**

University decisions are based upon applicable policies, rational procedures and sound decision-making principles. Concerning a student's grade, it must be understood that it is not the policy of the administration to change a properly assigned grade — that is, one based upon recorded grades for quizzes, exams, assignments, projects and other grade criteria as indicated on the course syllabus or outline. However, when a student alleges violations of sound academic grading procedures, the University administration and faculty mutually support a student appeal procedure that gives both the student and the faculty member a fair process to substantiate and/or refute those allegations.

In appealing a grade, a student should first contact the faculty member who issued that grade to discuss the reason for the grade. If the student is not satisfied with the faculty member's explanation, the student should then contact the faculty member's department chairperson. This contact must be in writing and must be filed with the chairperson within 30 working days after the beginning of the fall or spring semester following the term in which the grade in question was given. The chairperson shall notify in writing the student and faculty member of his/her findings and decision within 15 working days of his/her receipt of the appeal from the student.

If accord is not reached through the chairperson, the student may then appeal to the college dean. Such an appeal must be in writing and must be filed with the dean within 15 working days from the date of the final written determination of the chairperson. The dean shall notify in writing the student and faculty member of his/her findings and decision within 15 working days of his/her receipt of the appeal from the student. The final source of appeal is the provost. This final step should be taken only if there is no possibility for resolution at an earlier stage, and only if the student is convinced that arbitrary and/or capricious standards were applied. The appeal to the provost must be in writing and must be filed with the provost within 15 working days from the date of the final written determination of the dean. The provost shall review the matter and take action as necessary to provide equity in the situation.

In the case of other academic decisions, the student should follow the same appeal procedure insofar as possible. In matters relating to student conduct and discipline, the vice president for student development has authority to review student appeals. In matters relating to financial aid, see the Financial Aid section in this catalog; in matters relating to teacher certification, see the relevant section in this catalog; and in matters relating to transfer credits, contact the Articulation and Transfer Office as the first point of contact, and follow the same appeal procedure as listed above.

### **Associate Degree after Bachelor's Degree**

If a student has earned a baccalaureate degree at California University and wishes to then pursue an associate degree at California University, a minimum of 15 additional credits must be successfully completed and all requirements of the associate degree must be met.

### **Auditing a Course**

Students may audit a course with the understanding that they will receive neither a grade nor credit for the course. The course will be listed on the student's transcript without affecting the GPA. Once a course is registered for audit, it cannot be converted back to a credit course.

Students may register to audit a course according to the following schedule:

- 15-week session – within the first 6 weeks
- 5-week session – within the first 2 weeks
- 10-week session – within the first 4 weeks

Audit courses are billed at the same rate as courses taken for credit. Audit forms are available in the Academic Records Office in Dixon Hall.

### **Cheating and Plagiarism: Academic Integrity**

Truth and honesty are necessary prerequisites for all education, and students who attempt to improve their grades or class standing through any form of academic dishonesty may be penalized by disciplinary action, ranging from a verbal reprimand to a failing grade in the course or dismissal from the University. If the situation appears to merit a severe penalty, the professor will refer the matter to the appropriate dean or to the provost. The student may appeal the penalty as outlined above, with the Academic Integrity Committee hearing appeals above the level of dean.

### **Class Attendance**

Regular class attendance is a prerequisite to successful class performance. University policy permits class absence for cause but places an obligation for successful completion of course work on the student. Faculty members may establish their particular policies for absences subject to the following University provisions:

Class absences are excused for officially sanctioned University activities, where the student's attendance is mandatory and which have been preapproved by the appropriate vice president or designee. University activities appropriate to be considered as an excused absence include, but are not limited to, scheduled NCAA athletic events and academic competitions in which the student is a mandatory participant. Other appropriate situations include military duties, auto accidents, impassable roads, death in the immediate family, and/or medical emergencies. Verification of such absences may be required by the instructor.

The student must, in all cases, arrange to make up examinations or other work missed because of absence, according to terms and a schedule agreeable to the faculty member(s).

Except in cases of emergency, it is the students' responsibility to inform professors of the cause of any absence in advance. Students should notify the dean of students concerning lengthy absences due to illness or other causes, and appropriate documentation is required in such cases. The dean will in turn notify the professors concerned.

The Health Center does not issue medical excuses. Under certain circumstances the Health Center will notify professors about students' absences (or other failure to fulfill academic obligations) due to medical conditions; on the basis of this notification, individual professors in turn will determine whether or not to excuse the absences.

### **Class Time and Place**

Classes are to meet at the time and in the place indicated in the published schedule. Departures from this schedule must be approved by the department chairperson, the dean of the appropriate college, and the vice president for academic affairs.

Three-credit evening classes are listed in the published schedule as lasting for three hours to allow either a 15-minute break or a 15-minute early dismissal at the discretion of the instructor.

Two-credit evening classes are listed in the published schedule as lasting for two hours to allow either a 10-minute break or a 10-minute early dismissal by the instructor.

Classes meet from the first day as listed in the schedule through the last day as listed in the schedule.

### **College Level Examination Program (CLEP) and DANTES Subject Standardized Tests (DSST)**

The University offers the opportunity to earn undergraduate credit through the College-Level Examination Program (CLEP) and DANTES Subject Standardized Tests (DSST).

The CLEP program is comprised of general and subject examinations. The general examinations are a series of tests in four separate areas: English composition, natural sciences, mathematics, humanities and social sciences/history. A student may earn up to 30 credits by passing the appropriate tests in these subject areas.

The subject examinations comprehensively test a single subject, such as general psychology, microeconomics, etc. A student who passes one of these examinations is awarded credit for a comparable course at the University.

The DSST program offers more than 30 different examinations on a single subject, such as Principles of Statistics and Fundamentals of College Algebra. A student who passes one of these examinations is awarded credit for a comparable course at the University.

The CLEP and DSST programs are administered by the Placement-Testing Center. The Southpointe Center offers the CLEP only. There is a one-time fee of \$25.00 for evaluation and recording of the examination results on a student's transcript. For additional information call 724-938-5779.

### **Conferring of Degrees**

Degrees are conferred in May (at the end of the spring semester), in August (at the end of the summer session), and in December (at the end of the fall semester); but Commencement is held only twice a year, in May (only May graduates) and in December (August and December graduates). Diplomas and official University transcripts record the student's date of graduation as the month and year in which the degree was conferred.

Attendance at the Commencement exercises is appropriate, unless unusual circumstances warrant graduation in absentia. Permission to graduate in absentia is granted by the President of the University, or his designee. Candidates for graduation should contact the President's Office, or his designee's office, and request permission to be excused from the Commencement ceremony.

A graduate of California University of Pennsylvania is a member of the class of that calendar year in which the degree was conferred. That is, if one graduated in May, August or December of 2009, one is a member of the class of 2009 regardless of the year one may have attended Commencement.

### **Confidentiality of Records**

The University's policies on the confidentiality and disclosure of student records are based on the Family Education Rights and Privacy Act of 1974 (Public Law 93-380), as amended.

#### **I. Introduction**

Official student records are established and maintained in a number of administrative offices for a variety of legitimate educational purposes. In assuming responsibility for the reasonable protection of these student records, the University recognizes its obligation to comply with the Family Education Rights and Privacy Act of 1974. Important sections of this federal law are summarized below.

#### **II. Ownership of Records**

All records kept concerning students, including those records originating at other colleges or universities and required for admission, are the property of California University of Pennsylvania.

#### **III. Definition of a Student**

A student is defined as any person currently or previously matriculated on an official basis in any academic program of the University.

#### **IV. Public Information Regarding Students**

The following information is classified as public and may be released without the prior consent of a student: student's name, address (both local and permanent), telephone number, email address, place and date of birth, academic curriculum, dates of attendance, date of graduation, degrees and awards received, most recent educational institution attended, participation in student activities (including athletics), and height and weight (for athletic teams).

- Students may request that any or all of this information not be made public. Such requests must be submitted in writing to the Academic Records Office or (in the case of graduate students) to the dean of the School of Graduate Studies and Research before the beginning of any academic term.

## **V. Disclosure of Student Records**

Upon proper identification, students may inspect their own official records in the presence of the administrator in charge of records.

- After a request to inspect a record has been received, the request must be honored within a reasonable period of time: according to federal law, not to exceed 45 days.
- Limitations on the Right of Access by Students. The following are not subject to inspection by students: confidential letters and statements of recommendation which were placed in the educational records before Jan. 1, 1975. Financial records of the parents of the student, or any information contained therein. Medical, psychiatric or similar records that are used solely in connection with treatment. Such records can be reviewed by a physician or other appropriate professional of the student's choice.

### *Disclosure of Information to Third Parties*

In most circumstances students have the right to withhold their records from external third parties requesting to inspect these records. Exceptions to this general principle are as follows:

- Disclosure of student information will be made to a third party if written consent is given by the student in question.
- Information concerning a student will be released if properly subpoenaed pursuant to a judicial proceeding.
- All necessary academic and/or financial records of a student may be disclosed to the appropriate persons or agencies without a student's prior consent in connection with a student's application for, or receipt of, financial aid.

Further limited disclosure of certain kinds of information may be required in special circumstances in compliance with the federal law previously cited.

## **VI. Student Challenge to Record Entries**

- Students have the right to submit written or typed rebuttals to negative information contained in their files. A rebuttal statement shall become part of the file, and in cases where the negative information is reviewed by or transmitted to a third party, it must be accompanied by the student's statement of rebuttal.
- Students may challenge the accuracy and/or appropriateness of material combined in their files. Once such a challenge has been made in writing, it will be the responsibility of the University official in charge of the file to determine the validity of the challenge, if possible. The University official shall make a written response to the challenge of the student, specifying the action taken. Should a factual error be found in any materials, the University official is authorized to make the appropriate correction.
- If options 1 and 2 of this section are unsatisfactory, students may request a formal hearing to challenge inaccurate, misleading or inappropriate information in their records. The University Record Hearing Committee shall conduct a hearing in accordance with the procedures outlined in Public Law 93-380, as amended.
- The substantive judgment of a faculty member or administrator about a student's work, as expressed in grades and/or written evaluations, is not within the purview of this policy statement. Such challenges by students may be made through the regular administrative channels already in existence for such purposes.

## **VII. Responsibility of University Officials**

University officials in charge of student files are responsible for the reasonable care and protection of such files in accordance with University policy. This includes the responsibility for the release of confidential information to only authorized persons.



A log sheet indicating the inspection or release of a student's file must be kept in the student's file.

University officials may classify student materials and records under their supervision as active or inactive as circumstances warrant. At the discretion of the official in charge, inactive records may remain in the file but need not be circulated. Inactive records may be reviewed by a student upon request.

A University official may take the initiative in an attempt to purge unfavorable evaluations or opinion records of a prejudicial nature in a student's file. This may be done by returning the material to the person who submitted it or by requesting from the author that the material be destroyed.

### **VIII. University Officials Responsible for Student Records**

The following University officials are responsible for maintaining student records within their respective administrative areas in accordance with the policies of this statement and the relevant state and federal laws:

- Provost and vice president for academic affairs
- Vice president for student development and services
- Vice president for administration and finance
- Vice president for University advancement

For more information, contact the appropriate University official.

### **Course Numbering System**

Courses numbered 100 to 499 are undergraduate courses. Courses numbered 500 and above are graduate-level courses. In certain circumstances, undergraduate students are allowed to take graduate-level courses for either undergraduate or for graduate credit. Courses are generally numbered in the following way:

<b>Course Numbers</b>	<b>Levels</b>
100–199	Freshman level
200–299	Sophomore level
300–399	Junior level
400–499	Senior level

### **Credit by Examination/Course Challenges**

Students may earn credit for a course by passing an examination rather than taking the course. In order to do so, the student must obtain permission from the chairperson of the department that offers the course and the dean. Students must register for the course and pay tuition and fees for the course. Once a student registers to challenge a course, it cannot be converted back to a regular course. Students may register to challenge a course according to the following schedule:

- 15-week session – within the first 6 weeks
- 5-week session – within the first 2 weeks
- 10-week session – within the first 4 weeks

Only grades of P (Pass) or F (Fail) will be recorded, and the course will be further identified on the student's transcript by the symbol CE. A passing grade does not affect the GPA; however, a failing grade will lower the GPA. Earned credits will count toward graduation. Course challenge forms may be obtained in the Academic Records Office in Dixon Hall.

## Credit Overload

During the fall and spring semesters, full-time students may register for 18 credits without special permission. Students wishing to register for 19 or more credits must obtain written permission from their adviser and the dean of their college. Only in exceptional circumstances will a student be allowed to register for more than 21 credits. Additional tuition and fees are charged for all credits in excess of 18.

During the summer term, students may register for 6 credits in any one session or 18 credits for the summer without special permission. Degree-seeking students wishing to register for additional credits during the summer terms must obtain written permission from the dean of their college, and nondegree students wishing to register for additional credits must obtain permission from the director of the summer school program. Students are charged tuition and fees on a per-credit basis for all courses during the summer.

## Credits

Credit for course work is recorded in credit-hours. For most courses, one credit-hour represents one class meeting per week. For laboratory classes, the ratio may differ from one department to another, but usually two or three hours of laboratory work are worth one credit-hour.

A full-time undergraduate student is one who is taking 12 or more credits. A student taking fewer than 12 credits is considered a part-time student. Only registered course work in a given term is counted toward a student's full- or part-time status for that term. The work that a student might need to do for an incomplete from a previous term will not count toward a student's full- or part-time status for the current term. A student expecting to progress from one class to the next on an annual basis and graduate in four years should complete an average of 30 credits per year, or 15 credits per semester.

## Dean's List

To earn dean's list standing in a semester, a student must be enrolled as a full-time student seeking a California University of Pennsylvania degree in a California University of Pennsylvania program and earn the minimum GPA for the following honors classifications:

<b>Honors Classification</b>	<b>GPA</b>
Highest Honors	3.75 to 4.00
High Honors	3.50 to 3.74
Honors	3.25 to 3.49

Students who are enrolled full-time through a California University of Pennsylvania collaborative program that includes part-time enrollment at California University of Pennsylvania and part-time enrollment at the partner college or university are eligible for the dean's list as long as they are seeking a California University of Pennsylvania degree.

## Dual Majors, Second Majors, Second Degrees and Dual Degrees

California University grants the following undergraduate degrees: B.A., B.S., B.S. in Education, B.S.N., and A.S. and A.A.S. (All except the last two are four-year baccalaureate degrees.) These are referred to below as degree areas.

A distinction is drawn between the following objectives and opportunities and between the means to achieve them: (1) dual major, (2) second major, (3) second degree, and (4) dual degree. These opportunities, as explained below, are the only ones offered. The University will, for example, award only one degree from any degree area. None of these opportunities should be confused with any certification programs, such as those in Teacher Education.

- A **dual major** is the pursuit of two separate baccalaureate majors in the same degree area simultaneously. These majors may be in a single department or two departments,

and each must be recorded in the appropriate dean's office. Courses from one major area may be used to satisfy requirements in the other major. Both majors are recorded on the transcript, but all requirements for each major must be satisfied before the degree is conferred, and only one degree is conferred.

- A **second major** may be pursued after the completion of a bachelor's degree from any regionally accredited institution — including California University of Pennsylvania — when the second major must be in the same degree area as the first. A second major does not lead to a second degree. The prospective student must apply through the Office of Admissions and register with the intention of pursuing a second major. Transfer credits from other schools and prior credits from California University of Pennsylvania may be used to satisfy courses for this second major. Because a bachelor's degree has already been earned, all general education requirements will be considered satisfied, but any courses in the major not yet earned must be fulfilled. There is no minimum number of credits necessary to obtain this second major. The completion of this second major will then be noted on the transcript. All department, college and university standards for this major must be achieved.

*Note:* Students seeking a second major after graduating with a bachelor's degree are not eligible for financial aid as per federal Title IV guidelines.

- A **second degree** may be pursued after the completion of a bachelor's degree from any regionally accredited institution — including California University of Pennsylvania — when the second degree area is different than the first. The prospective student must apply through the Office of Admissions and register with the intention of pursuing a second degree. Transfer credits from other schools and prior credits from California University may be used to satisfy courses for this second degree. Since a bachelor's degree has already been earned, all general education requirements will be considered satisfied. All remaining courses in the major not yet earned must be fulfilled in order to grant the second degree. All department, college and university requirements for this degree must be achieved.

*Note:* The University will not award an associate degree to a student who holds a baccalaureate degree in the same area.)

- A **dual degree** (bachelor's) is the simultaneous pursuit of two degrees in different degree areas. Courses from one major area may be used to satisfy requirements in the other major; however, a minimum of 150 credits must be accumulated in order for both degrees to be awarded. All department, college and university requirements for the two degree areas must be satisfied. There will be one transcript with both degree areas recorded.

### **Early Enrollment and Courses for High School Students**

The University approves education opportunities for high-school students only under exceptional circumstances and only with the full cooperation of a student's high-school principal.

Most frequently, students are permitted to take some university courses on a part-time basis before graduation from high school. Occasionally, early admission to full-time study as a degree candidate at the University is granted, but only after a mutually satisfactory agreement has been reached between the University and the high school involved. The University does not recruit high-school juniors for early admission. Final decisions about advanced standing applications are made by the associate vice president of academic affairs.

### **Enrollment Status**

A student who is taking 12 or more credits is considered full time. A student taking fewer than 12 credits is considered a part-time student.

## **Finals Week**

Final examinations are given the last week of each fall and spring semester. All final examinations will be administered throughout the week according to a final examination schedule, which is prepared and distributed by the University registrar and indicates the time slots for specific exams. While a comprehensive examination is not required, a culminating exercise must be held during this time. All evening and Saturday class finals will be held at the time of their regularly scheduled class.

Final exams will not be given at times other than those specified on the final exam schedule.

During the week prior to the final exam week, no examinations will be given in classes, with the exception of lab courses and to graduating seniors (if necessary); however, quizzes and short examinations are acceptable.

Students scheduled for more than three final exams in one day may reschedule tests by consulting with the appropriate instructors, department chairperson, or college dean.

Students should report to the same classroom used throughout the semester unless otherwise indicated.

## **Good Academic Standing**

The University expects a minimum grade-point average (GPA) of 2.00, and most programs require a minimum GPA of 2.00 in order to graduate.

A student whose total number of attempted credits has reached or exceeded 12 and whose overall GPA is below 2.00 will be placed on academic warning. Students on academic warning must agree to satisfy additional requirements during the academic warning semester. Students on academic warning who:

- Attain the minimum cumulative GPA of 2.00 or higher will be removed from academic warning,
- Fail to attain a 2.00 cumulative GPA or higher during the academic warning semester will be permitted to return to the University on academic probation,

Students on academic probation must agree to satisfy additional requirements during the probationary semester. Students on academic probation who:

- Attain the minimum cumulative GPA of 2.00 or higher will be removed from academic probation.
- Attain a 2.00 GPA during the academic probation semester and satisfy other requirements, but fail to attain a 2.00 cumulative GPA will be permitted to return to the University on continuing probation.
- Do not attain the cumulative GPA of 2.00 and do not achieve a 2.00 GPA for the probationary semester, or fail to satisfy other requirements will be dismissed from the University.

## **Definitions**

**Academic Warning.** Students whose cumulative GPA falls below a 2.00 for one semester will be placed on academic warning. Students on academic warning will be expected to participate in Academic Healthy U and other services offered by the Office of Student Retention and Success.

**Academic Probation.** Students whose cumulative GPA falls below 2.00 for the second consecutive semester are placed on academic probation. Students on academic probation will be expected to participate in the Probationary Assistance (PASS) program and other services offered by the Office of Student Retention and Success.

**Continuing Probation.** Students who are on academic probation with a cumulative GPA below 2.00 but earn a semester GPA of at least a 2.00 remain on continuing probation until

either the cumulative average reaches 2.00 or higher or they earn a semester average of less than 2.00, at which time they are dismissed for academic reasons.

**Academic Dismissal.** The University reserves the right to refuse the privilege of further attendance to students who have failed to meet minimum academic requirements. If a student's cumulative GPA remains below the required 2.00 minimum after a probationary semester, the term grade-point average during a probationary semester is below 2.00, and the student fails to meet other requirements, he or she will be dismissed from the University. Dismissal is normally for one calendar year.

All earned credits, including transfer credits and other advanced standing credits that have been officially accepted, are counted in determining a student's class rank. All quality hours (QHRS) at California University are used in determining a student's GPA.

Students are notified of their academic standing at the end of each academic term. Students who fall below what is expected for good academic standing are notified by letter of academic warning, probation or dismissal by the Office of Student Retention and Success. Students are expected to follow the expectations outlined in the letter.

### **Grade-Point Average**

To calculate a grade-point average (GPA), divide the total number of grade points earned in regular courses at this University by the total number of graded credit-hours (GHR). In computing the GPA, the following courses and credits are not included: courses and credits transferred from other institutions, advanced placement courses, courses passed by examination, courses in which a P grade was assigned, CLEP credits, credits granted for military service, or other credits earned through prior learning assessment (PLA). If a student repeats a course, only the repeat grade is counted. Although developmental courses do not count toward graduation, the credits earned in them are used in determining a student's GPA.

### **Grade Reports**

At the end of each semester and summer session, grade reports are available to students online. A grade report will not be available if a student's academic records have been sealed. Midterm grades are also reported and are available online.

### **Grading System**

California University of Pennsylvania uses the following grading system for all courses:

<b>Grade</b>	<b>Quality Points per Credit</b>	<b>Interpretation</b>
A	4	Superior Attainment
A-	3.67	
B+	3.33	
B	3	Above Average
B-	2.67	
C+	2.33	
C	2	Average
C-	1.67	
D	1	Below Average
F	0	Failure
AU	Not calculated	Audit
I	Not calculated	Incomplete

Grade	Quality Points per Credit	Interpretation
IF	0	Incomplete Failure
P	Not calculated	Passing
W	Not calculated	Official Withdrawal
WX	Not calculated	Administrative Withdrawal
UW	Not calculated	Unofficial Withdrawal

### Graduate Credit Load for Seniors

Undergraduates who are in their last term on campus and who are completing or have completed all the requirements for their undergraduate degree may enroll in graduate classes for graduate credit. They must fulfill all requirements for entrance into Graduate School (other than the undergraduate degree or teaching certification).

### Graduation Requirements

Students should become acquainted with the graduation requirements for their program of study. Students are responsible for meeting all graduation requirements and for submitting the required forms on time. Compliance with the following general policies and procedures will help students prepare for graduation:

- The period during which application for graduation must be made is posted throughout campus and printed in the *California Times*. Students must apply for graduation in the appropriate dean's office by the deadline. All credentials for graduation, including an application for a teaching certificate where appropriate and transcripts of credits from other institutions, must be submitted on time. Graduation may be delayed if a student's record is incomplete.
- A minimum of 120 semester credits, including the satisfactory completion of all required courses, is necessary for graduation. Developmental courses, ENG 100, DMA 092 and DMA 094, do not count toward graduation, though the credits earned in them are used to determine class standing and grade-point average.
- Students in all curricula must complete a minimum of 30 credits of the last 60 credits at California University of Pennsylvania.
- Candidates for Teacher Education must possess a grade-point average of 3.0 in their major and overall and must successfully complete student teaching before graduation. An overall grade-point average of 2.0 is required in most programs of study. Other programs may require minimum grades in courses within the major.
- All financial obligations to the University must be paid in full before graduation can be approved.

### Conferring of Degrees

Degrees are conferred in May (at the end of the spring semester), in August (at the end of the summer session), and in December (at the end of the fall semester); but Commencement is held only twice a year, in May (only May graduates) and in December (August and December graduates). Diplomas and official University transcripts record the student's date of graduation as the month and year in which the degree was conferred.

Attendance at the Commencement exercises is appropriate, unless unusual circumstances warrant graduation in absentia. Permission to graduate in absentia is granted by the President of the University, or his designee. Candidates for graduation should contact the President's Office, or his designee's office, and request permission to be excused from the Commencement ceremony.

A graduate of California University of Pennsylvania is a member of the class of that calendar year in which the degree was conferred. That is, if one graduated in May, August or December of 2011, one is a member of the class of 2011 regardless of the year one may have attended Commencement.

## **Graduation Residency Requirements**

### *Action for Undergraduates*

All first bachelor's degree students will take at least 30 of their last 45 credits at the issuing university; the university may not require a student to take more than 30 credits. All first bachelor's students will take at least 50 percent of the major credits from the issuing university; the university may not require more than 50 percent. Program exceptions to the policy are to be approved by the Office of the Chancellor. The recommendation was reached based on consensus best practice.

### *Action for Graduate Students*

For master's students, at least two-thirds of the credits meeting program requirements must be taken from the University offering the degree.

Doctorate residency requirements are determined at the program level.

Note that these set the minimum number of credits that must be taken "in residence" and that universities can limit the number of hours that will be allowed to transfer into a graduate program.

### *Action for Undergraduate Active-Duty Service Members*

For active-duty service members, the academic residency requirements will not exceed 25 percent of the undergraduate degree program.

If the undergraduate degree is available 100 percent online, the academic requirements will not exceed 30 percent of the undergraduate degree program.

With the exception of specific course areas such as majors, the academic residency requirements for active-duty service members will not include a "final year" or "final semester" requirement. In addition, each program is expected to confirm with their respective accrediting agencies the allowable flexibility in order to meet the needs of active-duty service members.

Note also that collaborative programs will be identified such that residency can be met consistent with the collaborative agreement.

## **Honors at Graduation**

### *Purpose and Scope*

To describe the process and procedure for academic honors at commencement for undergraduate students.

### *Definitions*

**Associate degree program:** A program of study leading to an Associate degree.

**Baccalaureate degree program:** A program of study which leads to a Bachelor's degree.

**QPA:** Quality Point Average is determined by dividing the total number of quality points earned by regular courses at California University of Pennsylvania by the total number of credit hours attempted.

### *Policy*

Commencement honors are awarded to students in the graduating class who have earned 60 credits at California University in a baccalaureate degree program and achieved the required QPA.

<b>Honors Designation</b>	<b>QPA</b>
Highest Honors (Summa Cum Laude)	3.750 to 4.000
High Honors (Magna Cum Laude)	3.500 to 3.749
Honors (Cum Laude)	3.250 to 3.499

Credits, grades, and quality points earned as part of a previously completed associate or first degree are not used to calculate commencement honors designations except in the following circumstances: students who earn an associate degree from California University of Pennsylvania may count those credits earned at the University in meeting the 60-credit residency requirement and required QPA needed for commencement honors.

Academic honors are awarded to students in the graduating class who have earned 30 credits at California University of Pennsylvania in an associate degree program and achieved the required minimum QPA of 3.250. The honors designations of cum laude, magna cum laude, and summa cum laude do not apply to graduates with the associate degree. Associate degree commencement honors designation will be “with honors.”

### ***Procedures***

1. The list of graduate candidates with their California University of Pennsylvania cumulative grade point average and any transfer cumulative grade point averages will be reviewed by the University Registrar or his/her designee to determine those students who qualify for graduation with honors.
2. The following will be used as the appropriate honors designation for baccalaureate degree programs:

<b>Honors Designation</b>	<b>QPA</b>
Summa Cum Laude	3.750 to 4.000
Magna Cum Laude	3.500 to 3.749
Cum Laude	3.250 to 3.499

3. The following will be used as the appropriate designation for associate degree programs:

<b>Honors Designation</b>	<b>QPA</b>
With Honors	3.250 to 4.000

4. The above procedure will be used to determine those students to be listed in the commencement program and who will receive honors recognition at the commencement ceremony. Final eligibility for or the level of graduation honors will be determined following the posting of grades for the final semester at California University of Pennsylvania and will be reflected on the California University of Pennsylvania transcript.

### ***Effective Date***

2011-2012 Undergraduate Catalog

### **Honors Convocation**

The University recognizes, encourages and rewards academic excellence on the part of master’s, bachelor’s and associate degree-seeking students by naming Presidential Scholars at the annual Honors Convocation in the spring semester. This award is a unique distinction, separate and apart from commencement honors.

A bachelor’s degree-seeking student designated as a Presidential Scholar must have a cumulative GPA of 3.25 in a bachelor’s program and have completed 60 credits (junior)



and 90 credits (senior), of which at least 30 must have been taken at California (calculated beyond an associate degree or other first degree, if applicable, and in the present bachelor's degree program). An associate degree-seeking student designated as a Presidential Scholar must have a cumulative GPA of 3.25 at California and have completed 45 credits, all of which must have been taken at this University. Both full-time and part-time students may, if qualified, be named Presidential Scholars.

### **Incomplete Grades**

An Incomplete grade (I) is assigned when a professor is convinced the student can complete or make up work. Faculty members may submit a final grade based on work completed and not accept late work. However, when appropriate explanation and documentation of an illness are given, professors will not penalize students if makeups are possible or if grading on work completed is reasonable.

After the required work has been completed, the professor will submit a change of grade form to the Academic Records Office. The student, however, is responsible for contacting the professor regarding arrangements that should be made to complete the work for the course. (Students are not required to register for the course again.) If the required work is not completed within one calendar year, the Incomplete grade will be converted to I-F. This conversion will occur even if the student has not been enrolled at the University during this calendar year. The I-F grade is considered in the computation of the student's grade-point average as an F grade. Students who wish to have an extension of the time allowed to complete the work must obtain approval from the dean of their college. Graduating seniors must resolve their Incomplete grades by the last day of classes of the term in which they intend to graduate. Otherwise, these incomplete grades immediately become an I-F, and graduation may be correspondingly affected.

The work that a student needs to do during one term for an incomplete grade from a previous term will not count toward a student's full- or part-time status for the current term.

### **Individualized Instruction**

Individualized Instruction may be granted to a student under the following circumstances:

- student must be in his/her final semester before graduation;
- the course must be required in the student's major;
- the course is not offered in the regular schedule; and
- all other options are explored, i.e., a suitable substitution.

### **Internship**

#### *Credits and Work Hours*

For the majority of academic programs, the standard internship entails at least 40 hours of work per credit. There are higher minimums in some programs. Students should check with their departments to determine the requirements. The number of credits typically ranges between 3 and 12 credits.

#### *Definition*

Cal U uses the Pennsylvania State System of Higher Education definition for internships: "formal arrangements designed to provide opportunities for students to study and experience professional career interests outside the university but under supervision by the appropriate academic department or program. All internships must have faculty and departmental approval. Includes student teaching assignments. Includes all credit internship experiences whose primary intent is to provide an out of classroom experience and is supervised by a faculty member. These include credit student teaching assignment, credit practicum, credit clinical field experience, and other credit internship/field experience. Excludes service learning."

### ***Intent and Registration***

During the registration period, prospective student interns must register for the appropriate internship intent section. Prior to starting any internship and before the end of the drop/add period, students must properly register for the appropriate internship section. No student will be granted credit after-the-fact for any experience for which they were not properly registered prior to the internship start date.

### ***Required Training***

In addition to any training offered through a student's academic department, students are required to complete the following online programs prior to the start of any internship:

- Safety and Security
- Professional Development: Making the Most of Your Internship
- Sexual Harassment
- Diversity
- Employment Discrimination

### **Minor**

To earn a minor, a student must complete at least 18 credits in a single prescribed area of study concurrently with their bachelor's degree requirements. The department or program offering the minor determines what constitutes the single prescribed area of study. Nine (9) of the 18 credits must be in upper-division courses. The department or program offering the minor defines upper-division status. Subject to the approval of their academic advisor, students may minor in any discipline in any undergraduate college, except for their major area (students may minor in a discipline related to their major). Students may pursue more than one minor, subject to approval of their academic advisor. At least 6 of the credits for the minor must be completed at California University of Pennsylvania.

### **Pass/Fail Grades**

If this grade is awarded, the credits apply toward graduation and toward satisfying the minimum earned credit-hours standards, but will not impact a student's grade-point average.

### **Readmission to the University**

Students who wish to return after an absence of three consecutive terms and are in good standing with the University must apply for readmission to the dean of the undergraduate college in which they will be enrolled following their readmission.

In cases of academic dismissal, readmission to the University is not automatic. Students who have been dismissed for unsatisfactory academic performance will be considered for readmission only if they have satisfied the conditions for readmission that were stipulated at the time of their dismissal. Students who have been academically dismissed must apply for readmission through the Office of Student Retention.

Any student who has been academically dismissed will be denied Title IV financial assistance (federal grants, loans and student employment). Therefore, if readmitted, students must attend without the benefit of Title IV financial aid until the required minimum GPA for their class rank and/or the completion of the minimum credit-hour standard have been achieved. Exceptions may be considered for students on financial aid probation or who have filed a satisfactory academic progress (SAP) appeal (please refer to the Satisfactory Academic Progress policy statement issued by the Office of Financial Aid).

In the case of disciplinary suspensions or dismissals, students must satisfy the conditions for readmission that were stipulated at the time of their dismissal and receive permission from the vice president for student development to return to the University.

Applications for readmission should be submitted at least one week before the registration date for the term in which the student desires to enroll. Former students will not be readmitted to the University until all past indebtedness has been paid.

## **Registration**

### *Eligibility to Register*

All students who have been admitted to the University and who are in good academic, financial and disciplinary standing are eligible to register.

### *Enrollment and Matriculation*

Students seeking a degree or credit certificate from California University are considered matriculated students and must meet the graduation or completion requirements for their declared major or program. Individuals who enroll for classes but are not seeking a degree or credit certificate from California University are considered nondegree students. Nondegree students wishing to matriculate into a degree or credit certificate program must satisfy admission requirements for that program.

### *Registration Procedures*

Registration for an upcoming semester may be completed during the registration periods identified and announced each semester. Specific information and instructions for registration are distributed through college email announcements.

Registration includes academic advising, scheduling courses, and payment of tuition and fees. Prior to scheduling classes, students should meet with their academic adviser to discuss their progress and develop a schedule for the upcoming semester. Entering a student's schedule into the University's registration system creates a financial obligation by the student to the University, and students who do not make payment arrangements by the due date may have their semester schedules canceled.

## **Repeating a Course**

A student may repeat a course previously taken at California University. In such cases, only the later grade will be counted in the student's GPA. The original grade, however, will remain on the student's transcript. Some courses may be repeated for credit and are exempt from this policy.

Undergraduate students will be limited to a maximum total of six repeats. A single course may be repeated for grade improvement a maximum of three times.

## **Schedule Adjustments (Add/Drop)**

Class schedules may be changed during the add/drop period and are governed by the following regulations:

- Prior to making schedule adjustments, students should consult with their academic adviser to discuss how the adjustment will affect their academic progress.
- Courses may be added during the first week of classes during the fall and spring semesters and during the first day of a summer term. Adding a course may require the signature of the instructor, department chairperson and/or college dean.
- For the fall and spring semesters, students will be permitted to withdraw from a course and receive a grade of "W" up to the end of the 10th week of the semester. After the 10th week of the semester and through the last day of classes, students who withdraw will receive a grade consistent with university policy which will be determined by the instructor. No student is permitted to drop a course during the last two weeks of a five-week summer term, or during the last three weeks of a 10-week summer term.
- **Ceasing to attend class does not constitute official withdrawal.**

Students must officially drop a course. Leaving a course without officially dropping it may result in the assignment of an F grade by the professor. If the professor does not

assign a grade, the designation of UW (unauthorized withdrawal) will be assigned by the registrar.

- Students who drop to less than full-time (less than 12 credits) or to less than half-time (less than 6 credits) should contact the Financial Aid Office prior to completing the drop.

### **Semester System**

California University operates on a semester system, with fall and spring semesters of approximately 16 weeks (including a final examination week). In addition, a summer term (typically including a 10-week session and two five-week sessions) runs from June to August, with special sessions held in May and August.

### **Student Responsibilities**

Students are responsible for securing current information about University policies and for meeting all relevant requirements. Students follow the provisions of the catalog that are in effect at the time of their initial enrollment. Students who have interrupted their education for more than one year are subject to the provisions of the catalog that are current at the time of their readmission to the University. The University reserves the right to change policies, curriculum requirements and other provisions as needed.

### **Student Teaching Outside the Region**

Requests to student teach outside of California University's service area must be submitted in writing by September 30 for a spring student teaching assignment or by March 30 for a fall student teaching assignment. Consideration of these placements may be granted for documented family hardship, to participate in an urban experience, overseas experience, or if student teaching is part of an online program. All requests are reviewed on a case-by-case basis by the director of student teaching in consultation with the department chairperson.

### **Transcripts**

Transcripts are issued by the Academic Records Office in Dixon Hall. Each transcript costs \$3, and payment must be received before the transcript is issued. Checks and money orders should be made payable to California University of Pennsylvania. All transcripts are issued according to the provisions of the Family Education Rights and Privacy Act of 1974 as amended (See also the Confidentiality of Records section in this catalog).

A request for a transcript must be made in writing to ensure that academic information is not improperly disclosed. Telephone requests for transcripts cannot be honored. The request may be made by completing a form in the Academic Records Office or by writing a letter to that office indicating (a) the number of transcripts required, (b) the type of transcripts required (i.e., undergraduate, graduate, or both), and (c) the name and address of the person or institution where the transcript should be sent. Transcripts will not be issued to a third party without the written consent of the student.

If a transcript is issued to a student, a notation to that effect appears on the transcript. Transcripts marked in this manner are sometimes not considered official when presented to a third party by the student.

Transcripts are issued as quickly as possible, but in busy periods of the academic year, there may be some delay. Requests should, therefore, be made well before the transcript is due elsewhere. No transcript will be issued to a student whose financial obligations to the University have not been met in full.

### **Transfer Credits**

Current California University students who wish to take courses at some other college or university to transfer back to California University should get approval to do so from their adviser and from the dean of their college at California University before registering for and taking such courses. Students seeking to transfer credits to California University should note the following guidelines and should refer transfer credit questions to the Articulation and Transfer Evaluation Office:

- Transfer credits are usually determined by their equivalency to California University courses.
- Only courses in which a grade of C or better is earned will transfer unless a student qualifies under the Academic Passport Policy (See Academic Passport Policy in the Admissions section of this catalog.)
- Credits transfer, but grades and grade points do not. Transfer credits cannot raise a student's GPA; therefore, do not take repeat courses at another institution.
- Courses taken at a community college, the equivalents of which are designated as upper-level courses at California, may transfer only as electives, not as equivalents to courses offered at California University.

### **Undergraduate Credit for Graduate Courses**

Undergraduate students may enroll in graduate courses for undergraduate credit if they meet the necessary requirements for those courses. Individual departments determine the prerequisites for each course. Graduate status may be a prerequisite for admission to some courses. Graduate credits used to fulfill undergraduate requirements may not also be used to fulfill requirements in a graduate program.

### **Visiting Student**

1. The student must be matriculated at the home university with a minimum of 12 college-level credits and be in good academic standing.
2. Students may take a maximum of 24 credits via the visiting student policy.
3. The student who presents evidence of good standing at the home university will be allowed to register for courses at other Pennsylvania State System of Higher Education (PASSHE) universities. The visiting student priority level for registration will be determined by each university.
4. All credits and grades accrued at other PASSHE universities shall be accepted in full by the home university and thereafter treated as home university credits, residency and grades.
  - a. It is the responsibility of the student to work with the student's adviser at the home institution regarding applicability of credits toward graduation requirements at the home institution consistent with PASSHE procedures.
  - b. It is the responsibility of the student to complete the visiting student notification form and submit it to the home institution prior to enrolling in courses at another PASSHE institution.
  - c. Students cannot use the visiting student program to repeat courses.
  - d. Students cannot use the visiting student program for internship or practica required for licensure or certification without the express written permission of their appropriate university officials at the home university and placement availability at the requested institution.

### **Withdrawal from the University**

An undergraduate student who decides to withdraw from the University during any academic term, regardless of the reason, must contact the Academic Records Office immediately. All withdrawals are governed by the following regulations:

- An honorable dismissal is granted to a student who withdraws from the University in the official manner, has met all financial obligations to the University, and has been properly cleared by the registrar.
- If the student withdraws officially before the end of the 10th week of the semester, a W grade is recorded for each course scheduled. A W grade carries no academic penalty and

is not counted in the student's GPA. For an official withdrawal from a five-week session, W grades will be recorded during the first two weeks only.

- A student who withdraws officially from the University after the end of the 10th week of a semester will receive a grade in all courses per University policy.
- Leaving the University without notifying the Academic Records Office and making an official withdrawal may result in automatic failure for all courses scheduled. It also makes the student ineligible for refund of tuition and fees and may affect academic status and financial aid. Improper withdrawals will be classified as unauthorized withdrawal and the designation UW used for all registered courses, if another grade has not already been assigned by the professor.
- Students planning on withdrawing from the University should consult with the Financial Aid Office prior to completing the withdrawal process.

# General Education

California University of Pennsylvania believes that a liberal education is essential for all students, regardless of the profession for which they may be preparing. The goals, objectives and courses that comprise the general education program are designed to provide students with the knowledge, understanding and skills they will need to pursue their careers and to lead productive and rewarding lives.

## Goals and Objectives

### **Building a Sense of Community – 1 Credit**

Students will have a common core of integrated educational experiences, learning how to become excellent students, how to survive and thrive in a college environment, and how to achieve their educational, personal and career goals. Students will develop the skills necessary to adjust to university life; they will sense that the curriculum is organically related and holistic, not a collection of courses.

Objectives:

- To establish a personal mentor/mentee relationship;
- To design an academic plan of study based upon skills and interests in conjunction with their adviser;
- To critique, analyze and utilize time management skills;
- To summarize the various elements of campus life;
- To use information retrieval systems: library, campus network and Internet;
- To locate and explain the services provided by various learning resources available on campus;
- To identify the steps necessary to complete an application for financial aid;
- To perform a computer-based, self-directed career search utilizing the facilities and resources provided by Career Services;
- To identify 10 health/wellness issues and campus resources for dealing with them;
- To summarize the history of California University; and
- To attend and critique three cultural/sports activities.

### **Required Course**

UNI 100 First-Year Seminar or

HON 100 Honors and University Orientation

### **Critical Thinking Skills – 3 Credits**

Students will have the skills necessary to evaluate real-life situations and to develop conclusions based on a critical analysis of information gathered through a variety of sources and methods. Critical thinking skills encompass “various forms of inquiry, abstract logical thinking, inductive reasoning, critical analysis, and ability to find and use information” using appropriate methods and techniques. [Board of Governors’ Policy (BOG) 1993-01]

Objectives:

- To describe and apply methods of inquiry, abstract logical thinking, inductive and deductive reasoning;
- To demonstrate critical analysis skills;
- To identify and use problem solving techniques; and

- To demonstrate techniques used to locate, use and evaluate information in relation to the above objectives.

### ***Menu Courses***

ANT 101, ANT 232, ARB 101, ARB 102, ART 493, ART 496, ART 498, CHE 103, CHE 381, CIS 120, CMD 350, CMD 352, COM 220, COM 230, EAS 340, EAS 425, EDE 350, EDU 110, ENG 306, ENG 308, ENG 354, FRE 101, FRE 102, FRE 203, FRE 204, FRE 311, FRE 312, FRE 401, GCM 341, GCM 445, GEO 340, GEO 420, GEO 474, GTY 300, HIS 240, HIS 316, HIS 323, ITE 471, MAT 110, MAT 120, MAT 130, MAT 191, MAT 199, MAT 282, MAT 303, MFL 479, NUR 120, PHI 115, PHI 201, PHI 211, PHI 307, PHI 320, PHI 325, PHI 405, PHS 137, PHY 121, PHY 122, POS 301, POS 303, POS 314, POS 315, POS 320, POS 330, POS 335, POS 346, POS 347, POS 348, POS 379, POS 415, PSY 360, SOC 205, SOC 417, SOC 420, SOC 425, SPN 101, SPN 102, SPN 203, SPN 204, SPN 311, SPN 312, SPN 401, TED 426, THE 211, THE 231, THE 271, THE 341

### **Public Speaking – 3 Credits**

Students will have the ability to develop and present ideas. Communication skills include both “those required for effective reading, writing, speaking and listening” and an “awareness of the challenges of cross-cultural communication” (BOG).

Objectives:

- To be able to demonstrate the theory and application of public speaking;
- To construct and arrange arguments, evidence, information and appeals in speeches designed to accomplish informative and persuasive communication goals;
- To demonstrate the use of language in speeches designed to accomplish informative and persuasive communication goals;
- To prepare and deliver effective communication with audiences in the presentation of speeches; and
- To make critical and ethical evaluation of public speeches.

### ***Menu Courses***

COM 101, COM 230, COM 250, COM 325, EDU 350

### **Composition – 6 Credits**

Students will have the ability to communicate ideas effectively in writing.

Knowledge and Comprehension:

- To demonstrate a capacity to carry out the planning, drafting, revising and editing stages of the writing process;
- To acquire the ability to construct, explain and illustrate interpretations of readings; and
- To recognize both what a text says and how it works (its rhetorical strategies).

Application and Analysis:

- To analyze the elements of the writing situation (subject, purpose, audience) as a foundation for writing;
- To apply rhetorical strategies in writing expository and argumentative essays; and
- To produce prose that is clear, coherent, convincing and correct.

Synthesis and Evaluation:

- To write essays that formulate original positions on a problem or issue in the context of a synthesis of multiple published sources;



- To assess the usefulness and reliability of potential print and electronic resources for a proposed research project; and
- To plan, develop and write an appropriately documented and formatted research paper.

### *Required Courses*

ENG 101 and 102 or  
HON 150 and 250

### **Mathematics – 3 Credits**

Students will have the “ability to understand numerical data and use mathematical methods for analysis and problem solving” (BOG). Mathematics is the science of numbers and their operations, interrelations, combinations, generalizations and abstractions and of space configurations and their structure, measurement, transformations and generalizations.

Objectives:

- To apply a variety of appropriate strategies to solve mathematical problems;
- To construct mathematical arguments and proofs;
- To express ideas precisely using the language of mathematics;
- To construct, analyze and interpret mathematical models of physical, social, or other phenomena; and
- To apply mathematics in contexts outside of mathematics.

### *Menu Courses*

EAS 438, HON 201, MAT 100, MAT 110, MAT 120, MAT 130, MAT 181, MAT 191, MAT 199, MAT 215, MAT 225, MAT 272, MAT 281, MAT 282, MAT 303, PSY 331

### **Natural Sciences – 6–8 Credits**

Students will have a basic understanding of the natural sciences, which are concerned with people’s relationship with the physical world. The various branches of natural science seek to understand the processes and components of the natural world and encompass physics (matter and energy and their interrelations and transformations), biology (living organisms and their essential processes), chemistry (the physical properties and composition of nature and its products), and other disciplines.

Objectives:

- To identify major concepts in natural science disciplines, which provide insights into the breadth of those disciplines and their relationship to other disciplines;
- To illustrate the relationship between models, experiments, theories and laws;
- To illustrate the generation and testing of data;
- To apply concepts and knowledge to the solution of problems; and
- To analyze and evaluate the limitations of collected data and design possible alternative interpretations.

### *Menu Courses*

ANT 232, BIO 103, BIO 112, BIO 120, BIO 125, BIO 130, BIO 232, CHE 100, CHE 101, CHE 102, CHE 103, CHE 381, CMD 221, CMD 310, EAS 100, EAS 131, EAS 150, EAS 163, EAS 242, ENS 101, HSC 110, HSC 120, ITE 311, PHS 120, PHS 137, PHS 145, PHY 101, PHY 121, PHY 122, PHY 202

## **Social Sciences – 6 Credits**

Students will have a “basic understanding of ... the social sciences and their significance in contemporary society” (BOG) and will have an “awareness of the social, economic, political and environmental interdependence of countries and regions of the world” (BOG). The social sciences focus on human behavior: how people interact with each other in the past and present; how people interact with the environment; and how people organize, govern and trade among themselves.

Objectives:

- To identify major concepts in the social sciences, which provide insight into the breadth of these disciplines and their relationship to other disciplines;
- To explain the importance of cultural heritage in terms of where people came from, where people are, and where they may be going;
- To describe, analyze or explain human behavior using the methodology of the social sciences; and
- To identify, explain, apply and evaluate the moral and ethical codes of a social science discipline.

### *Menu Courses*

ANT 200, ARB 101, ARB 102, BUS 100, CMD 100, CMD 105, CMD 108, CMD 220, CMD 350, CMD 352, ECO 100, ECO 102, ENG 347, FRE 101, FRE 102, FRE 203, FRE 204, FRE 311, FRE 312, FRE 401, GEO 100, GEO 102, GEO 105, GEO 150, GEO 205, GEO 217, GEO 220, GTY 100, GTY 200, HIS 101, HIS 102, HIS 104, HIS 106, HIS 111, HIS 112, HIS 200, HIS 236, HIS 240, HIS 288, HIS 304, HIS 311, HIS 317, HIS 348, HIS 375, HIS 445, HIS 495, JUN 101, JUN 211, JUN 429, JUN 470, MFL 479, MGT 311, POS 100, POS 102, POS 105, POS 300, POS 303, POS 306, POS 308, POS 310, POS 315, POS 316, POS 318, POS 322, POS 326, POS 335, POS 336, POS 346, POS 355, POS 355, PSY 100, PSY 209, PSY 211, PSY 345, SOC 100, SOC 205, SOC 240, SOC 312, SOC 315, SOC 317, SOC 377, SOC 395, SOC 410, SOC 411, SOW 150, SOW 320, SOW 330, SOW 340, SOW 364, SPN 101, SPN 102, SPN 203, SPN 204, SPN 311, SPN 312, SPN 401, WST 200

## **Humanities and Fine Arts – 6 Credits**

Students will have an “appreciation of and experience with literature and the arts” (BOG), as well as with other traditional areas of the humanities. The humanities deal with human values, beliefs and emotions and the way these are expressed through human creations. The humanities are typically subdivided into two areas, humanities and fine arts. Humanities courses present organized values, beliefs or emotions using language and ideas as the creative vehicle, and include literature, philosophy and foreign language study. Fine arts courses are those that present organized values, beliefs or emotions using the senses and physical expression as the creative vehicle, and include courses in art, music and theater. Students are to complete three credits in humanities and three credits in fine arts.

### *Humanities Objective:*

To present, critique or analyze human values, beliefs and emotions as they are conceptualized, formulated and expressed through language and ideas.

### *Menu Courses*

ARB 101, ARB 102, CMD 350, CMD 352, COM 325, COM 351, ENG 106, ENG 107, ENG 108, ENG 112, ENG 178, ENG 203, ENG 205, ENG 206, ENG 301, ENG 302, ENG 315, ENG 337, ENG 338, ENG 355, ENG 356, ENG 357, ENG 371, ENG 425, ENG 487, ESP 100, ESP 412, ESP 413, FRE 101, FRE 102, FRE 203, FRE 204, FRE 340, FRE 341, FRE 342, FRE 343, FRE 344, FRE 345, FRE 346, HIS 104, HIS 111, HIS 310, HIS 422, MFL 479, MUS 100, MUS 304, MUS 306, MUS 313, PHI 100, PHI 200, PHI 206, PHI 220, PHI 225, PHI 307, PHI 308, PHI 320, PHI 325, PHI 335, PHI 355, PHI 370, PHI 426, SPN 101, SPN 102, SPN 203,

SPN 204, SPN 311, SPN 312, SPN 342, SPN 345, SPN 346, SPN 348, SPN 349, SPN 350, SPN 401, SPN 421, SPN 422, THE 100, THE 304, THE 305, THE 306

### ***Fine Arts Objectives***

To present, critique or analyze human values, beliefs and emotions as they are conceptualized, formulated and expressed through verbal and physical action and artifacts and perceived through the senses; and

To attend and react to a performance or exhibit related to the discipline studied.

### ***Menu Courses***

ART 106, ART 119, ART 120, ART 130, ART 310, ART 382, ART 385, ART 393, ART 496, ART 498, COM 275, DAN 132, DAN 133, FRE 345, FRE 346, GCM 101, MUS 100, MUS 104, MUS 191, MUS 192, MUS 196, MUS 198, MUS 199, MUS 211, MUS 215, MUS 300, MUS 306, MUS 307, MUS 313, MUS 315, MUS 380, PHI 335, THE 100, THE 101, THE 131, THE 150, THE 201, THE 231, THE 240, THE 245, THE 309, THE 350, THE 351, THE 345, THE 356

### **Multicultural Awareness – 3 Credits**

Students will have an “understanding of how people’s experiences and perspectives are shaped by gender, ethnicity, culture and other factors that distinguish groups of people, coupled with recognition of common elements within human experience that transcend time, space, race and circumstances” (BOG).

Multicultural awareness assists individuals, regardless of ethnicity, gender, disabilities, social class or race, to understand and appreciate events and people from various points of view. Courses focus on one or more of the following: gender, ethnicity, racial diversity, world religious belief systems or non-Western cultures.

Objectives:

- To outline diversity, either historically or cross-culturally, for the population(s) under study;
- To explain how cultural groups define social constructs (e.g., gender roles, gender attribution, gender ideology and gender identity) and how these are expressed;
- To identify and explain the social behavior of the population(s) under study;
- To compare and contrast different cultural groups under study; and
- To explain why tensions exist between cultural groups and how such tensions are expressed, such as attribution and ideology.

### ***Menu Courses***

ANT 100, ANT 280, ANT 300, ANT 355, ARB 101, ARB 102, CMD 220, CMD 350, CMD 352, COM 320,

EDU 310, ENG 112, ENG 127, ENG 148, ENG 155, ENG 371, FRE 101, FRE 102, FRE 203, FRE 204, FRE 340, FRE 341, FRE 342, FRE 343, FRE 344, FRE 345, FRE 346, GEO 105, GEO 205, GEO 325, GEO 328, GTY 200, HIS 104, HIS 106, HIS 111, HIS 112, HIS 309, HIS 310, HIS 312, HIS 325, HIS 347, HIS 366, HIS 367, HIS 445, JUS 305, JUS 429, MLF 479, NUR 101, PHI 200, POS 210, POS 322, POS 323, POS 325, POS 326, POS 336, POS 381, PSY 211, PSY 311, SOC 205, SOC 240, SOC 315, SOC 377, SOW 308, SPN 101, SPN 102, SPN 203, SPN 204, SPN 311, SPN 312, SPN 342, SPN 346, SPN 348, SPN 349, SPN 350, SPN 401, SPN 421, SPN 422, WST 200

### **Values – 3 Credits**

Students will have an “understanding of the role of values in personal, professional and civic life; experience in recognizing and analyzing ethical issues” (BOG). The study of values includes the acts, customs and institutions regarded in a particular, usually

favorable, way by a group of people. Values must be a major theme in the course, not just a topic. Course syllabi must provide the definition(s) of the values that will be explored. All courses must examine values as they relate to concrete situations within the realm of experience of most students.

Objectives:

- To utilize bodies of knowledge to form the basis for an analysis of values;
- To explain how values are developed within diverse human frameworks;
- To analyze, synthesize and evaluate how ethical concepts are formed;
- To apply an analysis of values to other branches of knowledge or to issues of universal human concern;
- To acquire the critical use of sources and evaluation of evidence;
- To exercise judgment in the expression of ideas; and
- To appraise knowledge bases on the basis of informed and independent evaluations.

#### *Menu Courses*

ARB 101, ARB 102, CHE 103, CIS 352, CMD 350, CMD 352, EAS 131, EAS 300, EDF 121, ENG 127, ENG 306, ESP 306, ESP 100, FRE 101, FRE 102, FRE 203, FRE 204, FRE 311, FRE 312, FRE 401, GEO 426, GTY 350, HIS 309, HIS 310, HIS 312, HIS 323, ITE 305, JUS 215, JUS 395, MFL 479, MGT 375, PHI 200, PHI 220, PHI 247, PHI 307, PHI 308, PHI 320, PHI 355, PHI 370, POS 312, POS 315, POS 327, POS 336, POS 340, POS 347, POS 348, PSY 211, REC 165, REC 240, SOC 205, SOC 315, SOC 377, SOC 395, SPN 101, SPN 102, SPN 203, SPN 204, SPN 311, SPM 312, SPN 401, SPT 305, TED 210, WST 200

#### **Technological Literacy (6 Credits)**

Students will have a basic understanding of the current and potential significance of technology, as well as its impact on contemporary society. Technological literacy means knowing how to use tools, resources, processes and systems to change or to control the natural and artificial environment, thus altering the human condition (International Technology Education Association).

Objectives:

- To explain major concepts in technology, providing insights into its breadth and into its relationship to other areas of study;
- To use research skills to understand materials, energy, information, people, time and tools as they apply to technological systems designed to meet human needs;
- To design, produce, test and analyze possible solutions to technological problems;
- To critically evaluate the implications and varying interpretations of technological changes as they relate to and determine impacts on individuals, society, the environment and the future; and
- To demonstrate computer literacy.

#### *Menu Courses*

CIS 110, CIS 120, CIS 220, CSC 101, CSC 105, CSC 120, CSC 124, CSC 150, CSC 201, CSC 304, CSC 306, CSC 328, EAS 273, EAS 365, EDF 333, EDU 150, ENG 217, GCM 100, GCM 211, GCM 220, GCM 225, GCM 240, GCM 300, GCM 302, GCM 410, GIS 303, GIS 311, GIS 350, HON 187, ITE 123, ITE 223, ITE 341, ITE 345, JUS 380, JUS 487, MAT 290, MGT 371, MUS 380, PHS 137, TED 111, TED 302, TED 316, TED 352, TED 426, THE 480

### **Health and Wellness – 3 Credits**

Students will have an understanding of the various means by which they may fulfill their potential as healthy people living in healthy communities. Wellness is the result of individuals making intelligent decisions concerning the various factors that can affect their overall health. Courses must include one or more of the following emphases: eating and exercising toward a healthy lifestyle; building healthy relationships; understanding and preventing disease; explaining drug use and abuse; making healthy choices.

Objectives:

- To compare and contrast healthy and unhealthy lifestyles, relationships, drug use, choices, etc.;
- To explain and predict factors affecting health;
- To interpret and apply health principles to their lives; and
- To analyze, design and assess individual health plans.

#### *Menu Courses*

ANT 231, ATE 340, BIO 112, GEO 360, HSC 115, HSC 250, HSC 315, NUR 101, NUR 120, PSY 222, SOW 303, SOW 315

### **Upper Division Writing Component Courses**

Students must complete two upper-level writing-intensive courses in the major. Major departments affirm that the writing-intensive courses they propose require writing experiences that are relevant to that major. The writing component courses require 15 to 30 pages, or the equivalent thereof, of formal writing that has undergone significant revision based on peer or instructor feedback. The 15- to 30-page total may be attained through multiple assignments of varying page length.

#### *Menu Courses*

ANT 355, ANT 421, ART 308, ART 422, ATE 315, ATE 340, ATE 460, BIO 318, BIO 414, BIO 478, BIO 480, CET 360, CET 492, CHE 451, CHE 452, CMD 322, CMD 400, COM 331, COM 332, COM 335, COM 363, COM 461, COM 490, CSC 490, CSC 492, EAS 438, EAS 441, EAS 448, EAS 465, EAS 538, EAS 542, ECE 322, ECO 421, EDE 306, EDE 320, EDE 321, EDE 322, EDE 461, EDF 302, EDS 300, EET 360, EET 450, ENG 334, ENG 337, ENG 371, ENG 372, ENG 448, ENS 420, ENS 424, ENS 475, ESP 339, ESP 349, FRE 311, FRE 312, GCM 311, GCM 370, GCM 485, GEO 325, GEO 328, GEO 358, GEO 412, GEO 420, GEO 474, GTY 400, GTY 410, GTY 430, HIS 491, HIS 495, ITE 420, ITE 481, JUS 376, JUS 496, MAT 304, MAT 400, MAT 468, MAT 496, PHI 335, PHY 301, PHY 495, POS 307, POS 312, POS 327, POS 450, PSY 310, PSY 340, PSY 345, PSY 360, PSY 365, PSY 425, SOC 410, SOC 415, SOW 370, SOW 405, SPN 311, SPN 312, SPT 310, SPT 425, TED 450, TED 500, THE 304, THE 305, THE 306, THE 312

### **Laboratory Courses**

Four criteria have been established for laboratory courses. All four criteria must be reflected in the course syllabus.

- A laboratory course should emphasize discipline-specific methodologies and logic used to systematically investigate the world;
- A laboratory course should provide students with the opportunity to use the methodologies and models of inquiries specific to their discipline in the selection, definition, solution, analysis, and evaluation of problems/questions independently and/or collaboratively;
- A laboratory course should include the evaluation and assessment of student performance from the laboratory experiences; and

- A minimum of 30 percent of instruction time and 30 percent of the final grade of a course must be devoted to laboratory activities in order for the course to be considered for the laboratory component menu of general education.

[Specific discipline is relative to the course and not to the student's discipline of study.]

*Menu Courses*

ANT 101, ANT 232, ANT 254, ART 130, BIO 120, BIO 125, BIO 130, BIO 232, CHE 101, CHE 102, EAS 100, EAS 150, EAS 240, GCM, 180, GCM 320, GCM 331, GCM 340, HIS 311, HSC 120, JUS 380, MUS 380, PHS 120, PHS 137, PHY 101, PHY 121, PHY 122, PHY 202, POS 301, POS 317, POS 319, THE 341

*Notes:*

- Cal U's general education program goal menus will be updated throughout the implementation process. Students entering the University under this catalog will be able to satisfy general education requirements by using courses added to goal menus in subsequent years without being required to change to a new catalog.
- General education courses may include any courses in a student's career, including major courses. Major courses included on a goal menu may be used to satisfy that goal. Although a course may appear on more than one menu, a given course may be used to satisfy only one general education goal.
- When external accreditation agencies require specific competencies, departments may advise students to take specific courses included on a goal menu to complete the goal. Students should contact their advisers or department chairs for information on such requirements.
- Any required course within a general education goal (e.g., UNI 100, ENG 101, ENG 102) that is failed must be retaken by the student and a passing grade earned for the course. Students should retake such courses as soon as possible.
- Students must complete appropriate developmental courses or satisfy other prerequisites prior to completing a course listed on a general education goal menu.

# *Academic Departments*

## **Academic Development Services**

### **Faculty**

Crawford (chairperson), Driscoll, Johnson, Rodriguez-Naeser, Sally, Sealy, Seelye

### **Purpose**

The Department of Academic Development Services operates three grant-funded programs: Federal TRIO Student Support Services, Federal TRIO Upward Bound Fayette County and Federal TRIO Upward Bound Greene County. These programs help students enter and graduate from college.

### **Services**

#### ***Instruction***

Faculty teach EDU 110, Critical Thinking and Reading; XCP 194, Career Planning; UNI 100, First-Year Seminar; and UNI 200, Career Readiness.

#### ***Counseling***

Counselors provide educational and career counseling and academic advisement. New program students are interviewed and receive an orientation and academic plan. Counselors help students select and register for courses; monitor each student's academic performance; and provide students with information concerning academic resources, policies, procedures and practices. Program students may also be eligible for a nonpunitive grading option.

#### ***Tutoring***

Tutoring is provided for most entry-level courses. Tutors review lecture notes, check and review the student's knowledge of textbook and course materials, and provide individual and group study sessions. Supplemental instruction is also offered in selected courses.

The Department of Academic Development Services is located on the 4th floor of the Manderino Library. Office hours are from 8 a.m. to 4 p.m., Monday through Friday, and weekends and evenings by appointment. For services or information, stop at the office or call 724-938-4230.

## **Applied Engineering and Technology**

### **Faculty**

Kallis (chairperson), Bronakowski, Hider, Horath, Hummell, Kolick, Kruse, Loney, Means, Nowak, Prokic, Salim, Schickel, Sumey, Thompson, Urbine, Vaverka, Whitehead, Wright

### **Department Mission**

Curricula in Applied Engineering and Technology integrate a comprehensive program in the application of technology with a broad general education to prepare graduates to function in applied engineering and technology-related fields in industry or education. Students develop a strong background in the fundamentals of science, mathematics and technology so that they may apply their knowledge and skills to technical and management situations in industry or education. In addition, students become aware of the impact of technology on the global community and the quality of life both for the individual and for society.

### **Programs**

Applied Engineering and Technology offers the following undergraduate degree programs:

### ***Bachelor's Degree Programs***

- Computer Engineering Technology
- Electrical Engineering Technology
- Graphics and Multimedia
- Technology Education
- Technology Management
- Technology Management (Nanofabrication Manufacturing concentration)

### ***Associate Degree Programs***

- Computer Engineering Technology
- Electrical Engineering Technology
- Graphics and Multimedia
- Industrial Technology
- Industrial Technology (Nanofabrication Manufacturing concentration)
- Robotics Engineering Technology
- Technical Studies

### **Computer Engineering Technology (Associate and Bachelor's Degrees)**

This is one of the fastest growing occupations in Pennsylvania and across the nation.

The computer engineering technology program develops and prepares graduates who will be an integral part of the high-tech economy of Pennsylvania and the nation. The program is a strong combination of theoretical and practical concepts in electrical engineering technology, computer engineering technology, mathematics, computer science, natural science and general education that leads to the Bachelor of Science degree. The bachelor's degree program emphasizes applying current technology to practical problems and situations. Graduates of the program are prepared to find employment as computer engineering technologists. Students will gain knowledge and skills in digital electronics, microprocessor engineering, embedded systems, computer networking, computer systems design and software engineering.

There are many advantages to studying computer engineering technology at California University of Pennsylvania: small class sizes (labs include no more than 24 students); individualized attention by dedicated and qualified faculty (professors teach both the lectures and the labs; teaching associates are not used); state-of-the-art laboratory facilities and equipment; active engineering technology student club; and modern housing facilities.

### ***CET Mission Statement***

The mission of the computer engineering technology program at California University of Pennsylvania is to provide its students with a well-rounded education that meets the needs of the commonwealth. Specifically, graduates are to be prepared for technically oriented careers involving both hardware and software technologies of computer systems with an emphasis in embedded systems design using a hands-on approach. The program integrates teamwork and leadership skills in a blend of theoretical and applied competencies. Also, the program prepares students for changing technologies and lifelong learning. The program prepares students to take personal responsibility and to apply the highest professional and ethical standards to their activities in computer systems and to understand local, national and global issues related to the field.

### ***CET Educational Program Objectives***

The general goal of the computer engineering technology program is to provide students with a broad understanding of fundamental engineering knowledge and technical skills



as well as in-depth knowledge in the areas of computer science, computer engineering technology, digital electronics, mathematics and physical sciences. The objectives of the CET program are to produce graduates who can:

- Function effectively individually and in team-oriented, open-ended activities with critical thinking to assess and evaluate complex technical and nontechnical problems in an industrial environment;
- Communicate effectively in oral, written, visual and graphical modes in interpersonal and group situations at a level of effectiveness expected of industry employers;
- Remain technically current and adapt to rapidly changing technologies through further formal or informal education;
- Identify and understand professional ethical situations in business, industry and society;
- Blend theoretical and practical knowledge and skills to solve technical problems;
- Apply embedded-based technologies and software engineering to solve technical problems; and
- Understand and apply project specifications, documentation and standards requirements within the engineering design process.

### *CET Program Outcomes*

Program outcomes are statements that describe what units of knowledge or skills students are expected to acquire from the program to prepare them to achieve the program educational objectives. The program outcomes are demonstrated by the student and are measured by the program at the time of graduation.

By the time of graduation, computer engineering technology students will demonstrate the following:

- The knowledge, skills, techniques and applications of modern tools in the computer engineering technology discipline;
- The ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering and technology;
- Technical problem-solving skills, including the ability to identify problems, use appropriate laboratory and test equipment, conduct experiments, gather data, analyze data, and produce results;
- The ability to apply creativity in the design of systems, components or processes appropriate to the computer engineering technology program objectives;
- Effective discipline-related project management and teamwork skills;
- The ability to apply and produce written documents; to deliver oral presentations; to develop, prepare and interpret visual information; and to communicate these with a specific audience at a level of effectiveness expected in industry;
- Recognition of the need for and the ability to engage in lifelong learning;
- Knowledge of social, professional and ethical responsibilities;
- Respect for diversity and a knowledge of contemporary professional, societal and global issues;
- The ability to identify, analyze, design, solve and implement analog, digital and processor-based systems through a blend of theoretical and practical methods;
- The ability to use computers, computer networks, operating systems and application software that pertain to computer engineering technology;
- The ability to utilize statistics/probability or discrete mathematics in support of computer systems and networks;

- The application of physics and/or chemistry to computer systems in a rigorous mathematical environment at or above the level of algebra and trigonometry.

### ***Employment Opportunities***

The curriculum provides students with a comprehensive education to help them find employment in several areas in the private, public or government sectors. Graduates of the bachelor's degree program are qualified for engineering technologist positions. As the economy is becoming increasingly high-tech, the demand for computer engineering technology graduates is expected to escalate. The curriculum prepares students for positions in aerospace, embedded systems design, software design/implementation/verification, automotive, utilities, medical, computer and communication industries. Employment opportunities with excellent salaries are diverse and plentiful in the areas of software development, hardware systems design, microcomputer/microcontroller system designs, computer networking, product sales and marketing.

### ***Accreditation (CET - B.S.)***

The CET program is accredited by the Technology Accreditation Commission (TAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700. All graduates from the B.S. CET program will receive accredited degrees. Seniors and graduates of the programs are eligible to sit on a prelicensing Fundamentals of Engineering (FE) exam.

### **Bachelor of Science Degree in Computer Engineering Technology — 124 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. College Algebra (3 cr.) and College Trigonometry (3 cr.) may be substituted for Pre-Calculus, if math placement test score does not permit direct entry into Pre-Calculus, or if students would prefer less intense coverage of this material.

#### ***Freshman Year***

<b>First Semester</b>	<b>14 Credits</b>
**CSC 120 Problem Solving and Programming Constructs	3 crs.
*EET 110 Electrical Circuits I	4 crs.
**ENG 101 English Composition I	3 crs.
**MAT 199 Pre-Calculus	3 crs.
**UNI 100 First-Year Seminar	1 crs
<b>Second Semester</b>	<b>16 Credits</b>
**CSC 124 Computer Programming I	3 crs.
*EET 160 Electrical Circuits II	4 crs.
**ENG 217 Scientific and Technical Writing	3 crs.
*MAT 195 Discrete Mathematical Structure	3 crs.
General Education Course	3 crs.

#### ***Sophomore Year***

<b>Third Semester</b>	<b>16 Credits</b>
*CET 235 Digital Electronic Design	4 crs.
*CSC 265 Object-Oriented Programming	3 crs.

<b>Third Semester</b>	<b>16 Credits</b>
*MAT 281 Calculus I	3 crs.
**ECO 100 Elements of Economics	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>17 Credits</b>
*CET 270 Introduction Microprocessor Design	4 crs.
*CSC 328 Data Structures	3 crs.
*MAT 282 Calculus II	3 crs.
**PHY 101 College Physics I	4 crs.
General Education Course	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>17 Credits</b>
*CET 335 Microprocessor Interfacing	4 crs.
*EET 215 Introduction to Instrumentation	3 crs.
*CET 350 Technical Computing using Java	3 crs.
*PHY 202 College Physics II	4 crs.
General Education Course	3 crs.

<b>Sixth Semester</b>	<b>16 Credits</b>
*CET 360 Microprocessor Engineering	4 crs.
**CSC 306 FORTRAN	3 crs.
*CSC 400 Operating Systems	3 crs.
*MAT 341 Linear Algebra	3 crs.
300- or 400-Level General Education Course	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*CET 490 Senior Project I	3 crs.
*CSC 378 Computer Architecture	3 crs.
300- or 400-Level General Education Course	3 crs.
*Technical Elective (see above)	6 crs.

<b>Eighth Semester</b>	<b>13 Credits</b>
*CET 440 Computer Networking	4 crs.
*CET 492 Senior Project II	3 crs.
*Technical Elective (see above)	3 crs.
300- or 400-Level General Education Course	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

## **Associate of Science Degree in Computer Engineering Technology — 63 Credits**

### *Overview*

The computer engineering technology program provides education and skill development in hardware configuration, software development, programming applications, and the interfacing of hardware and software systems. Students receive hands-on training on various computer systems, test equipment and software products.

### *Educational Program Objectives*

The general goal of the computer engineering technology program is to provide students with a broad understanding of fundamental engineering knowledge and technical skills as well as in-depth knowledge in the areas of computer science, computer engineering technology, digital electronics, mathematics and physical sciences. The objectives of the CET program are to produce graduates who can:

- Function effectively individually and in team-oriented, open-ended activities with critical thinking to assess and evaluate complex technical and nontechnical problems in an industrial environment;
- Communicate effectively in oral, written, visual and graphical modes in interpersonal and group situations at a level of effectiveness expected of industry employers;
- Remain technically current and adapt to rapidly changing technologies through further formal or informal education;
- Identify and understand professional ethical situations in business, industry and society;
- Blend theoretical and practical knowledge and skills to solve technical problems; and
- Understand and apply project specifications, documentation and standards requirements within the engineering design process.

### *Employment Opportunities*

The curriculum provides students with a well-balanced education to help them find employment in several areas in the private, public or government sectors. Graduates of the associate degree program are qualified for technical positions as they possess the skills to troubleshoot, repair, configure, install and program basic computer systems. Employment opportunities with excellent salaries exist in the areas of software, systems, microcomputer/microcontroller systems, networking applications, hardware, product sales and marketing.

### *Continuing Education*

Graduates of the A.S.-CET program are eligible to enroll in the B.S.-CET program. All credits earned toward the A.S.-CET degree count toward the B.S.-CET degree.

### *Curriculum*

A total of 63 credits are required for an Associate of Science degree in computer engineering technology. The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years. To ensure that they are making satisfactory academic progress, students should consult with their faculty adviser to ensure that they complete necessary prerequisites and required courses in sequence and complete between 13 and 17 credits each semester.

## **Computer Engineering Technology Associate Degree – 63 Credits**

The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years. College Algebra (3 cr.) and College Trigonometry (3 cr.) may be substituted for Pre-Calculus, if math placement test score does not permit direct entry into Pre-Calculus, or if students would prefer less intense coverage of this material.

Students considering completion of a bachelor's degree in CET should select general education credits that apply. Consult your adviser.

### *Freshman Year*

<b>First Semester</b>	<b>14 Credits</b>
**CSC 120 Problem Solving and Programming Constructs	3 crs.
*EET 110 Electrical Circuits I	4 crs.
**ENG 101 English Composition I	3 crs.
**MAT 199 Pre-Calculus	3 crs.
**UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>16 Credits</b>
**CSC 124 Computer Programming I	3 crs.
*EET 160 Electrical Circuits II	4 crs.
**ENG 217 Scientific and Technical Writing	3 crs.
*MAT 195 Discrete Mathematical Structure	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
*CET 235 Digital Electronic Design	4 crs.
*CSC 265 Object-Oriented Programming	3 crs.
**ECO 100 Elements of Economics	3 crs.
*MAT 281 Calculus I	3 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>17 Credits</b>
*CET 270 Introduction to Microprocessor Design	4 crs.
*CSC 328 Data Structures	3 crs.
*MAT 282 Calculus II	3 crs.
**PHY 101 College Physics I	4 crs.
General Education Course	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

## **Electrical Engineering Technology (Associate and Bachelor's Degrees)**

### *Program Educational Objectives*

The department aims to produce graduates who can:

- Think critically to assess and evaluate complex technical and nontechnical problems in a corporate environment;
- Communicate effectively in oral, written, visual and graphical modes in interpersonal and group situations at a level of effectiveness expected of industry employers;
- Remain technically current and adapt to rapidly changing technologies;

- Perform ethically and professionally in business, industry and society;
- Function effectively in team-oriented, open-ended activities in a corporate environment;
- Blend theoretical and practical knowledge and skills to solve technical problems; and
- Apply microprocessor-based technology to solve technical problems.

### *Program Outcomes*

By the time of graduation, electrical engineering technology graduates will demonstrate the following:

- The knowledge, skills, techniques and applications of modern tools in the electrical engineering technology discipline;
- The ability to use computers and application software that pertain to electrical engineering technology;
- The ability to use appropriate laboratory and test equipment;
- Technical problem-solving skills, including the ability to identify problems, conduct experiments, gather data, analyze data and produce results;
- The ability to produce written documents; to deliver oral presentations; to develop, prepare and interpret visual information; and to communicate these with a specific audience at a level of effectiveness expected in industry;
- Knowledge of professional, ethical and social responsibilities;
- A respect for diversity and a knowledge of contemporary professional, societal and global issues;
- Effective discipline-related project management and teamwork skills;
- The ability to apply mathematics including transform methods and applied differential equations in support of electrical/electronic systems;
- The application of physics and/or chemistry to electrical/electronic circuits in a rigorous mathematical environment at or above the level of algebra;
- The ability to analyze, design, and implement analog and microprocessor systems through a blend of theoretical and practical methods;
- A recognition of the need for and the ability to engage in lifelong learning; and
- The ability to apply creativity in the design of systems, components or processes appropriate to the program objectives.

The bachelor's degree program in electrical engineering technology blends minds-on theory with hands-on applications to develop the knowledge and skills required to design, develop, modify, troubleshoot, maintain, calibrate and repair electrical and electronic systems. Students are required independently to design microprocessor/microcontroller systems that interface to the analog world. The associate degree program prepares graduates to install, test, maintain, calibrate and repair electrical and electronic systems. In addition, both programs emphasize computer application skills, computer programming and technical report writing. Associate degree graduates may transfer to the bachelor's degree program with no loss of time or credits.

### *Mission Statement*

The goal of the electrical engineering technology program at California University of Pennsylvania is to provide students with a well-rounded education that meets the needs of the commonwealth. Specifically, the goal is to prepare graduates for technically oriented careers related to analog and digital systems with an emphasis in the area of microprocessor technologies. The program integrates teamwork and leadership skills

in a blend of theoretical and applied competencies to prepare students for changing technologies and lifelong learning.

Additionally, the program prepares students to take personal responsibility and to apply the highest professional and ethical standards to their activities in the field and to understand local, national and global issues related to the field.

### ***Employment Opportunities***

Demand for graduates is on the increase. Associate degree graduates find employment as technicians in a variety of electrical- and electronic-related fields, while bachelor's degree graduates find positions as electrical engineering technologists, network administrators, software developers and programmers, instrumentation designers, systems technicians, field representatives, and managers.

### ***Program Goal***

The program aims to provide students with a well-rounded education that meets the needs of the commonwealth. Specifically, the goal is to prepare graduates for technically oriented careers related to analog and digital systems with an emphasis in the area of microprocessor technologies. The program integrates teamwork and leadership skills in a blend of theoretical and applied competencies to prepare students for changing technologies and lifelong learning.

The electrical engineering technology program received accreditation through the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET) through 2010. All graduates from the electrical engineering technology program receive accredited degrees. Graduates from an ABET-accredited program are eligible to sit for a prelicensing Fundamentals of Engineering Exam (FE Exam).

### **Bachelor of Science in Electrical Engineering Technology – 124 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. College Algebra (3 cr.) and College Trigonometry (3 cr.) may be substituted for Pre-Calculus, if math placement test score does not permit direct entry into Pre-Calculus, or if students would prefer less intense coverage of this material.

#### ***Freshman Year***

<b>First Semester</b>	<b>17 Credits</b>
**CSC 120 Problem Solving and Program Constructs	3 crs.
*EET 110 Electrical Circuits I	4 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Course	6 crs.
<b>Second Semester</b>	<b>16 Credits</b>
**CSC 124 C Programming I	3 crs.
*EET 160 Electrical Circuits II	4 crs.
**ENG 217 Science and Technical Writing	3 crs.
**MAT 199 Pre-Calculus	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>14 Credits</b>
*CET 235 Digital Electronic Design	4 crs.
*EET 215 Introduction to Instrumentation	3 crs.
*EET 325 Introduction to Electric Power	4 crs.
*MAT 281 Calculus I	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*CET 270 Introduction to Microprocessors	4 crs.
*EET 365 Linear Devices	4 crs.
*MAT 282 Calculus II	3 crs.
**PHY 101 College Physics I	4 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>16 Credits</b>
*CET 335 Microprocessor Interfacing	4 crs.
*EET 310 Methods in Engineering Analysis	4 crs.
*EET 320 Network Analysis	4 crs.
*PHY 202 College Physics II	4 crs.
<b>Sixth Semester</b>	<b>16 Credits</b>
*CET 360 Microprocessor Engineering	4 crs.
*EET 370 Instrumentation Design I	4 crs.
*EET 410 Automatic Control System	4 crs.
*EET Elective (CET 440, EET 420, 430, 460, 475 or 495)	4 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
**CHE 101 General Chemistry I	4 crs.
*EET 400 Senior Project Proposal	1 cr.
*EET Elective (see above)	4 crs.
300- or 400-Level General Education Courses	6 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
**ECO 100 Elements of Economics	3 crs.
*EET 450 Senior Project	3 crs.
*Technical Elective [any approved EET Elective, CHE 102, CSC 202, or above), any ITE course, MAT 272 (or above), or PHY 221 (or above)]	3 crs.
General Education Courses	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses



## Associate of Applied Science in Electrical Engineering Technology – 69 Credits

The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years.

### *Freshman Year*

<b>First Semester</b>	<b>18 Credits</b>
*CET 235 Digital Electronic Design	4 crs.
**CSC 120 or higher	3 crs.
*EET 110 Electrical Circuits I	4 crs.
**ENG 101 English Composition I	3 crs.
**MAT 181 College Algebra	3 crs.
**UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>17 Credits</b>
*CET 270 Introduction to Microprocessor Design	4 crs.
*EET 160 Electrical Circuits II	4 crs.
**ENG 217 Scientific and Tech. Writing	3 crs.
*MAT 191 College Trigonometry	3 crs.
COM Public Speaking Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>18 Credits</b>
*CET 335 Microprocessor Interfacing	4 crs.
*EET 215 Introduction to Instrumentation	4 crs.
*EET 325 Introduction to Electric Power	4 crs.
*MAT 281 Calc. I or MAT 273 Basic Calc.	3 crs.
General Education Course	3 crs.
<b>Fourth Semester Courses</b>	<b>17 Credits</b>
*EET 365 Linear Devices	4 crs.
**PHY 101 College Physics I or PHY 121 General Physics I	4 crs.
General Education Courses	6 crs.
Elective Course	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

## Graphics and Multimedia (Associate and Bachelor's Degrees)

Each day, millions of people read newspapers, books, magazines, cereal boxes and the cover of their favorite audio CDs. They also surf the Internet, view Web pages, wear printed T-shirts, read billboards, receive printed advertisements in the mail and purchase products in printed packages. All these things have one thing in common – graphics and multimedia. Graphics and multimedia technology is one of the largest industries in the U.S. economy, yet it remains relatively unknown to most Americans. Multimedia is the creation

and editing of digital media used for business, education or entertainment purposes. This media includes digital images, graphics, audio, video, animations and documents and is used in the creation of Web pages, digital store fronts, interactive pieces, presentations, electronic storybooks, kiosks, tutorials, movies and simulations. The graphics and multimedia field involves all of the people, equipment, materials and processes involved in designing, preparing and reproducing visual images, such as artwork, words, photographs and symbols in printed form on physical media, such as paper, plastic, metal or textiles and in electronic form for the World Wide Web and other multimedia presentations.

### ***Mission Statement***

The graphics and multimedia program offers a two-year Associate of Science degree and a four-year Bachelor of Science degree that prepare students for successful careers in the fields of print and multimedia technologies. The primary mission of the program is to develop people with critical and analytical thinking skills required in these fields. Additionally, the program:

- Prepares students for advanced careers in the print and media communication field through practical projects and critical-thinking assessments;
- Provides a hands-on learning environment with access to various technologies required to produce industry-standard pieces;
- Involves professors who incorporate industry experience to not only teach, but also to support learning with real-life scenarios and insight; and
- Engages a strong alumni base and network of industry professionals to assist postgraduation job placement.

### ***Program Objectives***

Graphic communications and multimedia majors are required to complete a series of laboratory classes related to offset lithography, flexography, screen printing, digital imaging and Web publishing. In these laboratory courses, students develop skills in the use of equipment, software, processes and materials and develop the critical-thinking skills necessary to produce a technically accurate finished product. In addition, lecture courses in management, sales, marketing, estimating and cost analysis prepare students for this competitive market. The capstone experience of an internship will provide students with real-world experience and prepare them to take their place in a globally competitive technical environment.

### ***National Accreditation***

The program has national accreditation from the Accrediting Council for Collegiate Graphic Communication (ACCGC).

### ***Employment Opportunities***

The graphics and multimedia industry is large and diverse and employs more than three million people. This large and ever-changing industry is experiencing a wave of technological advances, which means new skills, new job opportunities and new challenges for the graphic professionals. The future for people involved in graphics and multimedia is bright. The size and tremendous diversity of the industry provides a wide variety of career opportunities for men and women of all interests, talents and educational levels. With annual sales in excess of \$169 billion, the United States produces more print and related work than any other country. Currently, there is a shortage of skilled graphic employees. Experts predict a continuation of the labor shortage in the industry since many young people are simply unaware of the exciting and job-rich industry. Printing is the third largest manufacturing industry in the United States, and positions can be found in print production, customer service, printing sales, graphic design, digital prepress, quality control, estimating, scheduling, finishing and binding, print buying, World Wide Web publishing, product design, marking, equipment sales, and technical service. Opportunities are also available with advertising agencies, publishers, commercial printers,

manufacturers of equipment and graphic communications suppliers, as well as graphic communications electronic and control systems. The program has a 92-percent placement rate in recent years.

### *Graphics and Multimedia Student Clubs*

Students can join two clubs: the Screen Printing Student Association and the Student Club of Printing House Craftsmen. Student club members perform printing services, conduct industrial tours and attend conferences.

### *Graphics and Multimedia Scholarships*

The Kenny Hager Memorial Scholarship and the Kurt Nordstrom Memorial Scholarship are offered exclusively to graphics and multimedia majors through California University. Scholarships are also available from the Foundation of Flexographic Technical Association and the Print and Graphics Scholarship Foundation through the Printing Industries of America.

## **Bachelor of Science in Graphics and Multimedia – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**ENG 101 English Composition I	3 crs.
**GCM 100 Graphic Communication Processes I	3 crs.
**GCM 101 Time-Based Media	3 crs.
*GCM 225 Principles of Layout and Design	3 crs.
**MAT 181 College Algebra	3 crs.
**UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>15 Credits</b>
**ENG 102 English Composition II	3 crs.
*GCM 180 Multimedia Foundations	3 crs.
*GCM 220 Black and White Photography	3 crs.
*GCM 240 Desktop Publishing	3 crs.
General Education Courses	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>14 Credits</b>
*GCM 211 Screen Printing Techniques	3 crs.
*MGT 300 Principles of Management	3 crs.
General Education Course	4 crs.
Natural Science Course	4 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*GCM 302 Lithographic Techniques	3 crs.
*MKT 320 Principles of Selling	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
General Education Courses	6 crs.
Elective Course	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*GCM 300 Digital Photography	3 crs.
*GCM 330 Flexography and Package Printing	3 crs.
**GCM 342 Estimating and Cost Analysis	3 crs.
*GCM 320 Digital Video	3 crs.
General Education Course	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*GCM 365 Color Imaging	3 crs.
*Graphics and Multimedia Elective (GCM 311, 370, 380, 390, 410, 411, 420, 430, 460, 470)	3 crs.
GCM 331 Web Publishing	3 crs.
General Education Course	3 crs.
Elective Course	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*GCM 340 Computer Animation	3 crs.
*GCM 445 Printing Prod. Plan. and Control	3 crs.
300- or 400-Level General Education Courses	6 crs.
Elective Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*GCM 485 Graphics Seminar	3 crs.
*GCM 495 Graphic Communication Technical Internship	var. crs.
*GCM 410 Digital Portfolio	3 crs.
300- or 400-Level Elective Courses	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

**Associate of Science in Graphics and Multimedia – 62 Credits**

The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years.

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
GCM 100 Graphic Communication Processes I	3 crs.

<b>First Semester</b>	<b>16 Credits</b>
GCM 101 Time-Based Media	3 crs.
GCM 225 Digital Layout and Design	3 crs.
MAT 181 College Algebra	3 crs.
UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
GCM 180 Multimedia Foundations	3 crs.
GCM 220 Black and White Photography	3 crs.
GCM 240 Desktop Publishing	3 crs.
General Education Course	3 crs.
<b>Third Semester</b>	<b>16 Credits</b>
GCM 211 Screen Printing Techniques	3 crs.
GCM 302 Lithographic Techniques	3 crs.
Natural Science Course	4 crs.
General Education Course	3 crs.
Elective Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
GCM 300 Digital Photography	3 crs.
GCM 320 Digital Video	3 crs.
GCM 330 Flexo and Package Printing	3 crs.
General Education Course	3 crs.
Elective Course	3 crs.

### **Industrial Technology (Associate Degree) and Technology Management (Bachelor's Degree)**

Technology management is a field of study designed to prepare technically competent industrial technologists and management professionals for employment in business, industry and government. The career focus for graduates of the Industrial Technology program is industrial and management supervision. The Association of Technology Management and Applied Engineering Technology (ATMAE) has determined that certification as an industrial technologist requires an educational background in production/operations management, quality control, safety management, and production and inventory control.

An associate degree is offered in industrial technology and a bachelor's degree is offered in technology management. Associate degree students develop technical skills in industrial safety, machine tool manufacturing, materials technology, automation/robotics, electronics, drafting and design, CAD, and quality control. The bachelor's degree program focuses on operations management, industrial cost analysis, operations research, project management, computer-integrated manufacturing, and production and inventory control.

The technology management degree is an upper-division program. Admission is only open to students who have completed an Associate of Science degree in a technology

related field. The following California University associate degrees are approved as prerequisites for the upper-division bachelor's degree in industrial technology: computer engineering technology, computer science technology, electrical engineering technology, and industrial technology. Technology-related Associate of Science degrees from other colleges and universities qualify. Associate of Applied Science degrees qualify provided they include algebra, trigonometry, physics and quality control. The additional courses required to complete the industrial technology bachelor's degree are offered via the Web. For information on eligible programs, contact the program coordinator at [thompson\\_JM@calu.edu](mailto:thompson_JM@calu.edu) or 724-938-4087.

### ***Employment Opportunities***

The associate degree program prepares technically competent professionals as industrial technicians for employment in industrial and manufacturing enterprises. The career focus for bachelor's degree graduates is industrial and manufacturing supervision. Employment opportunities in industrial technology are diverse, with graduates finding careers as CAD operators, drafters, designers, engineering technicians, production supervisors, purchasing agents, industrial researchers, safety managers, manufacturing technicians, systems analysts, quality control managers, CNC machine programmers, robotic technicians, industrial trainers and sales representatives.

Nanofabrication manufacturing technology concentration in industrial technology offers concentrations in nanofabrication manufacturing technology (NMT) through Penn State University's Nanofabrication Center. Associate degree students who select the NMT concentration complete the NMT capstone semester at Penn State. To pursue the NMT concentration in the bachelor's degree program, students must first complete an NMT-related associate degree. To learn more about the NMT Center at Penn State, visit [www.cneu.psu.edu](http://www.cneu.psu.edu).

### ***Industrial Technology Student Club***

Majors are encouraged to join the National Association of Industrial Technology Student Club, which provides opportunities to enhance technical skills and professionalism. Club members participate in industrial tours, attend conferences and develop technical skills through service projects.

## **Bachelor of Science in Technology Management – 120 Credits**

### ***Prerequisite***

Associate of Science degree in an industrial technology-related area (60 credits, minimum). Of the 60 credits, 30 will be applied to the California University requirements in general education, and 30 credits will be applied to the major requirements.

Associate of Applied Science degree programs qualify for admission to this program, provided they have completed algebra, trigonometry and physics. Students who have not taken Statistical Quality Control should do so as a technical elective. ITE 366 and ITE 475 are offered only in the classroom; ITE 342 and ITE 462 are offered only via Web.

### ***Junior Year***

<b>Semester 1</b>	<b>15 Credits</b>
**ITE 305 OSHA General Industrial Safety	3 crs.
*ITE 366 CAM I or *ITE 342 Quality Planning and Analysis	3 crs.
*ITE 375 Principles of Production	3 crs.
Elective Course	3 crs.
General Education Course	3 crs.

<b>Semester 2</b>	<b>15 Credits</b>
*ITE 325 Statics and Strength of Materials	3 crs.
*ITE 376 Technical Supervision	3 crs.
*ITE 385 Industrial Cost Estimating	3 crs.
300- or 400-Level General Education Courses	6 crs.

### *Senior Year*

<b>Semester 3</b>	<b>15 Credits</b>
*ITE 420 Production Analysis	3 crs.
*ITE 460 Principles of Manufacturing	3 crs.
*ITE 461 Supply Chain Fundamentals	3 crs.
**ITE 471 Project Management	3 crs.
Elective Course	3 crs.

<b>Semester 4</b>	<b>15 Credits</b>
*ITE 475 Computer-Integrated Manufacturing or *ITE 462 Invent Scheduling and Planning	3 crs.
*ITE 476 Lean Enterprise	3 crs.
*ITE 481 Concepts and Issues in Industrial Technology	3 crs.
General Education Course	3 crs.
Elective Course	3 crs.

### **Technology Management: Nanofabrication Manufacturing Technology Concentration – 120 Credits**

Admission to this program requires an associate degree (60 credits) in a nanofabrication manufacturing technology-related area; 27 of those credits will be applied to general education, 33 credits will be applied to major requirements. Any associate degree transfer credits beyond 60 will be applied to the electives block. ITE 366 and ITE 475 are offered only in classroom; ITE 342 and ITE 462 are offered only via Web.

### *Junior Year*

<b>Semester 1</b>	<b>15 Credits</b>
**ITE 305 OSHA General Industrial Safety	3 crs.
*ITE 366 CAM I or *ITE 342 Quality Planning and Analysis	3 crs.
*ITE 375 Principles of Production	3 crs.
General Education (2 Courses)	6 crs.

<b>Semester 2</b>	<b>15 Credits</b>
*ITE 325 Statics and Strength of Materials	3 crs.
*ITE 376 Technical Supervision	3 crs.
*ITE 385 Industrial Cost Estimating	3 crs.
*ITE 420 Production Analysis	3 crs.

<b>Semester 2</b>	<b>15 Credits</b>
General Education Course	3 crs.
<b>Senior Year</b>	
<b>Semester 3</b>	<b>15 Credits</b>
**ECO 201 Microeconomics	3 crs.
*ITE 461 Supply Chain Fundamentals	3 crs.
**ITE 471 Project Management	3 crs.
Elective Course	3 crs.
300- or 400-Level General Education Course	3 crs.
<b>Semester 4</b>	<b>15 Credits</b>
*ITE 475 Computer-Integrated Manufacturing or *ITE 462 Invent Scheduling and Planning	3 crs.
*ITE 481 Concepts and Issues in Industrial Technology	3 crs.
*NMT 495 Nanofabrication Manufacturing Internship	6 crs.
300- or 400-Level General Education Course	3 crs.

### **Nanofabrication Manufacturing Technology Concentration**

The technology management program includes an optional concentration in nanofabrication manufacturing technology (NMT). Cal U has developed an agreement with Penn State University's Nanofabrication Technology Center. There are only five NMT centers in the country, and Penn State has the only one with an undergraduate degree option. The California University of Pennsylvania technology management program was approved to offer an NMT concentration. Students who have completed an associate degree program that incorporated the NMT capstone semester at Penn State University would be eligible to pursue this concentration.

Cal U's associate degree program in industrial technology offers an NMT option, and graduates would be eligible for the NMT concentration in the upper-division technology management bachelor's degree program. Limited numbers of students may participate in the NMT capstone semester. Currently, only 40 students per semester are selected from partner institutions, which include community colleges and State System universities in Pennsylvania. Past NMT graduates have received multiple job offers ranging from \$30,000 to more than \$50,000 per year. Demand has been high for NMT graduates to qualify for the NMT capstone semester: students must meet certain prerequisites which are incorporated into eligible associate degree programs.

To learn more about the possibilities related to nanofabrication and nanotechnology, visit [www.technologyreview.com](http://www.technologyreview.com) and enter the preset nanotechnology search. To learn more about the NMT center at Penn State, visit [www.cneu.psu.edu](http://www.cneu.psu.edu).

#### ***Program Objectives for the NMT Concentration***

To pursue the NMT concentration, students must have completed an NMT-related associate degree. As reflected in the technology management recommended schedule below, the only difference between the general technology management bachelor's degree and the NMT concentration appears in the final semester, when NMT concentration students would take NMT 495, in place of three credits of electives and three credits of general education courses.



### **National Accreditation**

The National Association of Industrial Technology (NAIT) has changed its name to the Association of Technology Management and Applied Engineering (ATMAE). Our technology management program was re-accredited in 2009 for another six years.

### **Admission Information**

The bachelor's degree in technology management is an upper-division program, so admission to the program is open only to students who have completed an approved technology-based associate degree with a nanomanufacturing concentration. Students who have completed an approved nanomanufacturing technology-based associate degree of 60 credits or more would enter the technology management nanomanufacturing option bachelor's degree program as juniors and would be required to complete an additional 60 credits. Cal U offers an associate degree in industrial technology nanofabrication manufacturing technology option. Associate degrees from other universities or community colleges that include the nanomanufacturing capstone semester are eligible to complete their bachelor's degree at Cal U. For more information on eligible programs, contact the department chair at [Kallis@calu.edu](mailto:Kallis@calu.edu) or 724-938-4085.

### **Associate of Science in Industrial Technology – 60 Credits**

The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years.

#### **Freshman Year**

<b>First Semester</b>	<b>13 Credits</b>
**ENG 101 English Composition I	3 crs.
*ITE 115 Interpreting and Sketching of Technical Drawings	3 crs.
*MAT 181 College Algebra	3 crs.
**UNI 100 First -Year Seminar	3 crs.
General Education Course	3 crs.
<b>Second Semester</b>	<b>16 Credits</b>
**ENG 102 English Composition II	3 crs.
*ITE 181 Materials Technology I	3 crs.
*ITE 215 Computer Aided Drafting I	3 crs.
**MAT 191 College Trigonometry	3 crs.
**PHY 121 General Physics I	4 crs.

#### **Sophomore Year**

<b>Third Semester Courses</b>	<b>16 Credits</b>
** Any CIS/CSC Course on Menu	3 crs.
**CHE 101 General Chemistry I	4 crs.
**ECO 201 Microeconomics	3 crs.
*ITE 135 Digital Electronics	3 crs.
*ITE 165 Machine Processing I	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*ITE 130 Introductory Circuit Analysis	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*ITE 236 Numerical Control Programming I	3 crs.
*ITE 250 Introduction to Automation	3 crs.
**ITE 341 Quality Control	3 crs.
Elective Course	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

### **Industrial Technology (NMT Concentration) – 60 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. To ensure that they are making satisfactory academic progress, students should consult with their faculty adviser to ensure that they complete the prerequisites and required courses in sequence and complete a minimum of 15 credits each semester.

#### *Freshman Year*

<b>First Semester</b>	<b>13 Credits</b>
** Any CIS/CSC Course on Menu	3 crs.
**ENG 101 English Composition I	3 crs.
*MAT 181 College Algebra	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education – Public Speaking	3 crs.

<b>Second Semester</b>	<b>16 Credits</b>
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**CHE 101 General Chemistry I	4 crs.
**ENG 102 English Composition II	3 crs.
*ITE 135 Digital Electronics	3 crs.
*ITE 215 Computer-Aided Drafting I	3 crs.
**MAT 191 College Trigonometry	3 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>13 Credits</b>
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*ITE 130 Introductory Circuit Analysis	3 crs.
*ITE 181 Materials Technology I	3 crs.
**ITE 341 Quality Control	3 crs.
**PHY 121 General Physics I	4 crs.

<b>Fourth Semester</b>	<b>18 Credits</b>
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*NMT 311 Materials, Safety and Equipment Overview	3 crs.
*NMT 312 Basic Nanofabrication Process	3 crs.
*NMT 313 Thin Films of Nanofabrication	3 crs.
*NMT 314 Advanced Lithography and Dielectrics	3 crs.
*NMT 315 Materials Modification in Nanofabrication	3 crs.

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\*NMT 316 Characterization, Packaging and Testing of Nanofabricated Structures 3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

### **Nanofabrication Manufacturing Technology Concentration**

The industrial technology program includes an optional concentration in nanofabrication manufacturing technology. California University has developed an agreement with Penn State University's Nanofabrication Manufacturing Technology (NMT) Center. There are only five NMT centers in the country, and Penn State has the only one with undergraduate degree options. Industrial technology majors who select the NMT concentration must meet established prerequisites, which are incorporated into the program requirements. Once approved, students spend one semester in the NMT capstone semester at Penn State University.

Limited numbers of students may participate in the NMT capstone semester. Currently, only 20 per semester are selected from partner institutions, which include community colleges and State System universities in Pennsylvania. Demand has been high for NMT graduates; past NMT graduates have received multiple job offers ranging from \$30,000 to more than \$50,000 per year.

To learn more about the possibilities related to nanofabrication and nanotechnology, visit: [www.technologyreview.com](http://www.technologyreview.com) and enter the preset nanotechnology search. To learn more about the NMT Center at Penn State, visit [www.cneu.psu.edu](http://www.cneu.psu.edu).

### ***Program Objectives***

Objectives of the nanofabrication manufacturing technology concentration: Students who decide to pursue the nanofabrication manufacturing technology (NMT) concentration within the associate degree in industrial technology would follow the NMT recommended schedule included here, which includes the NMT capstone semester (18 credits at Penn State University) in the fourth semester. Students must meet the prerequisites for the NMT capstone semester.

### ***Internships***

An important opportunity in this program is the internship. Students may spend a semester or a summer working in an industrial or manufacturing setting. An internship broadens the student's education, offering experience in day-to-day operations of an industrial enterprise. Students observe how products are produced and how problems are solved. In addition, the employer has an opportunity to observe students as prospective employees.

### **Technology Education (Teacher Certification Bachelor's Degree)**

The technology education program prepares graduates for K-12 technology education teaching certification through the Pennsylvania Department of Education (PDE). The program was one of the first in the nation to be accredited and receive national recognition by the National Council for the Accreditation of Teacher Education (NCATE). The program is also accredited by the International Technology Education Association's (ITEA) Council on Technology Teacher Education (CTTE). The program has an established international reputation for excellence, having received the Outstanding Technology Teacher Education Program Award from the ITEA/CTTE as well as numerous state and federal grants. Recent grant projects in the technology education program include:

- Invention, Innovation and Inquiry (I3);
- Advanced Manufacturing in Pennsylvania;

- Robotics Corridor Project;
- Robotics Technology Workforce Leadership Grant; and
- TECH (Technology and Engineering Coalition to Heighten) Awareness Project.

The program conducted the Pennsylvania Governor's Institute for Technology Education for five years. In lecture-laboratory courses focused on bio-related technology, communication, construction, manufacturing, transportation and pedagogy development, technology education majors develop knowledge and skills in the safe and appropriate use of technological tools, materials and processes as they design, produce, use and evaluate products and systems. Computer applications are emphasized. Students also complete education courses and the requirements necessary for professional teaching certification in Pennsylvania.

Many other graduates distinguish themselves in industrial and government positions. Some graduates own and operate their own successful businesses. Small class sizes, individual advising and supervised field experiences with children are the strengths of the program. Majors must successfully complete one semester of student teaching, including classroom experience at two grade levels. Certification to teach K-12 is awarded upon graduation and completion of state certification requirements. The College of Education is accredited by the National Council for Accreditation of Teacher Education. The Career Services office actively aids students seeking teaching positions.

### *Employment Opportunities*

Currently, there is a significant shortage of technology education teachers within Pennsylvania and throughout the nation. This has resulted in the program having excellent placement rates. Cal U Career Services reports more than six openings per graduate during the past year. Since 1992, every Cal U technology education graduate who sought a teaching position was employed. Most graduates report receiving multiple offers. The shortage of teachers is projected to continue for the next six to 10 years.

### *Program Objectives*

Technology education majors are required to complete a series of laboratory classes related to the technological systems of communication, construction, manufacturing and transportation. In these laboratory courses, students develop skills in the safety and appropriate use of tools, materials and processes as they design, produce, use and evaluate technological systems.

Technology education includes the study of selected technological systems that explore the solutions of technological problems and their associated social and environmental impacts. Computer applications using current software and support devices are emphasized. Students interact extensively with the universal systems model. Once equipped with an extensive understanding of the four technological systems and the universal systems model, students have the opportunity to evaluate the social, cultural, economic and environmental impacts of technology.

### *Technology Education Student Club*

The technology education student club is TEAC (Technology Education Association of California). TEAC activities focus on professional development and community service. The club sponsors trips to various conferences to compete against similar programs from across the country. In recent years, TEAC members have taken first-place honors in academic competitions at the eastern U.S. regional and international conferences of the Technology Education Collegiate Association.

### *Technology Education Scholarships*

The Donald Maley Technology Education Scholarship, the Technology Education Association of Pennsylvania William J. Wilkinson Scholarship, the Technology Education Faculty Scholarship, the John C. McCrory Memorial Technology Education Scholarship,

the Dr. John H. Lucy and Mrs. Dorothy Valla Lucy Technology Education Scholarship, the Bernard J. and Marguerite S. Singer Technology Education Scholarship, the Dr. Lawrence C. Miller Technology Education Scholarship, the Dr. Jay D. Helsel Applied Engineering and Technology Endowed Scholarship, the California Dreamin' Scholarship, and the TSA (Technology Student Association) Scholarship are available. All are one-time scholarships. For applications, visit the Applied Engineering and Technology Department office or contact any of the technology education faculty or staff members.

### **Bachelor of Science in Education: Certification in Technology Education – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. Three credits of literature are required for all teacher education programs. Students must earn a grade of C or better in every TED course, one English composition course, two math courses and one American/English literature course. Grades of C- or lower in these courses must be repeated until a grade of C or better is earned. For the natural science requirement, take one 4-credit lab course (BIO 115, BIO 206, CHE 101, PHY 121) and one course from either the lab or science (BIO 201, EAS 163, ENS 101, PHS 120, PHS 137) selection.

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
MAT 181 College Algebra	3 crs.
TED 100 Introduction to Technology Education	3 crs.
TED 105 Communicating Technical Designs	3 crs.
TED 126 Engineering Materials and Product Design	3 crs.
UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>15 Credits</b>
ENG Approved Literature Course	3 crs.
MAT 191 College Trigonometry	3 crs.
TED 111 Information Systems	3 crs.
TED 210 Design and Appropriate Technology	3 crs.
TED 226 Applications and Processing of Engineering Materials	3 crs.

#### *Sophomore Year*

<b>Third Semester*</b>	<b>15 Credits</b>
ESP 210 Special Education Foundations and Collaboration	3 crs.
ITE 250 Introduction to Automation	3 crs.
PSY 100 General Psychology	3 crs.
General Education Courses	9 crs.

\*Praxis exams should be taken during or immediately following the third semester

<b>Fourth Semester*</b>	<b>16 Credits</b>
EDU 310 Teaching in Multicultural Society	3 crs.
PSY 205, 207 or 208	3 crs.

<b>Fourth Semester*</b>	<b>16 Credits</b>
TED 300 Assessment and Instruction in TED	3 crs.
General Education Courses	7 crs.

\*Students should apply for Admission to Teacher Education during the fourth semester

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ESP 311 Assessment and Positive Behavior Interventions	3 crs.
TED 302 Energy and Control Systems	3 crs.
TED 316 Structural Design	3 crs.
TED 335 Transportation Systems	3 crs.
*Technical/Technological Elective	3 crs.

\*Technological/Technical Electives – COM 141, 142, 241, 242, CSC 120 or above, THE 141, any CET, EET, GCM, ITE or TED course not required by the major, or other courses approved by the adviser.

<b>Sixth Semester</b>	<b>15 Credits</b>
HSC 315 First Aid and Personal Safety	3 crs.
ESP 412 Evidence-Based Practices or ESP 413 Evidence-Based Practices for Secondary Inclusion	3 crs.
TED 304 Design in Bio-Related Technology	3 crs.
TED 346 Digital Communications	3 crs.
*Technological/Technical Elective (see above)	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
TED 426 Manufacturing Enterprise	3 crs.
TED 436 Engineering Design and Development	3 crs.
TED 450 Teaching Technology in the Secondary School	3 crs.
TED 451 Teaching Technology in the Elementary School	3 crs.
Technological/Technical Elective (see above)	3 crs.
<b>Eighth Semester</b>	<b>13 Credits</b>
TED 461 Technology Education Student Teaching	10 crs.
TED 462 Professional Practices in Technology Education	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education course

### **Robotics Engineering Technology (Associate Degree)**

Application of robotics is a multicraft activity blending multiple disciplines including computer science, computer engineering, mechanics and electrical engineering. A roboticist engages in design, construction and programming of robotic systems. Robotics Engineering Technology (RET) at Cal U is an introduction to mechatronic systems with special emphasis

on agile robots, i.e., robots with free-ranging mobility. Agile and personal robotics is a \$100 billion emerging industry.

### ***RET Program Objectives***

The goal of the RET program is to provide students with a fundamental understanding of computer, electronics and mechanical engineering technology principles blended with hands-on reinforcement through laboratory projects. Students learn and apply numerous cutting-edge skills such as:

- Engineering design processes;
- Application of robotic systems to solve technical problems;
- Behavioral programming on various robotic platforms;
- Application of science, technology, engineering and math in the creation of robotic systems;
- Use of design software tools such as 3-D CADD;
- Teamwork and leadership;
- Technical documentation and oral communications;
- Application of equipment and tools used in manufacturing processes;
- Troubleshooting and repair of robotic components and systems;
- Project management; and
- Understanding of economic principles and the role of robotics to future economy.

### ***Admission Information***

Admission to the program is open to entering freshman and transfer students. Students with an educational background in a field related to robotics engineering technology who apply for admission to the program will be evaluated on an individual basis.

### ***Additional Information***

For more information on Robotics@CalU, visit our website at <http://robotics.calu.edu>, or phone the Department of Applied Engineering and Technology at 724-938-4085, or email at [robotics@calu.edu](mailto:robotics@calu.edu).

### ***Employment Opportunities***

In both military and commercial applications, a sharp increase is predicted in the demand for robotics support personnel ranging from technicians to engineering technologists and beyond. Both male and female roboticists will be needed in a variety of fields, such as medical/health care, transportation logistics, industrial/manufacturing, security/law enforcement, service industries, and even household applications and entertainment. For increased career opportunities and advancement, RET graduates may continue to complete a bachelor's degree in related programs, such as computer engineering technology, electrical engineering technology, industrial technology and computer science.

### **Associate of Science Degree in Robotics Engineering Technology – 62 Credits**

The following four-semester schedule of courses provides a recommended framework for completing this program of study in two years.

#### ***Freshman Year***

<b>First Semester</b>	<b>14 Credits</b>
CSC 120 Problem Solving and Programming Constructs	3 crs.
EET 110 Electric Circuits I	4 crs.

<b>First Semester</b>	<b>14 Credits</b>
MAT 181 College Algebra	3 crs.
RET 110 Agile Robotics I	3 crs.
UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>15 Credits</b>
CSC 124 Computer Programming I	3 crs.
ENG 101 English Composition I	3 crs.
MAT 191 College Trigonometry	3 crs.
RET 120 CADD Concepts	3 crs.
RET 160 Agile Robotics II	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>17 Credits</b>
CET 235 Digital Electronics Design	4 crs.
ENG 217 Scientific and Technical Writing	3 crs.
PHY 121 General Physics I	4 crs.
RET 210 Robotics Teaming	3 crs.
TED 226 Applications and Processing of Engineering Materials	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
CET 270 Introduction to Microprocessors	4 crs.
ECO 100 Elements of Economics	3 crs.
ITE 250 Introduction to Automation	3 crs.
RET 260 Robotic Systems Project	3 crs.
General Education Elective	3 crs.

### **Technical Studies (Associate Degree)**

The requirements for this program are flexible. California University collaborates with companies, governmental agencies, labor unions, educational institutions and individuals to design and deliver a technical concentration that includes the knowledge and skills employers demand. A general education component provides a balanced associate degree. The program addresses the rapidly expanding technician-level employment opportunities available in the new economy by providing customized technical concentrations that meet the ever-changing needs of business and industry.

### **Departmental Lab Facilities**

Applied engineering and technology courses are taught in three buildings on campus. The Eberly Science and Technology Center houses the EET Analog Lab, the Digital/Embedded Systems Lab, and the California Manufacturing Assistance Center, which includes labs for CADD, materials testing, metrology, computer numerical control and automation/robotics. Hesel Hall has labs for CADD/drafting, digital prepress, electronics, foundry, graphics/printing, machine tools, manufacturing technology, multimedia technology, photography darkroom and photography studio. Coover Hall has labs for bio-related technologies, elementary school technology, screen printing, flexography, engineering materials and physical technologies.



### ***Internships***

During an internship, students work in an organization related to their employment goals where they receive practical experience in applying the knowledge and skills they have learned at the University. Graphics and multimedia students are required to complete an internship. Bachelor's degree students in computer engineering technology, electrical engineering technology, industrial technology and technology education are encouraged to complete an elective internship.

### **Associate of Science Degree in Technical Studies – 60 Credits**

The recommended framework for completing this program is flexible and customized to meet specific workforce needs. The program will include 32 credits in a professional technical core, which can include regular college courses, certificate programs, apprenticeship equivalencies, workforce training equivalencies, minors, internships and on-the-job work experience. The general education component includes 28 credits, including UNI 100, 15 credits of general education elective courses and three credits each of courses communication skills, mathematics, social sciences and technological literacy.

### **Minors**

#### **Minor in Electrical Engineering Technology – 21 Credits**

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Required Courses (16 credits): EET 110, CET 235, CET 270, CET 335

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Electives Courses (7 credits): Choose from: EET 160, EET 215, EET 325, CET 360, or CET 440

#### **Minor in Graphic Communications and Multimedia – 21 Credits**

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Required Courses (15 credits): GCM 100, GCM 101, GCM 180, GCM 220, GCM 240

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Elective Courses (6 credits): Choose from: GCM 211, GCM 225, GCM 300, GCM 302, GCM 311, GCM 320, GCM 330, GCM 331, GCM 340, GCM 342, GCM 365, GCM 380, GCM 410, GCM 445, GCM 485

#### **Minor in Manufacturing Technology – 21 Credits**

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Required Courses (15 credits): ITE 115, ITE 215, ITE 181, ITE 250, ITE 305

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Electives Courses (6 credits): Choose from: ITE 311, ITE 315, ITE 341, ITE 375, ITE 420, ITE 495

#### **Minor in Robotics Engineering Technology**

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Required Courses (21 credits): CET 235, CSC 120, CSC 124, RET 110, RET 160, RET 210, RET 260

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Students may wish to take the following additional courses to enhance the RET Minor: CET 270, EET 110

## **Art and Design**

### **Faculty**

Aston, Bové, DeFazio, Harrison, Lloyd, Miecznikowski, Persinger, Pinkham, Mohney, Norman, Snyder

### **Purpose**

The Department of Art and Design provides professional degrees in art and design as well as a liberal arts degree in art education. These programs foster critical and analytical thinking and problem-solving skills, communication skills, individual initiative and

responsibility, professional knowledge and performance skills in a broad range of art media, and an understanding of historical context and the role of art and design in the history of humankind. The primary emphasis is on the development of concepts, skills and sensitivities essential to the professional artist, designer or art educator.

### Programs

The department offers four degree programs:

- Bachelor of Fine Arts
- Bachelor of Arts in art
- Bachelor of Science in education: K-12 art education certification (in conjunction with the College of Education and Human Services)
- Bachelor of Science in graphic design

The Bachelor of Fine Arts is a professional degree allowing students to develop a concentration of 18 advanced-level credits and a minor of 12 advanced-level credits in any of the following studio areas: painting, sculpture, printmaking, ceramics, drawing, or jewelry/metals. The Bachelor of Arts in art is a liberal arts degree that allows students to study a broad range of studio areas without concentration in any one area. The Bachelor of Science in graphic design combines the strengths of the Department of Art and Design and the Department of Applied Engineering and Technology to provide students with a broad range of design and technical skills. The department also offers a general art minor and a studio art minor in which students concentrate in painting, sculpture, drawing printmaking, ceramics or jewelry/metals.

### Careers

Graduates with a B.A. or B.F.A. in art have job opportunities in a variety of fields: museums, art galleries or medical illustration. The B.F.A. degree program also prepares students for entry into graduate degree programs, particularly the Master of Fine Arts degree, which is the terminal degree in art. A minor or second major in another field further expands career options, including historic preservation, art therapy, law and government. Graduates with a B.S. in education: K-12 art education certification are certified to teach art K-12 in the public or private schools, and can pursue careers in museums or art/cultural centers teaching or directing museums' education programs in art. Graduates with the B.S. in graphic design have plentiful opportunities for careers in the expanding fields of advertising, graphic design and Web design.

### Bachelor of Fine Arts – 120 Credits

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ART 110 Drawing I	3 crs.
ART 119 Design 2-D	3 crs.
ART 120 Design 3-D	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
ART 262 Color Theory	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ART 383 Painting Studio	3 crs.
ART 350 Relief	3 crs.
General Education Course	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ART 375 Casting or ART 377 Fabrication	3 crs.
ART 382 Ceramics Studio	3 crs.
PHI 335 Aesthetic Theory	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ART 310 Advanced Drawing	3 crs.
ART 385 Sculpture Studio	3 crs.
Art Elective	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ART 308 Art History: Ancient to Medieval	3 crs.
Advanced Studio	3 crs.
Art Elective	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
ART 316 Art History: Renaissance through the Rococo	3 crs.
Advanced Studio	3 crs.
Advanced Studio	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ART 317 Art History: Neoclassicism through the Present	3 crs.
Advanced Studio	3 crs.
Advanced Studio	3 crs.

<b>Seventh Semester</b>	<b>15 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
ART 422 Art History: The Art World after Modernism	3 crs.
ART 490 Senior Studio Thesis	3 crs.
Advanced Studio	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

Students must complete 18 credits in one advanced-level studio as an area of emphasis; students must complete 12 credits in one advanced-level studio area as a minor area. In order to graduate in eight semesters without taking any additional credits, art courses must be used to fulfill general education requirements in the area of humanities, fine arts and critical thinking.

*Note:* One laboratory course must be completed as part of the general education requirements.

### **Bachelor of Arts in Art – 120 Credits**

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
ART 110 Drawing I	3 crs.
ART 119 Design 2-D	3 crs.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
ART 120 Design 3-D	3 crs.
ART 38 Ceramics Studio	3 crs.
General Education Courses	6 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ART 383 Painting Studio	3 crs.
ART 385 Sculpture Studio	3 crs.
General Education Courses	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ART 350 Relief	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ART 375 Casting or ART 377 Fabrication	3 crs.
General Education Courses	9 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ART 308 Art History: Ancient to Medieval	3 crs.
General Education Courses	6 crs.
Elective	6 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
ART 316 Art History: Renaissance through Rococo	3 crs.
General Education Courses	6 crs.
Elective	6 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ART 317 Art History: Neoclassicism through the Present	3 crs.
Art Elective	3 crs.
Elective	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
ART 422 Art History: The Art World after Modernism	3 crs.
Electives	12 crs.

*Note:* One laboratory course must be completed as a part of the general education requirements.

**Bachelor of Science in Education: K-12 Art Education Certification – 120 Credits**

See [Secondary Education](#).

**Bachelor of Science in Graphic Design – 120 Credits**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ART 110 Drawing	3 crs.
ART 119 Design 2-D	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ART 120 Design 3-D	3 crs.
COM 331 Video Production I	3 crs.
ART Studio Course (Lower)	3 crs.
ENG 102 English Composition II	3 crs.
General Education Course	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ART 127 Introduction to Graphic Design	3 crs.
ART Studio Course (Upper)	3 crs.
GCM 180 Multimedia Foundations	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ART 261 Typography	3 crs.
ART 262 Color Theory	3 crs.
COM Radio/TV Commercials	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ART 227 Graphic Design Studio I	3 crs.
ART 308 Art History: Anc./Med.	3 crs.
GCM 331 Web Publishing	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
ART 327 Graphic Design Studio II	3 crs.
ART 316 Art History: Renaissance through the Rococo	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ART 427 Graphic Design Studio III	3 crs.
ART 317 Art History: Neoclassicism through the Present	3 crs.

<b>Seventh Semester</b>	<b>15 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
Elective	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
ART 428 Graphic Design Studio IV	3 crs.
ART 422 Art History: The Art World after Modernism	3 crs.
Elective	3 crs.
Elective	3 crs.
Elective	3 crs.

*Note:* One laboratory course must be completed as part of the general education requirements.

Students must achieve an overall GPA of 2.5 or higher and successfully complete a portfolio review before scheduling Graphic Design Studio I (ART 227) – see adviser.

## Minors

### Minor in Art: General Art Minor – 21 Credits

ART 110 Drawing I

ART 119 Design 2-D or  
ART 120 Design 3-D

Select one of the following: ART 106, 308, 316, 317

Select four different studio areas from the following: ART 375, 377, 382, 493, 383,496, 350, 355, 385, 498

### Minor in Art: Studio Concentration Minor – 21 Credits

Select one of the following: ART 106, 308, 316, 317

Select one of the following: ART 110, 119 or 120\*

#### Studio Concentration (15 credits)

Select one of the following Studio Concentrations:

Drawing Concentration: ART 110 and 310 (repeated for 12 credits)

Ceramics Concentration: ART 382 and 493 (repeated for 12 credits)

Jewelry Metals Concentration: ART 375 and/or 377 (repeated for 12 credits)

Painting Concentration: ART 383 and 496 (repeated for 12 credits)

Printmaking Concentration: ART 350 and/or 355 (repeated for 12 credits)

Sculpture Concentration: ART 385 and 498 (repeated for 12 credits)

\*For Drawing Concentration, select either ART 119 or 120

## Biological and Environmental Sciences

### Faculty

Argent (chairperson), Arrigo-Nelson, Bocetti, Boehm, Caffrey, Hanna, Meiss, Nicholson, Paulson, Tebbitt, Whyte, Zuchelkowski.

## Purpose

To advance the University's mission of "Building Character, Building Careers" of students, the Department of Biological and Environmental Sciences will facilitate the fundamental understanding of the biological basis of life and provide programs that promote excellence in our students' academic and professional development.

## Programs

A wide variety of majors and concentrations in various degree programs are offered by the department. Students may decide to pursue the B.S. in biology, the pre-professional track, a nanotechnology track, or one of several tracks in the B.S. in environmental studies. Those interested in teaching may choose the B.S. Ed. in biology. A cooperative program allows students to pursue a career in mortuary science. The department also offers minors in biology and environmental studies.

## Facilities

The Department of Biological and Environmental Sciences is housed in a four-story building equipped with an array of scientific instruments. Specialized areas include scanning electron microscope facilities, animal room, greenhouse, herbarium, plant growth facilities and vertebrate teaching museum.

## Academic Societies

Beta Beta Beta is the national honor society for biological sciences. Students can earn membership if they maintain a GPA of 3.25 in the biological sciences and 3.0 overall after completing 45 credit-hours and are extended an invitation to join. California University also has a student chapter of the National Wildlife Society, which was chartered in 1996.

## Careers

Career opportunities include preparation for graduate work in biology and related fields, for industrial and government research, for careers in public health and the many health-related fields. A steady demand exists for environmental scientists, wildlife biologists, fishery biologists, environmental monitoring technicians and interpretative naturalists.

## Bachelor of Science in Biology: Biology Concentration – 120 Credits

See **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
BIO 115 Principles of Biology	4 crs.
CHE 101 General Chemistry I	4 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Course	3 crs.
<b>Second Semester</b>	<b>14 Credits</b>
BIO 120 General Zoology	4 crs.
CHE 102 General Chemistry II	4 crs.
ENG 102 English Composition II	3 crs.



<b>Second Semester</b>	<b>14 Credits</b>
Mathematics	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>14 Credits</b>
BIO 125 General Botany	4 crs.
CHE 331 Organic Chemistry I	4 crs.
General Education, Minor or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>14 Credits</b>
BIO 318 Genetics	4 crs.
Related Elective	4 crs.
General Education, Minor or Elective Courses	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
BIO 310 Ecology	4 crs.
PHY 121 General Physics I	4 crs.
BIO 300- or 400-Level Anatomy	4 crs.
*General Education, Minor or Elective Courses	3 crs.
<b>Sixth Semester</b>	<b>17 Credits</b>
BIO 478 Evolution	3 crs.
Biology Elective	4 crs.
BIO 300- or 400-Level or 300- or 400-Level Physiology	4 crs.
*300- or 400-Level General Education, Minor or Elective Courses	6 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>16-17 Credits</b>
Biology Anatomy Course	4 crs.
Biology Elective	3-4 crs.
ENS 495 Design and Analysis	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	6 crs.
<b>Eighth Semester</b>	<b>14 Credits</b>
Biology Electives	10 crs.
*300- or 400-Level General Education, Minor or Elective Courses	4 crs.

\*A minimum of 6 General Education credits must be at or above the 300 level for graduation.

## Bachelor of Science in Biology: Pre-Professional Concentration – 120 Credits

### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
BIO 115 Principles of Biology	4 crs.
CHE 101 General Chemistry I	4 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
BIO 120 General Zoology	4 crs.
BIO 125 General Botany	4 crs.
CHE 102 General Chemistry II	4 crs.
ENG 102 English Composition II	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>17 Credits</b>
BIO 318 Genetics	4 crs.
CHE 331 Organic Chemistry I	4 crs.
MAT 273 Basic Calculus or MAT 281 Calculus I	3 crs.
General Education Electives Courses	6 crs.
<b>Fourth Semester</b>	<b>17 Credits</b>
BIO 326 General Microbiology	4 crs.
CHE 332 Organic Chemistry II	4 crs.
General Education Electives	6 crs.
Unrestricted Elective	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
BIO 480 Cell Biology	4 crs.
BIO 306 Human Anatomy or BIO 486 Comparative Animal Physiology	4 crs.
PHY 121 General Physics I	4 crs.
*General Education Course	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
BIO 328 Human Physiology or BIO 305 Comparative Anatomy	4 crs.
PHY 122 General Physics II	4 crs.
*300- or 400-Level General Education, Minor or Elective Courses	7 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>12 Credits</b>
*Related Electives	8 crs.
*300- or 400-Level General Education Courses	4 crs.
<b>Eighth Semester</b>	<b>14 Credits</b>
*Related Electives	4 crs.
*300- or 400-Level General Education Courses	4 crs.
Unrestricted Electives	6 crs.

\*A minimum of 6 General Education credits must be at or above the 300 level for graduation.

### **Bachelor of Science in Biology: Nanotechnology Concentration – 120 Credits**

#### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
BIO 115 Principles of Biology	4 crs.
CHE 101 General Chemistry I	4 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
Free Elective (Statistics)	3 crs.
<b>Second Semester</b>	<b>14 Credits</b>
BIO 120 General Zoology	4 crs.
CHE 102 General Chemistry II	4 crs.
ENG 102 English Composition II	3 crs.
MAT 273 Basic Calculus or MAT 281 Calculus I	3 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>14 Credits</b>
BIO 125 General Botany	4 crs.
PHY 121 General Physics	4 crs.
General Education Electives	6 crs.
<b>Fourth Semester</b>	<b>14 Credits</b>
BIO 318 Genetics	4 crs.
PHY 122 General Physics II	4 crs.
General Education Elective	3 crs.
Free Elective (Digital Electronics)	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>13 Credits</b>
BIO 326 Microbiology	4 crs.
General Education Electives	9 crs.
<b>Sixth Semester</b>	<b>18 Credits</b>
NMT 311 Material, Safety and Equipment Overview for Nanofabrication	3 crs.
NMT 312 Basic Nanofabrication Processes	3 crs.
NMT 313 Thin Films in Utilization	3 crs.
NMT 314 Advanced Lithography and Dielectrics for Nanofabrication	3 crs.
NMT 315 Materials Modification in Nanofabrication	3 crs.
NMT 316 Characterization, Packing and Testing of Nanofabricated Structures	3 crs.

### *Summer Term or Christmas Vacation*

<b>Summer Term or Christmas Vacation</b>	<b>6 Credits</b>
NMT 495 Nanofabrication Manufacturing Technology Internship or Research Project	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>13 Credits</b>
CHE 331 Organic Chemistry I	4 crs.
*300- or 400-Level General Education Elective	6 crs.
Free Elective	3 crs.
<b>Eighth Semester</b>	<b>13 Credits</b>
BIO 480 Cell Biology	4 crs.
*300- or 400-Level General Education Elective or Internship	9 crs.

\*A minimum of 9 General Education credits must be at or above the 300 level for graduation.

### **Bachelor of Science in Biology: Mortuary Science Track**

This track, through affiliation with the Pittsburgh School of Mortuary Science, is accredited through the American Board of Funeral Service Education, National Association of Colleges of Mortuary Science, National Conference of Funeral Service Examining Boards of the United States Inc. This program is designed for three years of approved study on campus and one year of study at the Pittsburgh Institute of Mortuary Science. The curriculum requires 120 credits: 92 credits in required and elective California University courses and 28 credits for the institute year. Upon completion of the program, the student is granted a Bachelor of Science degree from California and a diploma from the Pittsburgh institute. Upon completion of a one-year resident intern period, the candidate applies for the state board examinations and licensure as a funeral director and embalmer.

### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
BIO 115 Principles of Biology	4 crs.

<b>First Semester</b>	<b>15 Credits</b>
CHE 101 General Chemistry I	4 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Elective	3 crs.
<b>Second Semester</b>	<b>14 Credits</b>
BIO 120 General Zoology	4 crs.
CHE 102 General Chemistry II	4 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>17 Credits</b>
BIO 125 General Botany	4 crs.
BIO 326 General Microbiology	4 crs.
General Education Electives	6 crs.
Free Elective	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
Biology Elective	4 crs.
General Education Electives	12 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>16 Credits</b>
BIO 306 Human Anatomy	4 crs.
*300- or 400-Level General Education Electives	6 crs.
Free Electives	6 crs.
<b>Sixth Semester</b>	<b>16 Credits</b>
BIO 328 Human Physiology	4 crs.
Free Electives	9 crs.
*300- or 400-Level General Education Elective	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>13 Credits</b>
Pittsburgh Institute of Mortuary Science	13 crs.
<b>Eighth Semester</b>	<b>13 Credits</b>
Pittsburgh Institute of Mortuary Science	13 crs.

\*A minimum of 6 General Education credits must be at or above the 300 level for graduation.

**Bachelor of Science in Education: Certification in Biology in Secondary Schools**  
See **Secondary Education**.

**Bachelor of Science in Environmental Studies: All Concentrations – 120 Credits**

*Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
BIO 115 Principles of Biology	4 crs.
CHE 101 General Chemistry I	4 crs.
ENG 101 English Composition I	3 crs.
General Education Course	3 crs.
UNI 100 First-Year Seminar	1 cr.
<b>Second Semester</b>	<b>15 Credits</b>
BIO 120 General Zoology	4 crs.
BIO 125 General Botany	4 crs.
CHE 102 General Chemistry II	4 crs.
ENG 102 English Composition II	3 crs.

**Environmental Science Concentration**

**Conservation Ecology Track**

*Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
BIO 310 General Ecology	4 crs.
MAT 273 Basic Calculus or MAT 281 Calculus 1	3 crs.
PHY 121 General Physics I	3 crs.
General Education Requirement	6 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
Conservation Ecology Specialization	7 crs.
MAT 215 Statistics	3 crs.
General Education Requirement	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>16 Credits</b>
Conservation Ecology Specialization	7 crs.
General Education Requirement	6 crs.
GEO 311 Geo Info Systems	3 crs.
<b>Sixth Semester</b>	<b>14 Credits</b>
Conservation Ecology Specialization	8 crs.
Related Requirement	3 crs.

<b>Sixth Semester</b>	<b>14 Credits</b>
ENS 435 Natural Resource Law and Policy	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>14 Credits</b>
Conservation Ecology Specialization	4 crs.
ENS 495 Design and Analysis	4 crs.
Unrestricted Elective	3 crs.
General Education Requirement	3 crs.

<b>Eighth Semester</b>	<b>14 Credits</b>
General Education Requirement	6 crs.
Unrestricted Elective	4 crs.
Conservation Ecology Specialization	4 crs.

**Leadership and Management Track**

*Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
BIO 310 General Ecology	4 crs.
MAT 273 Basic Calculus or MAT 281 Calculus I	3 crs.
PHY 121 General Physics I	3 crs.
General Education Requirement	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
Leadership and Management Specialization	6 crs.
MAT 215 Statistics	3 crs.
General Education Requirement	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
Leadership and Management Specialization	6 crs.
General Education Requirement	6 crs.
GEO 311 Geo Info Systems	3 crs.

<b>Sixth Semester</b>	<b>16 Credits</b>
Leadership and Management Specialization	6 crs.
Related Requirement	7 crs.
ENS 435 Natural Resources Law and Policy	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>13 Credits</b>
Leadership and Management Specialization	3 crs.
ENS 495 Design and Analysis	4 crs.
Unrestricted Elective	3 crs.
General Education Requirement	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
General Education Requirement	6 crs.
Unrestricted Elective	6 crs.
Related Requirement	3 crs.

**Monitoring and Assessment Track***Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
BIO 310 General Ecology	4 crs.
MAT 273 Basic Calculus or MAT 281 Calculus I	3 crs.
PHY 121 General Physics I	3 crs.
General Education Requirement	6 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
Monitor and Assessment Specialization	7 crs.
MAT 215 Statistics	3 crs.
General Education Requirement	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>16 Credits</b>
Monitor and Assessment Specialization	7 crs.
General Education Requirement	6 crs.
GEO 311 Geo Info Systems	3 crs.
<b>Sixth Semester</b>	<b>14 Credits</b>
Monitor and Assessment Specialization	8 crs.
Related Requirement	3 crs.
ENS 435 Natural Resources Law and Policy	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>13 Credits</b>
Monitor and Assessment Specialization	3 crs.
ENS 495 Design and Analysis	4 crs.
Unrestricted Elective	3 crs.



<b>Seventh Semester</b>	<b>13 Credits</b>
General Education Requirement	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
General Education Requirement	6 crs.
Unrestricted Elective	6 crs.
Related Requirement	3 crs.

### Fisheries and Wildlife Biology Concentration

#### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
BIO 310 General Ecology	4 crs.
COM 101 Oral Communication	3 crs.
MAT 181 or 273 or 281	3 crs.
*General Education Requirements	6 crs.

<b>Fourth Semester</b>	<b>16-17 Credits</b>
BIO 318 Genetics	4 crs.
Technology Literacy	3 crs.
Physical Science Requirement	3 or 4 crs.
*General Education Requirements	6 crs.

#### *Junior Year*

<b>Fifth Semester</b>	<b>14 Credits</b>
ENS 420 Wildlife Management or ENS 424 Fisheries Management	4 crs.
Fisheries or Wildlife Biology Courses	4 crs.
Technology Literacy	3 crs.
*General Education Requirements	3 crs.

<b>Sixth Semester</b>	<b>13 Credits</b>
ENS 492 Animal Population Dynamics	4 crs.
*General Education Requirements	3 crs.
Law Policy and Planning	3 crs.
MAT 215 Statistics	3 crs.

#### *Senior Year*

<b>Seventh Semester</b>	<b>17 Credits</b>
ENS 420 Wildlife Management or 424 Fisheries Management	4 crs.

<b>Seventh Semester</b>	<b>17 Credits</b>
BIO 336 Plant Taxonomy or BIO 442 Forest Ecology and Dendrology	4 crs.
ENS 495 Design and Analysis	3 crs.
Law Policy and Planning	3 crs.
Unrestricted Electives	3 crs.
<b>Eighth Semester</b>	<b>13-14 Credits</b>
Fisheries or Wildlife Biology Courses	4 crs.
*General Education Requirements	3 crs.
Unrestricted Electives	6-7 crs.

\*A minimum of 3 General Education credits must be at or above the 300 level for graduation.

### **Bachelor of Science in Education: Certification in Environmental Education for Secondary Schools – 120 Credits**

See [Secondary Education](#).

### **Minors**

#### ***Minor in Biology – 21 Credits***

The minor in biology at Cal U offers students an opportunity to select from a variety of courses to build a customized program of study. This minor often complements degrees offered by the Chemistry and Earth Sciences departments. Other students who have pursued this option have a genuine interest in biology but do not wish to pursue a second bachelor's degree.

If you are taking biology as a minor, you are required to complete 21 credits: 12 required credits as well as a minimum of nine elective credits, selected in consultation with your adviser.

Below is a recommended framework of courses for earning the minor in biology.

#### **Minor in Biology: 21 Credits**

Required Courses (12 credits): BIO 120, 125, 215.

A minimum of 9 credits of biology electives selected in consultation with an adviser.

#### **Minor in Environmental Science: 22-24 Credits**

Required Courses (16 credits): BIO 120, 125, 215, 248.

Elective Courses (6-8 credits): 2 animal and plant ecology courses selected in consultation with an adviser.

## **Business and Economics**

### **Faculty**

B. Brown (chairperson), Chawdhry, Cole, DeHainaut, Hettler, D. Jones, LaRosa, Lazorchak, Li, Mendola, Michaels, Park, Roberts, Schwerha, Serafin

## Purpose

The Business and Economics Department offers a number of degree programs, with emphasis given to the development of fundamental skills that will be beneficial to graduates in both their professional and private lives. The department's programs are fully supported with state-of-the-art computer facilities, including current software utilized in the business community, and the faculty offer a diverse background of practical business experience and scholarly achievement to equip the graduating student with the skills necessary for success in business.

## Awards

Achievement is recognized in several ways. Membership is open to qualified successful students in Omicron Delta Epsilon, an honorary economics fraternity; Phi Beta Lambda-Future Business Leaders; the Student Accounting Association; the Economics Club; the Finance Club; the American Marketing Association; and the Society for the Advancement of Management. These awards are presented to graduating seniors yearly: The Alfred Zeffiro Award for Excellence in the Study of Business Management, John Apessos Memorial Award for Excellence in the Study of Business, Wall Street Journal Award for Excellence in the Study of Finance, PA Institute of Certified Public Accountants Award for Highest Achievement in the Study of Accounting, and the Amy Lyne Marunyak Memorial Award for Excellence in the Study of Marketing.

## Careers

Career opportunities include positions such as accountant, banker, city manager, general manager, government agency administrator, hospital administrator, industrial relations manager, insurance agent, office manager, personnel manager, production manager, purchasing agent, retail manager, sales manager, sales representative, securities analyst and stock broker.

## Bachelor of Science in Business Administration – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**BUS 100 Introduction to Business	3 crs.
**ENG 101 English Composition I	3 crs.
**PSY 100 General Psychology	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
*ACC 200 Financial Accounting	3 crs.
**CSC 101 Personal Productivity Software	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
**CSC 201 Internet Concepts	3 crs.

<b>Third Semester</b>	<b>15 Credits</b>
*ECO 201 Introductory Microeconomics	3 crs.
**MAT 225 Business Statistics	3 crs.
*MGT 300 Principles of Management	3 crs.
General Education or Elective Courses	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*ACC 321 Managerial Accounting	3 crs.
*ECO 202 Introductory Macroeconomics	3 crs.
*MKT 300 Principles of Marketing	3 crs.
General Education or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*FIN 301 Financial Management	3 crs.
*BUS 242 Business Law I	3 crs.
*BUS 371 Analytical Methods	3 crs.
*Specialized Concentration Courses/Business Electives	3 crs.
General Education or Elective Courses	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*MGT 371 Management Information Systems	3 crs.
*Specialized Concentration Course	3 crs.
*Business Elective	3 crs.
300- or 400-Level General Education or Elective Courses	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*MGT 402 Strategic Management	3 crs.
*Specialized Concentration Courses	6 crs.
*Business Electives	3 crs.
300- or 400-Level General Education or Elective Courses	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*Specialized Concentration Courses	6 crs.
*Business Electives	6 crs.
General Education or Elective Courses	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

**Accounting Concentration (27 Credits)**

Specialized Accounting (ACC) Courses (18 credits)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses, 300 level or above (9 crs.)

**Business Economics Concentration (27 Credits)**

Specialized Economics (ECO) Courses (18 credits)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**Finance Concentration (27 Credits)**

Specialized Finance (FIN) Courses (18 credits)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**General Business Administration Concentration (27 Credits)**

ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (27 credits)

**Human Resource Management Concentration (27 Credits)**

Specialized Human Resource Management Courses (18 credits)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**Information Technology Management Concentration (27 Credits)**

Specialized Computer Science (CSC, CIS, IST) and Management (MGT) Courses (18 crs.)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**Management Concentration (27 Credits)**

Specialized Management (MGT) Courses (18 crs.)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**Marketing Concentration (30 Credits)**

Specialized Marketing (MKT) Courses (18 crs.)

Electives: ACC, BUS, ECO, FIN, MGT or MKT courses 300 level or above (9 crs.)

**Economics Concentration***Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
**CSC 201 DOS, Windows and Internet	3 crs.
*ECO 201 Introductory Microeconomics	3 crs.
**MAT 225 Business Statistics	3 crs.
General Education, Minor or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*ECO 202 Introductory Macroeconomics	3 crs.
General Education, Minor or Elective Courses	12 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*ECO 301 Intermediate Microeconomics	3 crs.

<b>Fifth Semester</b>	<b>15 Credits</b>
*Economics Elective (300 level or higher)	3 crs.
*Related Elective (selected in consultation with adviser)	3 crs.
General Education, Minor or Elective Courses	6 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*ECO 302 Intermediate Macroeconomics	3 crs.
*Economics Elective (300 level or above)	3 crs.
*Related Elective (see above)	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*Economics Electives (300 level or above)	6 crs.
*Related Elective (see above)	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	6 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*Economics Electives (300 level or above)	6 crs.
*Related Elective (see above)	3 crs.
General Education, Minor or Elective Courses	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

### **Bachelor of Arts in International Studies: Business and Economics Concentration – 120 Credits**

This program is administered by the Foreign Languages and Cultures Department, 201 South Hall, 724-938-4246. The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
*(FRE or SPN) 101 Elementary I	3 crs.
General Education Courses	9 crs.

<b>Second Semester</b>	<b>15 Credits</b>
*ACC 200 Financial Accounting	3 crs.
**ENG 102 English Composition II	3 crs.
*(FRE or SPN) 102 Elementary II	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*ECO 201 Introductory Microeconomics	3 crs.
*MGT 300 Principles of Management	3 crs.
*(FRE or SPN) 203 Intermediate I	3 crs.
General Education or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*(FRE or SPN) 204 Intermediate II	3 crs.
*ECO 202 Introductory Macroeconomics	3 crs.
*MKT 300 Principles of Marketing	3 crs.
General Education or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*FIN 301 Financial Management	3 crs.
*(FRE or SPN) 311 Conversation, Composition and Phonetics I	3 crs.
*Language Elective	3 crs.
*Culture Course	3 crs.
General Education or Elective Courses	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*MKT 431 International Bus. Management	3 crs.
*(FRE or SPN) 312 Conversation, Composition and Phonetics II	3 crs.
*Language Elective	3 crs.
300- or 400-Level General Education or Elective Courses	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
300- or 400-Level General Education or Elective Courses	15 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
General Education or Elective Courses	15 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

### **Associate of Science in Accounting – 64 Credits**

#### *General Education (28 Credits)*

ENG 101, 211, MAT 181 or 182, CSC 101, PHI 246, UNI 100, Humanities Elective, Social Science Elective, Natural Science Elective, Free Elective.

### **Major (36 Credits) Required Courses (12 Credits)**

BUS 100, ACC 200, 331, MGT 300. Economics Electives (6 credits): select two courses from the following list: ECO 100, 200, 201 or 202. Accounting Electives (9 credits): select courses with adviser's approval.

### **Electives (9 Credits)**

Select courses from the following list with adviser's approval: ACC, BUS, ECO, FIN, MGT or MKT courses (3-9 credits), COM 250, MAT 171, 225, or PSY 209.

## **Minors in Business Administration – 21 Credits**

### **Accounting Concentration**

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Required Courses (12 credits): BUS 100, ECO 100, ACC 200, ACC 301.

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Accounting Electives (9 credits): Select upper-level (300 and above) ACC courses.

### **Business Concentration**

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Required Courses (12 credits): BUS 100, ECO 100, ACC 200, MGT 300.

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Business Electives (9 credits): Select upper-level (300 and above) ACC, BUS, FIN, MGT, or MKT courses.

### **Economics Concentration**

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Required Courses (9 credits): BUS 100, ECO 201, ECO 202.

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Economics Electives (12 credits): Select upper-level (300 and above) ECO courses.

### **Finance Concentration**

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Required Courses (15 credits): BUS 100, ECO 100, ACC 200, FIN 301, FIN 304.

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Finance Electives (6 credits): Select upper-level (300 and above) FIN courses.

### **Management Concentration**

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Required Courses (12 credits): BUS 100, ECO 100, MGT 300, MGT 301.

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Management Electives (9 credits): Select upper-level (300 and above) MGT courses.

### **Marketing Concentration**

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Required Courses (12 credits): BUS 100, ECO 100, MKT 300, MKT 320.

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Marketing Electives (9 credits): Select upper-level (300 and above) MKT courses.

## **Chemistry and Physics**

### **Faculty**

Dieterle (chairperson), Cignetti, Gould, Li, Price, Sezer, Woznick, Yasmin

### **Purpose**

The department, located in New Science Hall, houses both the chemistry and physics programs at the University. These programs provide students with a strong foundation in chemistry, physics and related disciplines, and prepare them for employment in the private and public sector as well as for advanced professional or graduate study. The department also offers a nanofabrication manufacturing technology concentration for the B.S. in chemistry and the B.A. in physics.



## Programs

The department offers the B.S. in chemistry, the B.A. in physics, and a minor in chemistry. For the nanofabrication manufacturing technology concentration in the chemistry and physics programs, 24 credits of electives are replaced with an 18-credit capstone semester and 6 credits of upper-level nanofabrication-related electives or internship. The capstone semester is spent at the nanofabrication facility located in the Research Park of the Pennsylvania State University.

In addition, students interested in secondary school teaching may select B.S. Ed. certification programs in chemistry, physics or general science.

## Careers

Career opportunities in chemistry include positions such as analytical chemist, quality-control specialist, industrial management trainee, technical writer, chemical purchasing agent, and salesperson with the chemical industry. Career opportunities in physics include government, academic and industrial positions ranging from the space program to the electronics industry to materials science and engineering, in addition to university teaching and research. Some graduates have chosen to continue their education or to pursue careers in medicine, dentistry, pharmacy, management, and college and university teaching and research.

Most graduates from the Chemistry and Physics Department have been successful in pursuing the career of their choice. Over the years students have obtained industrial jobs both locally and outside the region. Among the employers of our graduates are Bayer Corporation; Duracell; Eli Lilly Pharmaceuticals; State Crime Labs in Erie, Greensburg and Charleston (SC); and the Allegheny County Coroner's Office in Pittsburgh. Other students have successfully completed doctorates at West Virginia University, Iowa State University, University of Maryland, University of North Carolina at Chapel Hill and University of South Carolina. Our chemistry education and physics education majors have enjoyed great success finding positions within western Pennsylvania and outside the region.

## Bachelor of Science in Chemistry – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>14 Credits</b>
*CHE 101 General Chemistry I	4 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
Math Course and General Education Elective	6 crs.

<b>Second Semester</b>	<b>16 Credits</b>
*CHE 102 General Chemistry II	4 crs.
**ENG 102 English Composition II	3 crs.
*MAT 281 Calculus I	3 crs.
General Education Electives	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*CHE 331 Organic Chemistry I	4 crs.

<b>Third Semester</b>	<b>15 Credits</b>
*MAT 282 Calculus II	3 crs.
*CHE 261 Analytical Chemistry	4 crs.
*PHY 101 College Physics I	4 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
CHE 332 Organic Chemistry II	4 crs.
General Education Elective	3 crs.
*PHY 202 College Physics II	4 crs.

\*\*Related Elective, 4 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*CHE 451 Physical Chemistry I	4 crs.
Related Elective	4 crs.
Related Elective	4 crs.
General Education Elective	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*CHE 452 Physical Chemistry II	4 crs.
*CHE 305 Inorganic Chemistry	4 crs.
300- or 400-Level General Education Course	4 crs.
Elective	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>14 Credits</b>
*CHE 368 Individual Work	1 cr.
300- or 400-Level Related Elective	4 crs.
300- or 400-Level General Education Electives	6 crs.
Elective	3 crs.

<b>Eighth Semester</b>	<b>14 Credits</b>
*CHE 361 Instrumental Methods	4 crs.
*CHE 495 Chemistry Seminar	1 cr.
300- or 400-Level Related Elective	3 crs.
300- or 400-Level General Education Electives	3 crs.
Elective	3 crs.

\*Required major or related course

\*\*Required or recommended General Education course

**Note:** In order to obtain the minimum of 48 credits at or above the 300 level, 10 credits of related electives and 12 credits of general education courses must be taken at or above the 300 level.

## Bachelor of Science in Chemistry: Nanofabrication Manufacturing Technology Concentration – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### Freshman Year

<b>First Semester</b>	<b>14 Credits</b>
*CHE 101 General Chemistry I	4 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Electives (Math course if needed)	6 crs.
<b>Second Semester</b>	<b>16 Credits</b>
*CHE 102 General Chemistry II	4 crs.
**ENG 102 English Composition II	3 crs.
General Education Electives (Math course if needed)	9 crs.

### Sophomore Year

<b>Third Semester</b>	<b>14 Credits</b>
*CHE 331 Organic Chemistry I	4 crs.
*MAT 281 Calculus I	3 crs.
*CHE 261 Analytical Chemistry	4 crs.
General Education Elective	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*CHE 305 Inorganic Chemistry	4 crs.
*CHE 332 Organic Chemistry II	4 crs.
*MAT 282 Calculus II	3 crs.
*PHY 101 College Physics I	4 crs.

### Junior Year

<b>Fifth Semester</b>	<b>13 Credits</b>
*PHY 202 College Physics II	4 crs.
Elective	3 crs.
General Education Electives	6 crs.
<b>Sixth Semester (CAPSTONE)</b>	<b>18 Credits</b>
*NMT 311 Mat., Safety, Health, Equip.	3 crs.
*NMT 312 Basic Nanofabrication Processes	3 crs.
*NMT 313 Thin Films in Nanofabrication	3 crs.
*NMT 314 Adv. Litho. For Nanofabrication	3 crs.
*NMT 315 Materials Modification in Nanofabrication	3 crs.

<b>Sixth Semester (CAPSTONE)</b>	<b>18 Credits</b>
*NMT 316 Characterization, Packaging and Testing of Nanofabricated Structures	3 crs.

*Summer or Winter Break*

<b>Summer or Winter Break</b>	<b>6 Credits</b>
*NMT 495 Nanofabrication Manufacturing Internship or Research Project	6 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>12 Credits</b>
*CHE 451 Physical Chemistry I	4 crs.
*CHE 368 Individual Work	1 cr.
*CHE 495 Chemistry Seminar	1 cr.
300- or 400-Level General Education Electives	6 crs.

<b>Eighth Semester</b>	<b>13 Credits</b>
*CHE 361 Instrumental Methods	4 crs.
*CHE 452 Physical Chemistry II	4 crs.
General Education Course	3 crs.
Elective	2 crs.

\*Required major or related course

\*\*Required or recommended General Education course

**Bachelor Science in Education: Certification in Chemistry for Secondary Schools – 120 Credits**

See [Secondary Education](#).

**Bachelor of Arts in Physics – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

<b>First Semester</b>	<b>14 Credits</b>
**CHE 101 General Chemistry I	4 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**MAT 281 Calculus I	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>17 Credits</b>
**CHE 102 General Chemistry II	4 crs.
**ENG 102 English Composition II	3 crs.
*MAT 282 Calculus II	3 crs.

<b>Second Semester</b>	<b>17 Credits</b>
*PHY 101 College Physics I	4 crs.
General Education Courses	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>16 Credits</b>
**CSC 120 Problem Solving and Programming Constructs	3 crs.
*MAT 381 Calculus III	3 crs.
*PHY 202 College Physics II	4 crs.
General Education Course	3 crs.
Elective Course	2 crs.
<b>Fourth Semester</b>	<b>17 Credits</b>
*MAT 382 Calculus IV	3 crs.
*PHY 203 College Physics III	4 crs.
*PHY 221 Intermediate Mechanics	4 crs.
General Education Elective	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>13 Credits</b>
*MAT 406 Differential Equations	3 crs.
*PHY 301 Intermediate Electricity and Magnetism	4 crs.
PHY 331 Modern Physics	3 crs.
General Education Elective	3 crs.
<b>Sixth Semester</b>	<b>14 Credits</b>
General Education Course	3 crs.
*Elective	5 crs.
*Adviser Approved Elective	3 crs.
300- or 400-Level General Education Course	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>14 Credits</b>
300- or 400-Level General Education Course	3 crs.
300- or 400-Level Electives	6 crs.
Elective Courses	5 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*PHY 495 Physics Seminar	1 cr.
300- or 400-Level General Education Course	3 crs.
300- or 400-Level Elective Courses	6 crs.

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**Eighth Semester** **15 Credits**

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Elective Courses 5 crs.

\*Required major or related course

\*\*Required or recommended General Education course

**Bachelor of Arts in Physics: Nanofabrication Manufacturing Technology Concentration – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

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**First Semester** **14 Credits**

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\*\*CHE 101 General Chemistry I 4 crs.

\*\*ENG 101 English Composition I 3 crs.

\*\*UNI 100 First-Year Seminar 1 cr.

\*\*MAT 281 Calculus I 3 crs.

General Education Course 3 crs.

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**Second Semester** **17 Credits**

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\*\*CHE 102 General Chemistry II 4 crs.

\*\*ENG 102 English Composition II 3 crs.

PHY 101 College Physics I 4 crs.

\*MAT 282 Calculus II 3 crs.

General Education Electives 3 crs.

*Sophomore Year*

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**Third Semester** **13 Credits**

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\*\*CSC 120 Problem Solving and Programming Constructs 3 crs.

\*MAT 381 Calculus III 3 crs.

\*PHY 202 College Physics II 4 crs.

General Education Electives 3 crs.

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**Fourth Semester** **17 Credits**

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\*MAT 382 Calculus IV 3 crs.

\*PHY 203 College Physics III 4 crs.

General Education Courses 6 crs.

*Junior Year*

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**Fifth Semester** **13 Credits**

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\*PHY 221 Intermediate Mechanics 4 crs.

PHY 331 Modern Physics 3 crs.

General Education Course 6 crs.

<b>Sixth Semester (CAPSTONE)</b>	<b>18 Credits</b>
*NMT 311 Mat., Safety, Health, Equip.	3 crs.
*NMT 312 Basic Nanofabrication Processes	3 crs.
*NMT 313 Thin Films in Nanofabrication	3 crs.
*NMT 314 Adv. Litho. For Nanofabrication	3 crs.
*NMT 315 Materials Modification in Nanofabrication	3 crs.
*NMT 316 Characterization, Packaging and Testing of Nanofabricated Structures	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*NMT 495 Nanofabrication Manufacturing Internship or Research Project	6 crs.
General Education Courses	6 crs.
Electives	3 crs.
<b>Eighth Semester</b>	<b>13 Credits</b>
*PHY 495 Physics Seminar	1 cr.
*MAT 406 Differential Equations	3 crs.
*Adviser Approved Elective	3 crs.
General Education Course	3 crs.
Electives	3 crs.

\*Required major or related course

\*\*Required or recommended General Education course

### **Bachelor Science in Education in Physics: Certification for Secondary Schools – 120 Credits**

See [Secondary Education](#).

### **Bachelor Science in Education: Certification in General Science for Secondary Schools – 120 Credits**

See [Secondary Education](#).

### **Minor in Chemistry – 20 Credits**

Required Courses (8 credits): CHE 101, 102

The remaining 12 credits are to be selected from among: CHE 261, 305, 331, 332, 361, 368, 381, 411, 451, 452, 495

## **Communication Disorders**

### **Faculty**

Bonfanti (chairperson), Belsterling, Carlino, Joseph, Skwarecki

### **Purpose**

The communication disorders program provides students with a broad understanding of the scientific bases of normal speech and hearing processes and the diagnostic and

rehabilitation procedures necessary to work with individuals who have communication problems. This degree is the first step in becoming a certified speech-language pathologist (SLP). SLPs work with patients of all ages and disorders, such as stuttering, stroke, developmental disability, birth defects, traumas and accidents, serious disease, hearing impairment, and voice disorders. They are employed in hospitals, rehabilitation centers, long-term care facilities, public and private schools, outpatient clinics, home-care companies, early intervention programs, research labs, governmental agencies, and other services. At this time, career opportunities are excellent.

The objectives of the program are: (1) to gain knowledge about the basic acoustical, anatomical and neurological development of normal speech, language and hearing; (2) to understand the etiology and characteristics of various communication disorders; (3) to develop the skill to assess these disorders; (4) to demonstrate the ability to use a wide variety of therapeutic instruments and procedures; (5) and to demonstrate the principles and practices of ethical professional behavior.

### **Program**

The B.S. Ed. in communication disorders (CMD) is a pre-professional degree program. Students, therefore, should be aware that they are preparing for future graduate training before employment as a speech-language pathologist (SLP) is possible. It is important to maintain a GPA of 3.0 or higher because few graduate schools will accept less. The department's graduate program is accredited by the Council on Academic Accreditation (CAA) of the American Speech, Language and Hearing Association (ASHA). No accreditation is available for undergraduate programs.

### **Clinical Experience**

Faculty believe that students should experience hands-on clinical contact early in their program of study. The Department of Communication Disorders provides contact with clients by having undergraduate students assist in: (a) the department's preschool program; (b) the Speech and Hearing Clinic; (c) and the Audiology Clinic.

### **Bachelor of Science in Education in Communication Disorders – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. This schedule is only an example and may change based on departmental course rotation and other factors. Students may complete a maximum of 6 credits in CMD 400 Clinical Practicum. A minimum GPA of 3.0 is required to stay in this program. A 3.0 is also required in order to register for CMD 400. ASHA requires all CMD majors to successfully complete one biology course and lab, one physical science course, two math courses, and a social science course outside of this department. Students register for these courses through the general education portion of the curriculum. All CMD courses listed below, except CMD 350 and CMD 352, are required.

#### ***Freshman Year***

<b>First Semester</b>	<b>16 Credits</b>
CMD 100 Survey of Speech Pathology	3 crs.
CMD 108 Nature of Language	3 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education or Related Professional Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
CMD 105 Language and Speech Develop.	3 crs.



<b>Second Semester</b>	<b>15 Credits</b>
CMD 203 Phonetics	3 crs.
ENG 102 English Composition II	3 crs.
General Education or Related Professional Courses	6 crs.
<i>Sophomore/Junior Year</i>	
<b>Third/Fifth Semester</b>	<b>15 Credits</b>
CMD 216 Articulation	3 crs.
CMD 215 Speech Science	3 crs.
CMD 300 Speech Pathology I	3 crs.
General Education or Related Professional Courses	6 crs.
<b>Fourth/Sixth Semester</b>	<b>14-17 Credits</b>
CMD 204 Anatomy and Physiology	3 crs.
CMD 220 Communication Across Lifespan	4 crs.
CMD 305 Introduction to Audiology	3 crs.
CMD 400 Clinical Practicum	3 crs.
CMD 350 Sign Language and Braille	3 crs.
General Education or Related Professional Courses	0–6 crs.
<i>Sophomore/Junior Year</i>	
<b>Third/Fifth Semester</b>	<b>15 Credits</b>
CMD 218 Introduction to Clinical Procedures	3 crs.
CMD 301 Speech Pathology II	3 crs.
General Education or Related Professional Courses	9 crs.
<b>Fourth/Sixth Semester</b>	<b>16 Credits</b>
CMD 306 Acoustic/Psychoacoustic	3 crs.
CMD 400 Clinical Practicum	1 cr.
PSY 225 Psychological Statistics	3 crs.
300- or 400-Level General Education or Related Courses	3–9 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>16 Credits</b>
CMD 320 Assessment of Speech and Language	3 crs.
CMD 321 Common Organic Disorders	3 crs.
CMD 400 Clinical Practicum	1 cr.
300- or 400-Level General Education or Related Professional Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
CMD 322 Technical Writing Health/Education	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
CMD 400 Clinical Practicum	3 crs.
General Education or Related Professional Courses	9 crs.

## Communication Studies

### Faculty

Foil (chairperson), Backus, Carter, Cumings, Jasko, Kale, McGukin, Milford, Sholar, Spicer, Yochum

### Purpose

Communication studies is the discipline that focuses on human communicative behavior and its influence on our personal, professional, social and cultural lives. The faculty in communication studies believes that human communication is fundamental to an individual's capacity to function as an effective and ethical participant in an information society. The department offers courses and activities designed to help students deal with the demands of varied communication situations.

### Programs

Students majoring in communication studies have four academic program options:

The speech communication concentration focuses on developing an understanding of the uniquely human capacity for producing and using symbols. Students in this program develop an understanding of and skill in the human ability to share and examine facts, ideas, opinions, values and attitudes.

The radio/television concentration emphasizes the application of mass communication theory to audio and video production. The on-campus television studio and radio station provide students with hands-on production experience in the electronic media.

The public relations concentration seeks to create graduates who understand how public opinion emerges and changes. It provides the tools graduates will need for helping clients track changes in public opinion and create messages using an ever increasing variety of media.

The fourth concentration is for persons who want to teach in the area of communication. The Communication Studies Department in cooperation with the College of Education and Human Services, the Department of English, and the Department of Theatre and Dance provides course work necessary for secondary school certification in communication with a speech concentration.

In addition to the four options identified above, students majoring in any other program on campus may minor in one of three minor concentrations available in communication studies: public communication, public relations and television production.

### Honor Societies

Lambda Pi Eta is the national communication honor society that recognizes outstanding achievement by undergraduates majoring in communication studies. Pi Kappa Delta is the honor society for intercollegiate debaters, individual events competitors and teachers of communication.

### Careers

Aside from the obvious careers in broadcast journalism or public relations, graduates can obtain positions in management training programs, and as speech writers and salespeople.

An undergraduate major or minor in communication studies is an asset for careers in law, religion, education, labor relations, politics, marketing and human resource development.

## Bachelor of Arts in Communication Studies – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### Speech Communication Concentration

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
COM 100 Perspectives on Communication	3 crs.
COM 101 Oral Communication	3 crs.
COM 165 Interpersonal Communication or COM 220 Group Communication	3 crs.
General Education Courses	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
COM 105 Survey of Radio, TV and Film	3 crs.
ENG 102 English Composition II	3 crs.
General Education Courses	9 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
COM 165 Interpersonal Communication or COM 220 Group Communication	3 crs.
General Education, Minor or Elective Courses	12 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
COM 230 Argumentation and Debate	3 crs.
COM 315 Language Behavior or COM 350 Persuasion	3 crs.
General Education, Minor or Elective Courses	9 crs.

#### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
COM Elective	3 crs.
*General Education, Minor or Elective Courses	12 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
COM 370 Public Communication Law and Policy	3 crs.
COM 315 Language Behavior or COM 350 Persuasion	3 crs.
*General Education, Minor or Elective Courses	9 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
COM 461 Communication Criticism	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
COM Elective	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	9 crs.

\*48 credits must be taken in 300- or 400-level courses to graduate.

### **Public Relations Concentration**

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
COM 100 Perspectives on Communication	3 crs.
COM 101 Oral Communication	3 crs.
ENG 101 English Composition I	1 cr.
General Education Courses	6 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 105 Survey of Radio, TV and Film	3 crs.
General Education Courses	9 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ENG 167 Journalism I	3 crs.
General Education, Minor or Elective Courses	12 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
COM 203 Introduction to Public Relations	3 crs.
GCT 240 Electronic Desktop Publishing	3 crs.
General Education, Minor or Elective Courses	9 crs.

#### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
COM 303 Public Relations Applications	3 crs.
PR Writing Elective	3 crs.

<b>Fifth Semester</b>	<b>15 Credits</b>
*General Education, Minor or Elective Courses	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
COM 370 Communication Law and Policy	3 crs.
COM 438 PR Campaign Management	3 crs.
PR Writing Elective	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	6 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
COM 484 PR Cases and Problems	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
*General Education, Minor or Elective Courses	12 crs.

\*48 credits must be taken in 300- or 400-level courses to graduate.

**Radio/Television Concentration**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
COM 100 Perspectives on Communication	3 crs.
COM 101 Oral Communication	3 crs.
COM 141 Audio Production I	3 crs.
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
COM 105 Survey of Radio, TV and Film	3 crs.
COM 142 Video Production I	3 crs.
ENG 102 English Composition II	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
COM Performance Elective or COM Production Elective	3 crs.
General Education, Minor or Elective Courses	12 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
COM Performance Elective or COM Production Elective	3 crs.
General Education, Minor or Elective Courses	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
COM Writing Elective	3 crs.
COM Management Elective or *General Education, Minor or Elective Courses	12 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
COM Writing Elective	3 crs.
COM Management Elective or *300- or 400-Level General Education, Minor or Elective Courses	9-12 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
COM 445 Radio and TV in a Free Society	3 crs
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
*General Education, Minor or Elective Courses	12–9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
COM 481 Communication Research Techniques or COM 490 Communication Theory	3 crs.
COM 463 Media Criticism	3 crs.
*300- or 400-Level General Education, Minor or Elective Courses	9 crs.

\*48 credits must be taken in 300- or 400-level courses to graduate.

### **Bachelor of Science in Education: Certification in Communication for Secondary Schools – 120 Credits**

See [Secondary Education](#).

### **Minor in Communication Studies**

<b>Concentration in Public Communication – 21 Credits</b>
Required Courses (21 credits): COM 101, 105, 203, 235, 370, 445, 461

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**Concentration in Public Relations – 21 Credits**

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Required Courses (21 credits): COM 203, 303, 315, 370, 438, 481, 484

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**Concentration in Television Production – 21 Credits**

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Required Courses (12 credits): COM 105, 141, 142, 242

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Writing Electives (6 credits)

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Select two courses from the following list: COM 331, 332, 335

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Electives (3 credits) COM 336, 360 or 410

## Earth Science

### Faculty

Wickham (chairperson), Confer, Fredrick, Gill, Kauffman, Majcen, Mueller, Pinckney, Ryan

### Purpose

The Department of Earth Science is committed to the practical advancement of knowledge; to the service of the local, national and world communities; and to the education of earth scientists, geologists and geographers. The goal of the department is to produce a well-rounded, well-trained individual who is ready for a professional career or for graduate school.

The department provides students with opportunities to work with modern technologies, software, databases and field methods. In addition to the traditional courses, the department offers field courses designed to give practical experiences.

### Programs

The earth science major has three concentrations: environmental earth science, environmental hazards and meteorology. The geography major has two concentrations: geographic information sciences (GIS) and emergency management and tourism studies. In addition, there are two single concentration majors: geology and parks and recreation management. The department, in conjunction with the College of Education and Human Services, also provides teacher certification programs for those interested in teaching earth science and environmental education in secondary schools.

### Honors

The national earth science honor society, Sigma Gamma Epsilon, has a chapter (Zeta Alpha) on campus. Students recognized for their academic and professional achievements are elected to it. Honor students in geography are eligible for induction into Gamma Theta Upsilon. Membership is also available to students of high scholastic attainment in the California University chapter of Rho Phi Lambda, the professional honor society for parks and recreation management. Finally, honor students in emergency management can be inducted into Epsilon Pi Phi.

### Accreditation

California University of Pennsylvania is an affiliate member of the World Tourism Organization Education Council, which is comprised of worldwide leading tourism education institutions. Furthermore, the Pennsylvania Association of Convention and Visitors Bureaus, (PACVB) has officially endorsed Cal U's tourism education programs and has recognized the University as its exclusive education partner. The Bachelor of Arts in geography with tourism studies concentration is accredited by the World Tourism Organization, TedQual (Tourism Education Quality) certification system. The WTO TedQual certification is an international quality assurance system for education, training

and research in the field of tourism. Through this accreditation, the tourism program at Cal U is regulated by a series of rigorous education standards with universal scope.

The Bachelor of Arts in parks and recreation management is accredited by the NRPA Council on Accreditation (COA). The council approves academic programs in colleges and universities that prepare new professionals to enter the broad field of recreation, park resources and leisure services. COA accreditation is a status granted to an academic program that meets or exceeds stated criteria of educational quality. In the United States, accreditation of professional preparation curricula is conferred by nongovernmental bodies, which are often closely associated with professional associations in the field.

### **Careers**

A student who desires a professional career in geology and environmental earth sciences may find entry-level employment with state agencies and environmental consulting firms involved in environmental assessments. Advanced careers in geology, earth sciences or geography in most instances will require an advanced degree.

Students with undergraduate majors in parks and recreation management can directly enter the job market in such positions as directors or staff persons in schools, governmental agencies (municipal and military, for example), industries or resorts with recreational programs.

Applying geographic information sciences to topics in emergency management is an approach that will enable students to develop applied skills in both of these increasingly interrelated career paths. Not only are these skills vital, if not necessary, for employment in GIS or emergency management positions, but they also provide the skills necessary for marketability and potential employment in land use analysis, homeland security, environmental studies, crime mapping, earth sciences, transportation studies, marketing and retailing, recreational planning, and military and governmental service. GIS is one of the fastest growing fields of employment.

The international growth of the tourism industry has created an increased demand for graduates with an integrated knowledge of the industry and the wider social, economic and environmental context within which it operates. Graduates of the tourism studies program will be suited for employment as professional managers and supervisors in a breadth of tourism industry sectors including accommodation, attractions, tourist services, travel transportation and marketing. These include public, nonprofit and private-sector career options. Specific tourism geography careers include, but are not limited to, destination managers, resort attraction developers, lodging managers, tourism planners, government agency directors, national association managers, tourist council members, travel writers and editors, travel critics, tourism consultants, tourism entrepreneurs, regional tourism advisers, tourism marketers, tourism research analysis, and tourism product developers. This ever-expanding industry is paralleled by increasing job openings.

### **Department of Earth Sciences Research Centers and Instructional Facilities**

The Department of Earth Sciences houses several research and instructional facilities with state-of-the-art equipment available in the discipline. The students and faculty of the department use these facilities as centers of research and instruction to complete course work and service-learning projects in crime mapping, meteorology, tourism and watershed analysis. For more information on any of these facilities, contact the center directors using the contact information provided below.

#### **Peter J. Daley Geotechnology Institute**

Director: Tom Mueller

Location: Eberly 281

724-938-5850 Fax: 724-938-5780



[www.calu.edu/academics/colleges/eberly/earth-science/daley-institute/index.htm](http://www.calu.edu/academics/colleges/eberly/earth-science/daley-institute/index.htm)

Campus Mailbox: 55

### **Broadcast Meteorology Studio**

Director: Chad Kauffman

Location: Broadcast Meteorology Studio, Eberly 370

724-938-1518 Fax: 724-938-5780

[weather@calu.edu](mailto:weather@calu.edu)

<http://sai.calu.edu/weather/web-content/program/broadcast.asp>

Campus Mailbox: 55

### **Operational Meteorology Laboratory**

Director: Chad Kauffman

Location: Operational Meteorology Laboratory, Eberly 270

724-938-1636 Fax: 724-938-5780

[weather@calu.edu](mailto:weather@calu.edu)

<http://sai.calu.edu/weather/>

Campus Mailbox: 55

### **Tourism Research Center**

Director: Dr. Susan Ryan

Location: Tourism and Geography Instructional Facility, Eberly 261

724-938-1638 Fax: 724-938-5068

[tourism@calu.edu](mailto:tourism@calu.edu)

[www.calu.edu/academics/colleges/eberly/earth-science/facilities](http://www.calu.edu/academics/colleges/eberly/earth-science/facilities)

Campus Mailbox: 55

### **Geosciences Laboratory**

Director: Dr. Kyle Fredrick

Location: Geosciences Laboratory, Eberly 285

Campus Mailbox: 55

## **Bachelor of Science in Earth Science – 120 Credits – All Concentrations**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### **Environmental Earth Science Concentration**

#### *Freshman Year*

<b>First Semester</b>	<b>17 Credits</b>
*EAS 100 Introduction to Earth Science	3 crs.
*EAS 150 Introduction to Geology	4 crs.
*EAS 240 Introduction to Meteorology	3 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**Math Course (MAT 181 College Algebra)	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
*EAS 163 Introduction to Oceanography	3 crs.
*EAS 242 Climatology	3 crs.
*EAS 303 Hydrology	3 crs.
**ENG 102 English Composition II	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
*EAS 200 Historical Geology	3 crs.
General Education Elective	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*BIO 103 Contemporary Issues in Biology	3 crs.
*EAS 131 Introduction to Environmental Geology	3 crs.
Math Elective	3 crs.
General Education, Minor or Elective Courses	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*ENS 101 Introduction to Environmental Science	3 crs.
Math Elective	3 crs.
General Education, Minor or Elective Courses	9 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*EAS 441 Advanced Environmental Geology	3 crs.
300- or 400-Level Earth Science Elective	3 crs.
General Education, Minor or Elective Courses	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
300- or 400-Level Earth Science Electives	6 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
300- or 400-Level Earth Science Electives	6 crs.
General Education, Minor or Elective Courses	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
300- or 400-Level Earth Science Electives	6 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

**Meteorology Concentration**

*Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Comp I	3 crs.

<b>First Semester</b>	<b>15 Credits</b>
EAS 240 Introduction to Meteorology	4 crs.
General Education (Introduction to Geology recommended)	4 crs.
General Education (College Algebra recommended)	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
EAS 163 Introduction to Oceanography	3 crs.
EAS 242 Climatology	3 crs.
General Education Course	6 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
EAS 303 Hydrology	3 crs.
EAS 340 Synoptic Meteorology I	3 crs.
GEO 311 Geographic Information Systems	3 crs.
Meteorology Elective	3 crs.
Required Elective	3 crs.
<b>Fourth Semester</b>	<b>15–16 Credits</b>
EAS 445 Advanced Synoptic Meteorology	3 crs.
Required Elective	3 crs.
General Education Courses (College Physics I recommended)	6–7 crs.
Elective Course	3 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15-16 Credits</b>
EAS 452 Physical Meteorology	3 crs.
Meteorology Elective or Required Meteorology Courses	6 crs.
Required Elective	3 crs.
General Education Course (College Physics II recommended)	3–4 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
Meteorology Elective or Required Meteorology Courses	6 crs.
Required Elective	3 crs.
General Education Course	3 crs.
Elective Course	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
Meteorology Elective or Required Meteorology Courses	6 crs.
Required Elective	3 crs.
General Education Course	3 crs.
Elective Course	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
Meteorology Elective or Required Meteorology Courses	3 crs.
General Education Course (C+ Programming recommended)	3 crs.
Elective Courses	9 crs.

### **Bachelor of Arts in Geography – 120 Credits – All Concentrations**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

#### **GIS and Emergency Management Concentration**

##### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
GEO 100 Introduction to Geography	3 crs.
GEO 217 Demographic Analysis	3 crs.
General Education	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
General Education	12 crs.

##### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Emergency Management and GIS Courses	3 crs.
General Education	6 crs.
Elective	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
EAS 242 Climatology	3 crs.
GEO 311 Geographic Info Systems	3 crs.
General Education	6 crs.
Elective	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EAS 300 Natural Hazards	3 crs.
Emergency Management and GIS Courses	6 crs.
General Education	3 crs.
Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
GEO 420 Disaster Vulnerability Assessment	3 crs.
GEO 426 Impacts and Sustainability of Tourism	3 crs.
GEO 303 Crime Mapping and Spatial Analysis	3 crs.
General Education	3 crs.
Elective	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
GEO 360 Emergency Management	3 crs.
GEO 474 Developing the Master Plan	3 crs.
General Education	6 crs.
Elective	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
General Education	12 crs.
GIS 411 Geographic Information Systems 2	3 crs.

**Tourism Studies Concentration**

*Freshman Year*

<b>Course</b>	<b>Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
GEO 150 Introduction to Tourism	3 crs.
GEO 155 Hospitality Industry Operations	3 crs.
GEO 100 Introduction to Geography	3 crs.
ENG 102 English Composition II	3 crs.
General Education	16 crs.

*Sophomore Year*

<b>Course</b>	<b>Credits</b>
GEO 217 Demographic Analysis	3 crs.
GIS 311 Geographic Information Systems	3 crs.

<b>Course</b>	<b>Credits</b>
GEO 330 Convention Operations for Destination Management	3 crs.
General Education, Professional Competencies, Minor or Electives	21 crs.

### *Junior Year*

<b>Course</b>	<b>Credits</b>
GEO 358 Comprehensive Tourism Planning	3 crs.
Professional Competencies, General Education; Electives	12 crs.
GEO 352 Hotels, Resorts and Lodging	3 crs.
Electives and/or Internship	12 crs.

### *Summer Semester Permitted*

<b>Course</b>	<b>Credits</b>
General Education, Professional Competencies, Minor or Electives	Variable cr.

### *Senior Year*

<b>Course</b>	<b>Credits</b>
Geo 474 Developing the Master Plan	3 crs.
General Education, Professional Competencies, Minor or Electives	27 crs.
GEO 351 Research Methods for Tourism Studies	3 crs.
GEO 426 Impacts and Sustainability of Tourism	3 crs.

## **Bachelor of Arts in International Studies: Geography Track**

(For other tracks, see **Modern Languages and Cultures** and **Business and Economics**.)

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
*GEO 100 Introduction to Geography	3 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
*FRE (SPN) 01 Elementary I	3 crs.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
*GEO 105 Human Geography	3 crs.
**ENG 102 English Composition II	3 crs.
*FRE (SPN) 102 Elementary II	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*GEO 200 Economic Geography	3 crs.
*GEO 325 Geography of Europe	3 crs.
*FRE (SPN) 203 Intermediate I	3 crs.
General Education, Minor or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*GEO 328 Geography of Latin America	3 crs.
*FRE (SPN) 204 Intermediate II	3 crs.
*French (Spanish) Culture Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*GEO 338 Geography of the Pacific Basin	3 crs.
*FRE (SPN) 311 Conversation, Composition and Phonetics I	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*FRE (SPN) 312 Conversation, Composition and Phonetics II	3 crs.
*Geography Elective (300- or 400-Level)	3 crs.
General Education, Minor or Elective Courses	9 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credit</b>
*Language Elective (400-Level)	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	12 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*Language Elective (400-Level)	3 crs.
General Education, Minor or Elective Courses	12 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

### **Bachelor of Science in Geology – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>17 Credits</b>
UNI 100 First-Year Seminar	3 cr.
ENG 101 English Composition I	3 crs.

<b>First Semester</b>	<b>17 Credits</b>
EAS 150 Introduction to Geology	4 crs.
MAT 199 Pre-Calculus	3 crs.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>14 Credits</b>
ENG 102 English Composition II	3 crs.
EAS 200 Historical Geology	4 crs.
CHE 101 General Chemistry I	3 crs.
MAT 281 Calculus I	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>16 Credits</b>
EAS 303 Hydrology	3 crs.
CHE 102 General Chemistry II	4 crs.
General Education, Minor or Elective Courses	9 crs.
<b>Fourth Semester</b>	<b>13 Credits</b>
PHY 121 General Physics I	4 crs.
CSC 120 Problem Solving and Programming Constructs	3 crs.
General Education, Minor or Elective Courses	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>16 Credits</b>
EAS 331 Mineralogy	3 crs.
PHY 122 General Physics II	4 crs.
General Education, Elective	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
EAS 332 Petrology	3 crs.
EAS 343 Geomorphology	3 crs.
Content Area Elective	3 crs.
General Education	3 crs.
Elective	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
EAS 423 Sedimentology/Stratigraphy	3 crs.
EAS 425 Structural Geology	3 crs.
General Education	6 crs.
Elective	3 crs.



## Bachelor of Arts in Parks and Recreation Management – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**ENG 101 English Composition I	3 crs.
*REC 165 Introduction to Recreation/Leisure	3 crs.
*Professional Elective	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
**ENG 102 English Composition II	3 crs.
*Professional Elective	3 crs.
General Education Courses	9 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
REC 361 Parks and Recreation for Diverse Populations	3 crs.
Professional Electives	3 crs.
General Education Courses	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*REC 362 Site and Design Management	3 crs.
300- or 400-Level General Education, Minor or Related Electives	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*REC 378 Recreation Management and Leadership	3 crs.
*REC 478 Professional Development in Recreation	3 crs.
300- or 400-Level General Education, Minor or Related Electives	9 crs.
<b>Sixth Semester</b>	<b>14 Credits</b>
300- or 400-Level Related Electives	6 crs.
General Education, Minor or Elective Courses	5 crs.
*REC 412 Program Planning and Evaluation	3 crs.

### *Summer Session*

<b>Summer Session</b>	<b>6 Credits</b>
*GEO 479 Internship	6 crs.

### Senior Year

<b>Seventh Semester</b>	<b>15 Credits</b>
*REC 365 Recreation Resource Mgt.	3 crs.
*REC 374 Commercial Recreation Mgt.	3 crs.
*GEO 474 Developing the Master Plan	3 crs.
300- or 400-Level General Education, Minor or Related Electives	6 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*GEO 479 Internship	12 crs.
General Education, Minor or Related Elective	3 crs.

\*Required major and related courses  
\*\*Required and recommended General Education courses

### Bachelor of Science in Environmental Studies: Environmental Resources Concentration – 120 Credits

(For other concentrations see [Biological and Environmental Sciences](#).)

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### Freshman Year

<b>First Semester</b>	<b>14 Credits</b>
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
*EAS 150 Introduction To Geology	4 crs.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>17 Credits</b>
**ENG 102 English Composition II	3 crs.
*EAS 200 Historical Geology	4 crs.
*CHE 101 General Chemistry I	4 crs.
General Education Courses	6 crs.

### Sophomore Year

<b>Third Semester</b>	<b>13 Credits</b>
*EAS 331 Mineralogy	3 crs.
*PHY 121 General Physics I	4 crs.
*Related Elective	3 crs.
General Education, Minor or Elective Courses	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
*EAS 332 Petrology	3 crs.
*BIO 125 General Botany	4 crs.
*Related Electives	6 crs.

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**Fourth Semester** **16 Credits**

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General Education, Minor or Elective Courses 3 crs.

**Junior Year**

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**Fifth Semester** **15 Credits**

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\*EAS 303 Hydrology 3 crs.

\*EAS 422 Sedimentology/Stratigraphy 3 crs.

\*EAS 425 Structural Geology 3 crs.

300- or 400-Level General Education, Minor or Elective Courses 6 crs.

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**Sixth Semester** **15 Credits**

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\*EAS 240 Introduction to Meteorology 3 crs.

\*EAS 402 Groundwater Hydrology 3 crs.

\*EAS 427 Tectonics 3 crs.

300- or 400-Level Related Electives 3 crs.

300- or 400-Level General Education, Minor or Elective Courses 3 crs.

**Senior Year**

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**Seventh Semester** **15 Credits**

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\*300- or 400-Level Related Electives 6 crs.

General Education, Minor or Elective Courses 9 crs.

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**Eighth Semester** **15 Credits**

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\*300- or 400-Level Related Elective 3 crs.

300- or 400-Level General Education, Minor or Elective Courses 12 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

**Bachelor of Science in Education: Certification in Environmental Education for Secondary Schools – 120 Credits**

See [Secondary Education](#).

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**Minor in Earth Science – 23 Credits**

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Required Courses (14 crs.): EAS 150, 200, 346, 541 and any field course in Earth Science.

Electives (9 crs.): Select three of the following: EAS 163, 202, 241, 242.

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**Minor in Geology – 24 Credits**

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Required Courses (8 crs.): EAS 150 and 200

Geology Electives (15 crs., select five): EAS 166, 331, 332, 343, 402, 423, 425, 527.\*

\*Students will also be required to present at either the California University Undergraduate Research Recognition Day or the California University GIS Conference.

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**Minor in Geography – 21 Credits**

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Required Courses (9 crs.): GEO 325, 311, or 317, 345.

Electives (12 crs.): select four of the following: GEO 100, 105, 200, 210, 220.

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**Minor in Parks and Recreation – 21 Credits**

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REC 165, 365, 362, 374, 378, 412, GEO 474.

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**Minor in GIS and Emergency Management**

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GEO 217, EAS 242, EAS 300, GEO 303, GEO 311, GEO 360, GEO 420

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**Minor in Meteorology – 22 Credits**

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Meteorology Core (13 crs.): EAS 100, 240, 242, MAT 181.

Tools/Techniques Electives (6 crs., select two): EAS 323, 340, 365.

Advanced Elective (3 crs., select one): EAS 445, 449, 352.

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**Minor in Tourism Studies – 24 Credits**

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Required Courses (12 crs.): GEO 150, 155, 351 and 426.

Electives (12 crs. min.): GEO 100, 183, 205, 217, 330, 352, 358, 479, GIS 311, REC 165, 374.

**Crime Mapping Certificate**

Criminal Justice major – 12 crs.\*: GEO 303, 311, GEO/ITE 123.

Noncriminal Justice major – 18 crs.\*: CRJ 101, 485, 497/597, GEO 110, 311, GEO/ITE 123.

\*Students will also be required to present at either the California University Undergraduate Research Recognition Day or the California University GIS Conference.

**GEO Business Certificate**

Business major – 12 crs.\*: GEO/ITE 123, GEO 306, 311.

Nonbusiness majors – 18 crs.\*: ECO 100, MGT 201, MKT 271, GEO/ITE 123, GEO 306, 311.

\*Students will also be required to present at either the California University Undergraduate Research Recognition Day or the California University GIS Conference.

## Early, Middle, and Special Education

**Faculty**

Sheffield (chairperson), Nettles (assistant chairperson), Armitage, Bonari, Burton, Diehl, Farrer, Hug, Kight, Kossar, Mitchem, Orient, Peterson, Rineer-Hershey, Seman, Szalajda, Wright, Wyman

**Purpose**

The Early, Middle and Special Education Department is part of a professional learning community that shares a commitment to the preparation of highly effective educators and the belief that all students deserve a quality education that meets their individual needs. This community is collaborative, inclusive and committed to the purposeful improvement of teaching and learning for all students using research-based, data-driven decision-making practices to ensure the well-being of each individual child.

Faculty in the Department of Early, Middle and Special Education understand the preparation of teachers to be a shared responsibility held by University faculty, school

faculty and teacher education candidates conducted in a collaborative climate of mutual respect where different philosophical and theoretical approaches and perspectives are demonstrated, valued and embraced. The faculty engage in teaching and modeling best professional practices and commitments, and they actively seek professional collaboration with colleagues and teachers in school settings.

Members of this community have multiple opportunities to learn and demonstrate the knowledge, skills and dispositions expected of excellent teachers detailed in national, state and local standards. These include emphasis on the University's official core values of integrity, civility and responsibility. Educators who graduate from these programs are prepared to teach all students using developmentally appropriate and culturally responsive practices. These teachers are educational leaders who adapt to change by fusing current research, practices and modern technologies seamlessly into complex teaching and learning contexts.

All course work and experiences in the major prepare students to meet the following Cal U Teacher Education Program performance principles:

- knowledge of subject matter,
- knowledge of human development and learning,
- adapting instruction for individual needs,
- multiple instructional strategies,
- classroom motivation and management skills,
- communication skills,
- instructional planning skills,
- assessment of student learning,
- professional commitment and responsibility,
- partnerships,
- diversity, and
- field experience.

The early, middle and special education programs are also rooted in the standards of the National Association for the Education of Young Children (NAEYC), the Council for Exceptional Children (CEC) and the National Middle School Association (NMSA).

### **Programs**

The Early, Middle, and Special Education Department offers programs leading to the Bachelor of Science in education degree with teacher certification in early childhood education (Pre-K to Grade 4), middle level learning (Grades 4 to 8) and dual certification with special education (Pre-K to Grade 8).

Until December of 2012 certification in elementary education (K to Grade 6) and early childhood education (N to Grade 3) can be obtained through a post-baccalaureate certification-only program.

In addition, the department offers noncertification programs in early childhood education services and middle level education services that lead to a Bachelor of Science degree. The department also offers an Associate of Science degree in early childhood education.

### **Honor Society**

Kappa Delta Pi, an international honor society in education, has a California University chapter. Students in education who have demonstrated a high level of academic achievement are invited to apply for induction.

## Careers

With the anticipated retirements of millions of public school teachers, the future looks bright for those students interested in a professional career in early childhood, middle level and special education. Career prospects for education services graduates are also encouraging; potential employers include adoption agencies, tutorial learning organizations, community recreation centers, camps, publishers, school service supply companies and child abuse centers. Students with undergraduate degrees in these fields are prepared to pursue advanced study in a variety of disciplines. Career Services provides assistance to students seeking positions locally and out-of-state.

## Admission to the Pre-K to Grade 4 and Middle Level Education Certification Programs

Students accepted into a teacher certification program must be admitted to teacher education by the time they reach the admission to teacher education window. Please refer to the Teacher Education Program Student Handbook for details on the admission to teacher education window. The handbook can be downloaded from:

[www.calu.edu/academics/colleges/education/files/Undergraduate-Student-Handbook.pdf](http://www.calu.edu/academics/colleges/education/files/Undergraduate-Student-Handbook.pdf).

## Bachelor's Degree Programs

### Bachelor of Science in Education

See **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

- Pre-K to Grade 4 with certification (120 credits)
- Grades 4 to 8 with certification (120 credits)
- Pre-K to Grade 4 and Special Education Pre-K to Grade 8 with certification (136 credits)
- Grades 4 to 8 and Special Education Pre-K to Grade 8 with certification (136 credits)

The following sections include an eight-semester schedule of courses provide as a recommended framework for completing the certification programs in four years. Certifications that include Special Education may require an extra semester to complete.

### Pre-K to Grade 4 (Major Code 1500)

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
MAT 120 Elementary Topics in Math I	3 crs.
PSY 216 Child Psychology: Birth to Age 4	3 crs.
GEO/POS/ECO 102 Social Sciences	3 crs.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
MAT 130 Elementary Topics in Math II	3 crs.
British or American Literature Course	3 crs.
PSY 217 Child Psychology: Age 5 -9	3 crs.
EDU 150 Introduction to Electronic Portfolio	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ELE 200 Introduction Pre-K to Grade 4	3 crs.
ELE 220 Instruction and Assessment Pre-K	3 crs.
HSC 250 Health and Physical Education for Pre-K	3 crs.
PSY 208 Educational Psychology	3 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ELE 300 Emerging Literacy	3 crs.
ELE 310 Teach Math/Science Pre-K	3 crs.
ELE 410 Pre-K Field Experience	3 crs.
ESP 210 Special Education Foundations and Collaboration	3 crs.
General Education Course	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>18 Credits</b>
ELE 221 Instruction and Assessment K-4	3 crs.
ELE 301 Literacy Foundations I: Lang. Arts	3 crs.
ELE 302 Literacy Foundations II: Reading	3 crs.
ESP 349 Field Experience: Low Incidence	3 crs.
ESP 402 Life Skills Planning and Instruction	3 crs.
ESP 403 Assessment and Prescriptive Teaching	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ELE 311 Teaching Math K-4	3 crs.
ELE 321 Teaching Science K-4	3 crs.
ELE 331 Teaching Social Studies K-4	3 crs.
General Education Courses	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ESP 412 Evidence-Based Practices	3 crs.
ELE 400 Issues, Advocacy and Leadership Pre-K	3 crs.
EDU 310 Teaching in a Multicultural Society	3 crs.
EDU 350 Supporting ELL in the Classroom	3 crs.
MUS/ART/THE 372 Creative Arts	3 crs.
<b>Eighth Semester</b>	<b>12 Credits</b>
ELE 461 Student Teaching	12 crs.

## Pre-K to Grade 4 with Special Education (Major Code 1520)

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
MAT 120 Elementary Topics in Math I	3 crs.
ESP 210 Special Education Foundations and Collaboration	3 crs.
ESP 311 Assessment and Positive Behavior Intervention	3 crs.
GEO/POS/ECO 102 Social Science Courses	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
British or American Literature Course	3 crs.
ESP 211 History, Theory and Exceptionality	3 crs.
ESP 312 ABA in Special Education	3 crs.
ESP 339 Field Experience: High Incidence	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ELE 200 Introduction Pre-K to Grade 4	3 crs.
ELE 220 Instruction and Assessment	3 crs.
HSC 250 Health and Physical Education for Pre-K to Grade 4	3 crs.
PSY 216 Child Psychology: Birth to Age 4	3 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ELE 300 Emerging Literacy	3 crs.
ELE 310 Teaching Math/Science Pre-K	3 crs.
ELE 410 Pre-K Field Experience	3 crs.
PSY 217 Child Psychology: Age 5 to 9	3 crs.
General Education Course	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>18 Credits</b>
ELE 221 Instruction and Assessment Pre-K	3 crs.
ELE 301 Literacy Foundations I: LA	3 crs.
ELE 302 Literacy Foundations II: Reading	3 crs.
ESP 349 Field Experience: Low Incidence	3 crs.
ESP 402 Life Skills Planning and Instruction	3 crs.
ESP 403 Assessment and Prescriptive Teaching	3 crs.



<b>Sixth Semester</b>	<b>15 Credits</b>
ELE 331 Teaching Math K-4	3 crs.
ELE 321 Teaching Science K-4	3 crs.
ELE 331 Teaching Social Studies K-4	3 crs.
General Education Courses	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ESP 412 Evidence-Based Practices	3 crs.
EDU 350 Supporting ELL in the Classroom	3 crs.
EDU 310 Teaching in a Multicultural Society	3 crs.
MUS/ART/THE 372 Creative Arts	3 crs.
General Education Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
ESP 414 Advanced Evidence-Based Practices	3 crs.
PSY 208 Educational Psychology	3 crs.
EDF 333 Educational Technology	3 crs.
ESP 407 Early Intervention Special Education	3 crs.
General Education Course	3 crs.

<b>Ninth Semester</b>	<b>12 Credits</b>
ESP 461 Student Teaching	12 crs.

### **Middle Level Grades 4 to 8**

Candidates seeking grades 4 to 8 teaching certification may choose from the following concentrations:

- Middle Level Grades 4 to 8-English Language Arts and Reading (Major Code 1601)
- Middle Level Grades 4 to 8-Mathematics (Major code 1602)
- Middle Level Grades 4 to 8-Science (Major Code 1603)
- Middle Level Grades 4 to 8-Social Studies (Major Code 1604)
- Middle Level Grades 4 to 8-Math and English Language Arts and Reading (Major Code 1605)
- Middle Level Grades 4 to 8-Math and Science (Major Code 1606)
- Middle Level Grades 4 to 8-Math and Social Studies (Major Code 1607)
- Middle Level Grades 4 to 8-Science and English Language Arts and Reading (Major Code 1608)
- Middle Level Grades 4 to 8-Science and Social Studies (Major Code 1609)
- Middle Level Grades 4 to 8-English Language Arts and Reading/Special Education Pre-K to 8 (Major Code 1621)
- Middle Level Grades 4 to 8-Mathematics/Special Education Pre-K to 8 (Major Code 1622)

- Middle Level Grades 4 to 8-Science/Special Education Pre-K to 8 (Major Code 1623)
- Middle Level Grades 4 to 8-Social Studies/Special Education Pre-K to 8 (Major Code 1624)

Refer to Pre-K to Grade 4 for the freshman semester course sequence of major codes 1601 through 1609. Each area of concentration requires the student to fulfill specific content courses.

Refer to Pre-K to Grade 4 with Special Education for the freshman semester course sequence of major codes 1621 through 1624. Each area of concentration requires the candidate to fulfill specific content courses.

### *Sophomore Year (Major Codes 1601 through 1609)*

<b>Third Semester</b>	<b>15 Credits</b>
ELM 200 Introduction to Middle Level Education	3 crs.
Concentration Course	3 crs.
PSY 206 Adolescent Psychology	3 crs.
General Education Course	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ELM 220 Instruction and Assessment in 4 to 8 Classrooms	3 crs.
PSY 208 Educational Psychology	3 crs.
EAS 100 Introduction to Earth Science	3 crs.
General Education Course	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ELM 302 Language Arts Methods, Assessment and Intervention	3 crs.
ELM 331 Social Studies Methods, Assessment and Intervention	3 crs.
ESP 311 Assessment and Positive Behavior Intervention	3 crs.
ELM 360 Environment, Ecology and Nature Study Education	3 crs.
Concentration Course	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ELM 311 Math Methods, Assessment and Intervention	3 crs.
ELM 301 Reading Methods, Assessment and Intervention	3 crs.
ELM 411 Field Experience Grades 4 to 6	3 crs.
EDF 333 Educational Technology	3 crs.
Concentration Course	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>18 Credits</b>
ELM 321 Science Methods, Assessment and Intervention	3 crs.
ELM 412 Field Experience Grades 7 to 8	3 crs.
EDU 350 Supporting ELL in the Classroom	3 crs.

<b>Seventh Semester</b>	<b>18 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
ESP 412 Evidence-Based Practices	3 crs.
General Education or Concentration Course	3 crs,

<b>Eighth Semester</b>	<b>12 Credits</b>
<b>ELM 461 Student Teaching</b>	<b>12 crs.</b>

*Sophomore Year (Major Codes 1621 to 1624)*

<b>Third Semester</b>	<b>15 Credits</b>
ELM 200 Introduction to Middle Level Education	3 cr.
PSY 206 Adolescent Psychology	3 crs.
General Education or Concentration Courses	9 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ELM 220 Instruction and Assessment 4-8 Classroom	3 crs.
General Education Courses	3 crs.
General Education or Concentration Courses	9 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>18 Credits</b>
ELM 302 Language Arts Methods, Assessment and Intervention	3 crs.
ELM 331 Social Studies Methods, Assessment and Intervention	3 crs.
ESP 349 Field Experience: Low Incidence	3 crs.
ESP 402 Life Skills Planning and Instruction	3 crs.
ESP 403 Assessment and Prescriptive Teaching	3 crs.
Concentration Course	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
ELM 311 Math Methods, Assessment and Intervention	3 crs.
ELM 301 Reading Methods, Assessment and Intervention	3 crs.
ELM 411 Field Experience Grades 4 to 6	3 crs.
General Education Courses	6 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ELM 321 Science Methods, Assessment and Intervention	3 crs.
EDU 350 Supporting ELL in the Classroom	3 crs.
ESP 412 Evidence-Based Practices	3 crs.
ELM 360 Environment, Ecology and Nature Study	3 crs.
General Education or Concentration Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
ESP 407 Early Intervention Special Education	3 crs.
ESP 414 Advanced Evidence-Based Practices	3 crs.
EDE 333 Educational Technology	3 crs.
Concentration Course	3 crs.

<b>Ninth Semester</b>	<b>12 Credits</b>
ESP 461 Student Teaching	12 crs.

## Early Childhood Services Without Certification

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 102 English Composition I	3 crs.
PSY 216 Child Psychology Birth to Age 4	3 crs.
MAT 120 Elementary Topics in Math I	3 crs.
General Education Courses	6 crs.

<b>Second Semester</b>	<b>15 Credits</b>
British or American Literature Course	3 crs.
MAT 130 Elementary Topics	3 crs.
EDU 150 Introduction to Electronic Portfolio	3 crs.
ESP 210 Special Education Foundations and Collaboration	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ELE 221 Instruction and Assessment K-4	3 crs.
ELE 301 Literacy Foundations I: Language Arts	3 crs.
ELE 302 Literacy Foundations II: Reading	3 crs.
ESP 311 Assessment and Positive Behavior Intervention	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ELE 221 Instruction and Assessment K-4	3 crs.
ELE 300 Emerging Literacy	3 crs.
ESP 210 Special Education Foundations and Collaboration	3 crs.
General Education Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EDF 333 Educational Technology	3 crs.
ELE 301 Literacy Foundation I: LA	3 crs.
ELE 310 Teaching Math/Science Pre-K to Grade 4	3 crs.
ELE 311 Teaching Math K-4	3 crs.
300+ Related Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ELE 302 Literacy Foundations II: Reading	3 crs.
ELE 321 Teaching Science K-4	3 crs.
ELE 350 Family and Community Relationships	3 crs.
EDU 310 Teaching in a Multicultural Society	3 crs.
ELE 331 Teaching Social Studies K-4	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
MUS/ART/THE 372 Creative Arts	3 crs.
Related Elective	3 crs.
General Education Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
EDE 322 Education Services Internship	6 crs.
300+ Related Electives	6 crs.
General Education Course	3 crs.

### **Middle Level Services Without Certification**

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Comp I	3 crs.
MAT 120 Elementary Topics in Math I	3 crs.
Concentration Related Elective	3 crs.
Free Elective	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
British or American Literature Course	3 crs.
PSY 206 Adolescent Psychology	3 crs.
EDU 150 Introduction to Electronic Portfolio	3 crs.
MAT 130 Elementary Topics in Math II	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
General Education Course	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
ELM 200 Introduction to Middle Level Education ( 4 to 8)	3 crs.
PSY 208 Educational Psychology	3 crs.
Concentration Related Electives	6 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ELM 220 Instruction and Assessment in 4-8 Classroom	3 crs.
ESP 210 Special Education Foundations and Collaboration	3 crs.
Concentration Related Elective	3 crs.
General Education Courses	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
EDF 333 Educational Technology	3 crs.
ELM 302 Language Arts Methods, Assessment and Intervention	3 crs.
ELM 321 Science Methods, Assessment and Intervention	3 crs.
General Education Course	3 crs.
Concentration Related Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ELM 301 Reading Methods, Assessment and Intervention	3 crs.
ELM 331 Social Studies Methods, Assessment and Intervention	3 crs.
ESP 311 Assessment and Positive Behavior Intervention	3 crs.
EDU 310 Teaching in a Multicultural Society	3 crs.
Free Elective	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
EDU 350 Supporting ELL in the Classroom	3 crs.
ELM 311 Math Methods, Assessment and Intervention	3 crs.
Concentration Related Elective	3 crs.
General Education Courses	6 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
EDE 322 Education Services Internship	6 crs.
Concentration Related Elective	6 crs.

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**Eighth Semester** **15 Credits**

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General Education Course 3 crs.

**Associate of Science in Early Childhood Education – 67 Credits**

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**First Semester** **13 Credits**

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UNI 100 First-Year Seminar 1 cr.

ENG 101 English Composition I 3 cr.

PSY 216 Child Psychology Birth to Age 4 3 cr.

GEO/POS/ECO 102 Social Science Courses 3 cr.

MAT 120 Elementary Topics In Math I 3 cr.

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**Second Semester** **15 Credits**

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ELE 200 Introduction to Pre-K to Grade 4 3 crs.

ELE 220 Instruction and Assessment in Pre-K Settings 3 crs.

British or American Literature Course 3 crs.

PSY 217 Child Psychology Ages 5 to 9 3 crs.

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**Third Semester** **15 Credits**

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ELE 221 Instruction and Assessment in K-4 Classrooms 3 crs.

ELE 300 Emerging Literacy 3 crs.

PSY 208 Educational Psychology 3 crs.

HSC 250 Health and Physical Education Pre-K to 4 3 crs.

MAT 130 Elementary Topics In Math II 3 crs.

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**Fourth Semester** **12 Credits**

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ESP 210 Special Education Foundations and Collaboration 3 crs.

ELE 331 Teaching Social Studies Pre-K to 4 3 crs.

ELE 350 Family and Community Relationships 3 crs.

General Education Course 3 crs.

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**Fifth Semester** **12 Credits**

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EDE 322 Education Services Internship 6 crs.

MUS/ART/THE 372 Creative Arts 3 crs.

ELE 310 Teaching Math/Science Pre-K to 4 3 crs.

## English

### Faculty

M. Smith (chairperson), Aune, Carlisle, Downey, Fisanick, Hendricks, Kearcher, MacBeth, McCullough, McVey, Natali, Nora, Pathak, Roche, Schwerdt, Waterhouse, Wilson

## **Purpose**

English is a comprehensive discipline. Its scope encompasses a study of the evolution of the language itself, the various types of writing, the literature in English (poetry, drama, fiction and essay, regardless of national origin), and the comparative study of literature. As a course of study, English enables people to express themselves clearly and to read their ideas and those of others in an appreciative and critical manner. The ideas expressed are boundless, the content emotive as well as rational.

Language competency is essential to the exchange of ideas, the successful completion of course work, and meaningful employment. To ensure that students will develop their language skills and will have the means to meet these expectations, the University requires that all entering students take the English placement examination for placement into either ENG 100 English Language Skills or ENG 101 Composition I. All students are encouraged to take the two composition courses during their first semesters.

## **Programs**

The English major has several concentrations, including the literature program, the language and literacy concentration, and two concentrations in professional writing: creative writing and journalism. For persons who want to teach English or to teach in an allied area, secondary school certification in English and certification in communication (speech communication and theater) are offered in cooperation with the College of Education and Human Services. A well-developed internship system supports classroom studies in the professional writing program.

## **Honor Societies**

Sigma Tau Delta is the national English honor society. The California University chapter, Delta Theta, was chartered in 1959 and is the oldest chapter in the Pennsylvania State System of Higher Education.

## **The Society of Professional Journalists**

The California University chapter of the Society of Professional Journalists helps prepare students for careers in the media, offering professional and social ties.

## **Scholarships and Awards**

The English Department also awards regularly the following: the English Faculty Award; the Minor Major Award; the EAPSU Outstanding English Major Award; the Literary Criticism Award; and the Eleanore C. Hibbs Writing Award. Contact the English Department for details.

## **Careers**

Besides preparing students for graduate work in English and American literature, English education, linguistics, library studies, law, communication and a number of other fields, the English program offers career opportunities in such positions as secondary school teacher, newspaper reporter and editor, magazine writer and editor, creative writer, public information officer, advertising copy writer, technical writer, proofreader, and radio and TV reporter and editor.

## **Bachelor of Arts in English – 120 Credits: All Concentrations<sup>1</sup>**

The eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Note:* All English majors are required to take two writing-intensive courses from among the following: ENG 371, ENG 372, ENG 334, ENG 337 and ENG 448.

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<sup>1</sup> 48 of the 120 credits must be 300- or 400-level courses. Writing Core Courses: ENG 308, 352, 496, 345 or 346 or 347, 448



### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Courses	12 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II or Equivalent	3 crs.
General Education Courses	12 crs.

### **Literature Concentration**

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course (select one: 308 or 352 or 496; 345 or 346 or 347; 448)	3 crs.
Literature Elective (300- or 400-Level)	3 crs.
General Education, Minor or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course (select one: 308 or 352 or 496; 345 or 346 or 347; 448)	3 crs.
Literature Elective (300- or 400-Level)	3 crs.
General Education, Minor or Elective Courses	6 crs.

#### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course (select one: 308 or 352 or 496; 345 or 346 or 347; 448)	3 crs.
Literature Elective (300- or 400-Level)	3 crs.
*General Education, Minor or Elective Courses	6 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
Literature Elective (300- or 400-Level)	3 crs.
*General Education, Minor or Elective Courses	9 crs.

#### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
Literature Elective (300- or 400-Level)	3 crs.

<b>Seventh Semester</b>	<b>15 Credits</b>
*General Education, Minor or Elective Courses	12 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
Literature Elective (300- or 400-Level)	3 crs.
*General Education, Minor or Elective Courses Literature Electives: ENG 315, 425, 481, 484, 485, 487	12 crs.

### Creative Writing Concentration

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
Creative Writing Elective	3 crs.
*General Education, Minor or Elective Courses	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
*Creative Writing Elective	3 crs.
*General Education, Minor or Elective Courses	6 crs.

#### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
*Creative Writing Elective	3 crs.
*General Education, Minor or Elective Courses	6 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Creative Writing Elective	3 crs.
*General Education, Minor or Elective Courses	9 crs.

#### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*Creative Writing Elective	3 crs.
*General Education, Minor or Elective Courses	12 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*Creative Writing Elective	3 crs.

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<b>Eighth Semester</b>	<b>15 Credits</b>
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*General Education, Minor or Elective Courses	12 crs.
Creative Writing Electives: ENG 351, 375, 376, 377, 378, 430, 495	

### Journalism Concentration

#### *Sophomore Year*

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<b>Third Semester</b>	<b>15 Credits</b>
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*Literature Core Course	3 crs.
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*Writing Core Course	3 crs.
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ENG 167 Journalism I	3 crs.
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*General Education, Minor or Elective Courses	6 crs.
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<b>Fourth Semester</b>	<b>15 Credits</b>
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*Literature Core Course	3 crs.
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*Writing Core Course	3 crs.
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ENG 169 Journalism II	3 crs.
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*General Education, Minor or Elective Courses	6 crs.
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#### *Junior Year*

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<b>Fifth Semester</b>	<b>15 Credits</b>
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*Literature Core Course	3 crs.
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*Writing Core Course	3 crs.
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ENG 334 Newspaper Reporting	3 crs.
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*General Education, Minor or Elective Courses	6 crs.
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<b>Sixth Semester</b>	<b>15 Credits</b>
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*Literature Core Course	3 crs.
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ENG 312 Journalism III	3 crs.
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*General Education, Minor or Elective Courses	9 crs.
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#### *Senior Year*

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<b>Seventh Semester</b>	<b>12-15 Credits</b>
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*Journalism Elective	3 crs.
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*General Education, Minor or Elective Courses	9–12 crs.
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<b>Course</b>	<b>Credits</b>
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*Journalism Elective	3 crs.
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*General Education, Minor or Elective Courses	12 crs.
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Journalism Electives: ENG 306, 320, 350, 351, 354, 419	
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## Language and Literacy Concentration

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Writing Core Course	3 crs.
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	6 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*Literature Core Course	3 crs.
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	9 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>12-15 Credits</b>
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	9 -12 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*Language and Literacy Course	3 crs.
*General Education, Minor or Elective Courses	9 - 12 crs.

\*48 of the 120 credits must be 300- or 400-level courses. Writing Core Courses: ENG 308, 352, 496, 345 or 346 or 347, 448

## **Bachelor of Science in Education: Certification in English for Secondary Schools – 124 Credits**

See [Secondary Education](#).

## **Minors in English – 21 Credits**

Students may select one of the following concentrations:

### **Literature Concentration**

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Required Courses (select one) ENG 106, 107, or 108;

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Literature Core (6 credits, select two) ENG 205, 206, 301, 302, 337 or 338

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Literature Electives (12 credits at 300-400 level)

### **Creative Writing Concentration**

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Required Courses ENG 495, 496

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Creative Writing Electives (3–9 credits) ENG 376, 377, 378

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English Electives (6–9 credits) ENG 308, 318, 351, 352, 430

### **Journalism Concentration**

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Required Courses (15 credits): ENG 167, 169, 312, 334, 306, 354

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Journalism Electives (6 credits, select two): ENG 320, 350, 351, 419

### **Language and Literacy Concentration**

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Literature Core (6–9 credits): ENG 205, 206, 301, 302, 337, 338, 425

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Language and Literacy Core (6–9 credits): ENG 308, 352, 345, 346, 347, 371, 372, 448, 496

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English Electives (3–6 credits at 300-400 level)

## **Exercise Science and Sport Studies**

### **Faculty**

Barroner, C. Biddington, W. Biddington, Cramer Roh, Crowley, Federico, Hatton, Kreis, MacKinnon, McGlumphy, L. Meyer, Miller, Reuter, Romani-Ruby, Taylor, Wagner, E. West, Wood, Yarbrough

### **Purpose and Programs**

The Department of Exercise Science and Sport Studies offers degree programs in sport management studies. Sport management studies has concentrations in sport management, professional golf management, and wellness and fitness. The department is housed in Keystone Hall.

The sport management studies program provides students with a depth of knowledge on a broad range of competencies in management, marketing and communication. The program requires that students gain experience through practica and internships in their specialty area. The California University sport management studies program is approved by the North American Society of Sport Management (NASSM). This approval makes this program one out of only 35 nationally approved programs. In addition, the student must select an area of concentration with this degree: sport management, professional golf management, or wellness and fitness (online).

The professional golf management student will graduate with a bachelor's degree – major in sport management studies with a concentration in professional golf management and a minor in business administration. In addition to classroom studies, each student is required to complete approved internships totaling 16 months of work experience at PGA-recognized golf facilities. Students also are required to complete requirements established by the PGA of America's Professional Golf Management (PGM) program and pass the Playing Ability Test (PAT). These requirements satisfy a portion of the PGA of America's membership requirement.

The wellness and fitness student will graduate with a bachelor's degree – major in sport management studies from California University of Pennsylvania and is designed for individuals who want to earn their bachelor's degree but are not able to attend a traditional on-campus program. This 100-percent online degree program provides students with a strong foundation, including a set of competencies in management, marketing, psychology and finance – all necessary for success in the fields of sport/wellness and fitness. As students progress through the program, they will complete a certification from the National Academy of Sports Medicine (NASM).

### **Careers in Professional Golf Management**

Graduates with the B.S. in sport management with a concentration in professional golf management and a minor in business administration have job opportunities in a variety of fields: head golf professional, director of golf, teaching professional, assistant golf professional, golf clinician, association management, college golf coach, general management, director of instruction, golf retail, golf course development, golf course maintenance, broadcasting/journalism, golf manufacturer management, sales representative, tournament director, rules official and golf equipment specialist.

### **Careers in Sport Management Studies**

Graduates of the sport management studies program move on to challenging and exciting careers in academic settings; professional sports; sports and recreation facilities; as well as in health, fitness and sport clubs. Students blend general management skills with the specific demands of managing sports organizations. Sport management majors also acquire a strong foundation in management, finance, communication, ethics and legal aspects of business. Students supplement classroom teaching with a variety of practical experiences.

### **Careers in Wellness and Fitness**

The sport management studies – wellness and fitness program is oriented toward professional development, preventative health care and high-quality fitness education. It has been designed to prepare students for positions in personal training businesses, health and fitness clubs, sports medicine clinics, wellness centers, hospitals, professional sports teams, universities, high schools, and the military. Many additional opportunities exist within the profession.

Individuals wishing to work with certain special populations can receive specialized instruction to work with those with physical disabilities, as well as the aging population.

Other career areas include fitness clubs, spas, corporate fitness, strength and conditioning coaching, sports promotion, and sports information.

The program follows a cohort model. A cohort is a group of students that starts and finishes the program at the same time. Like classmates in a traditional classroom setting, students work together in each course and become a professional cohort of health and fitness colleagues.

Please be advised that this program is offered in an accelerated format, allowing for degree completion in 2 to 3 years depending on each individual's situation.

### **Bachelor of Science – Sport Management Studies – 120 Credits**

Admission to the sport management studies program is open to any student who has been admitted to California University of Pennsylvania. But admission to the University does not guarantee program admission. Once a student has requested to be a sport management studies major, a 70-hour practicum class of observation/work in an approved sport management environment is required. The practicum class is a work experience in a major sport management setting (Heinz Field, PNC Park, community clubs and game day activities to see behind-the-scene operations of major sporting events). In major classes, a student is required to take 12 hours (10 weeks x 40 hours = 400 hours) in the internship area. The internship is the student's capstone experience. Students will secure an internship

site based on their unique educational needs and experience. (Admission to the University does not guarantee program admission.)

## Sport Management Studies Program

### Program Requirements

Candidates for admission to the sport management studies program leading to the Bachelor of Science degree in sport management are required to:

- Have a minimum 2.50 cumulative grade-point average; A student earning a D in a SPT major course must repeat this class; and
- Complete the course Introduction to Sport Management (SPT 100);
- Complete an on campus practicum (SPT 199); and
- Arrange an interview with the program director or a faculty member of the sport management studies program.

For details on current policies and procedures, contact:

Roy E. Yarbrough, Ed.D.  
Sport Management Studies  
California University of PA  
250 University Avenue  
California, PA 15419;  
724-938-4356;  
724-938-4454 (fax);  
[yarbrough@calu.edu](mailto:yarbrough@calu.edu)

The Cal U sport management studies program is a national candidate for accreditation by the Commission on Sport Management Accreditation (COSMA).

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### Freshman Year<sup>2</sup>

First Semester	16 Credits
*ENG 101 English Composition I	3 crs.
*SPT 100 Introduction to Sport Management	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	9 crs.
Second Semester	15 Credits
*SPT 199 Practicum in Sport Management	3 crs.
General Education Courses	12 crs.

### Sophomore Year

Third Semester	15 Credits
*SPT 305 Ethics in Sport Management	3 crs.
General Education or Elective Courses	12 crs.

<sup>2</sup> Required major and related courses.

<b>Fourth Semester</b>	<b>18 Credits</b>
*SPT 300 Psychology of Sport	3 crs.
*SOC 309 Sociology of Sport	3 crs.
General Education or Elective Courses	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*SPT 310 Sport Marketing	3 crs.
*SPT 315 Facility and Event Management	3 crs.
*HIS 348 History of American Sport or *SPT 320 Administration of Intercollegiate Athletic Programs	3 crs.
General Education or Elective Courses	6 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*COM 363 Sport Communication and Media Relations	3 crs.
*SPT 400 Legal Aspects of Sport	3 crs.
*SPT 425 Organization and Administration of Sport	3 crs.
*SPT 410 Governance in Sport	3 crs.
300- or 400-Level General Education or Elective Courses	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*SPT 415 Sport Finance	3 crs.
*SPT 420 Economics of Sport	3 crs.
*SPT 430 Sport Management Seminar	3 crs.
300- or 400-Level General Education or Elective Courses	6 crs.

<b>Eighth Semester</b>	<b>12 Credits</b>
*SPT 499 Internship in Sport Management (P/F)	12 crs.

### **Bachelor of Science – Sport Management Studies: Professional Golf Management Concentration – 120 Credits**

The sport management studies program has three distinctive tracks:

- Sport management,
- Professional golf management, and
- Wellness and fitness.

The sport management studies program is open to any student who has been admitted to California University of Pennsylvania.

Once a student matriculates into the sport management studies program, the student must maintain the following:

- Students beginning in the fall 2008 semester must have a minimum 2.50 cumulative grade-point average (GPA);



- A student earning a D in a SPT major course must repeat this class. Students who began in fall 2004 through spring 2008 must have a minimum of a 2.25 cumulative GPA. A student earning a D in a SPT major course must repeat this class; and
- Students enrolled before fall 2004 must have a minimum of 2.00 GPA.

The four-and-one-half year professional golf management (PGM) program is a structured undergraduate educational offering by California University of Pennsylvania. PGM provides students with the opportunity to acquire the knowledge and skills necessary for success in the golf industry. One of the key components of the professional golf management program is the internship opportunities which require each student to complete a total of 16 months of internship. The 16 months are achieved through five separate internships which require students to work under a Class A PGA professional at a minimum of three different types of facilities, ranging from public, private, municipal and military golf facilities to organizations such as a PGA section office, an amateur or professional tournament series, or a golf equipment manufacturer. The internships are an invaluable opportunity for students to apply classroom theory to the practical applied skills necessary to acquire Class A PGA membership. Candidates must have a 2.50 GPA overall in order to matriculate and graduate from the PGM program. Any student receiving a grade of D in a major course must repeat the class.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
*PGM 100 Introduction to PGM	3 crs.
*ECO 100 Elements of Economics	3 crs.
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
*PGM 150 Teaching of Golf I	3 crs.
*SPT 100 Introduction to Sport Management	3 crs.
*BUS 100 Introduction to Business	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	3 crs.
<b>Summer Semester</b>	<b>1 Credit</b>
*PGM 125 PGM Internship I	1 cr.

### *Sophomore Year*

<b>Third Semester</b>	<b>12 Credits</b>
*PGM 200 Intermediate Topics in PGM	3 crs.
*MGT 300 Principles of Management	3 crs.
General Education Courses	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*PGM 210 Golf Shop Management	3 crs.
*SPT 300 Psychology of Sport	3 crs.
*ACC 200 Financial Accounting	3 crs.
General Education Courses	6 crs.
<i>Summer Semester</i>	
<b>Summer Semester</b>	<b>1 Credit</b>
*PGM 225 PGM Internship II	1 cr.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
*PGM 300 Advanced Topics in PGM	3 crs.
*PGM 310 Turfgrass Management	3 crs.
*SPT 310 Sport Marketing	3 crs.
General Education Courses	6 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*PGM 350 Food and Beverage Management	3 crs.
*SPT 400 Legal Aspects of Sport	3 crs.
General Education Courses	9 crs.
<i>Summer Semester</i>	
<b>Summer Semester</b>	<b>1 Credit</b>
*PGM 325 PGM Internship III	1 cr.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>12 Credits</b>
*PGM 405 Expanded Golf Operations	3 crs.
*PGM 425 Senior Internship	6 crs.
*SPT 305 Ethics in Sport	3 crs.
General Education Courses	3 crs.
<b>Eighth Semester</b>	<b>12 Credits</b>
*PGM 410 Teaching of Golf II	3 crs.
*SPT 415 Sport Finance	6 crs.
*SPT 420 Economics of Sport	3 crs.
<i>Summer Semester</i>	
<b>Summer Semester</b>	<b>1 Credit</b>
*PGM 435 Capstone Internship	1 cr.

\*Required major or related courses

\*\*Required or recommended General Education courses

## **Bachelor of Science – Sport Management Studies with a Concentration in Wellness and Fitness – 120 Credits**

The sport management studies program has three distinctive tracks:

- Sport management,
- Professional golf management, and
- Wellness and fitness.

The sport management studies program is open to any student who has been admitted to California University of Pennsylvania.

Once a student matriculates in the sport management studies program, the student must maintain the following:

- Students beginning in the fall 2008 semester must have a minimum of 2.50 cumulative grade-point average (GPA)
- A student earning a D in a SPT major course must repeat this class. Students who begin in fall 2004 through spring 2008 must have a minimum of 2.25 cumulative GPA. A student earning a D in a SPT major course must repeat this class

The course sequence is designed so that it does not overwhelm our busy students. In most semesters, students will not be required to take more than two courses at once (six credits each term), allowing students to focus time and energy on successful completion of each course. Fall and spring semesters include two eight-week terms each. The summer includes two five-week terms or one 10-week term.

Students pursuing the program will be prepared to sit for a certification in personal training offered by the National Academy of Sports Medicine (NASM). This undergraduate program was created based on Cal U's extremely successful online graduate programs in wellness and fitness, performance enhancement, rehabilitation science, and sport psychology.

Enrollment is limited, so if you are interested in the program, please email us immediately at [bsfitness@calu.edu](mailto:bsfitness@calu.edu) and specify that you are interested in the Bachelor of Science in sport management: wellness and fitness track. For detailed explanation of the cohort format and the sequencing of courses, please click on the course sequence links above.

Transfer credits are accepted, so students who have previous college course work will be able to apply appropriate credits toward their Cal U degree. For students who do not have any college credits, all 120 credits of the program will be available in a 100-percent online format via the Internet (in some instances, a few courses may be taken outside of Cal U at an institution with whom we have an articulation agreement to fulfill some credits).

The following sequence is one of three potential sequences for this program. The program has different matriculation dates necessitating this need. Visit our website at [www.calu.edu/education/hsss/fitness.jsp](http://www.calu.edu/education/hsss/fitness.jsp) to determine which sequence best fits your situation.

### *Year One*

<b>Summer Session I</b>	<b>4 Credits</b>
UNI 100 First-Year Seminar	1 cr.
General Education Course	3 crs.

<b>Summer Session II</b>	<b>3 Credits</b>
Elective	3 crs.
<b>Fall Semester</b>	<b>13 Credits</b>
FIT 100 Introduction to Fitness	3 crs.
HSC 110 Human Anatomy and Physiology I	4 crs.
SPT 100 Introduction to Sport Management	3 crs.
SPT 300 Psychology of Sport	3 crs.
<b>December Intersession</b>	<b>3 Credits</b>
Elective	3 crs.
<b>Spring Semester</b>	<b>13 Credits</b>
ATE 340 Sports Nutrition	3 crs.
HSC 120 Human Anatomy and Physiology II	4 crs.
HSC 115 Current Health Issues	3 crs.
SPT 305 Ethics in Sport	3 crs.
<i>Year Two</i>	
<b>Summer Session I</b>	<b>6 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
<b>Summer Session II</b>	<b>6 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
<b>Fall Semester</b>	<b>12 Credits</b>
HSC 275 Functional Kinesiology	3 crs.
FIT 300 Business Aspects of Fitness	3 crs.
SPT 310 Sport Marketing	3 crs.
SPT 400 Legal Aspects of Sport	3 crs.
<b>December Intersession</b>	<b>6 Credits</b>
General Education Course	3 crs.
Elective	3 crs.
<b>Spring Semester</b>	<b>12 Credits</b>
FIT 325 Integrated Personal Fitness Training	3 crs.
HSC 325 Physiology of Exercise	3 crs.
SPT 415 Sport Finance	3 crs.
General Education Course	3 crs.

### *Year Three*

<b>Summer Session I</b>	<b>6 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
<b>Summer Session II</b>	<b>6 Credits</b>
General Education Course	3 crs.
General Education Course	3 crs.
<b>Summer Session II</b>	<b>12 Credits</b>
FIT 400 Integrated Sport Performance Train.	3 crs.
SPT 420 Economics of Sport	3 crs.
FIT 405 Wellness Seminar I	3 crs.
ATE 460 Sports Medicine Research	3 crs.
<b>December Intersession</b>	<b>6 Credits</b>
General Education Course	3 crs.
Elective	3 crs.
<b>Spring Semester</b>	<b>12 Credits</b>
FIT 410 Wellness Seminar II	3 crs.
FIT 420 Trends and Issues in Fitness	3 crs.
FIT 350 Fitness for Special Populations	3 crs.
Elective	3 crs.

## **Health Science**

### **Faculty**

Dusi, Hargraves, Harman, Hart, Hess, Hjerpe, Lyles, Marcinek, Meyer, Pucci, Weary, West (chairperson)

### **Purpose and Programs**

The Department of Health Science offers degree programs in athletic training, gerontology and physical therapist assistant. The department is housed in Hamer Hall.

The athletic training education program (ATEP) is accredited by the Commission on Accreditation for Athletic Training Education (CAATE). Students may major in athletic training or combine athletic training with the physical therapist assistant program. Athletic training is the prevention, treatment and rehabilitation of injuries to the physically active population. Students that complete the ATEP are eligible for certification as an athletic trainer after successfully passing the Board of Certification (BOC) Examination. California University's ATEP graduates work as athletic trainers in a wide variety of settings nationwide, including professional sports, colleges and universities, high schools, hospitals, outpatient clinics, and industrial and corporate settings.

Modern, well-equipped athletic training facilities are located in Hamer Hall, Adamson Stadium and the newly completed Convocation Center. The California University intercollegiate athletic program, a strong NCAA Division II program and a member of the Pennsylvania State Athletic Conference (PSAC), includes 18 varsity sports that enable

students to gain valuable experience as athletic training students. Students also receive experiences at area high schools, local colleges and the Student Health Center as partial fulfillment of their required clinical education.

The field of gerontology is expanding as the number of older Americans continues to increase, quickly outpacing other segments of the population. With 37 million Americans currently over the age of 65 and a projected 71.5 million older citizens by 2030, our society is facing crucial issues about aging which will impact the health and welfare of every single American. Implications for academic study and training in gerontology are enormous. The study of aging will be of critical importance during the next century as the baby boomers pass into the ranks of the older generations. California University offers two academic programs to meet these needs – the B.S. in Gerontology and the Aging Specialist Certificate.

The physical therapist assistant (PTA) Associate of Applied Science degree program graduates ethical physical therapist assistants who will provide safe, effective, high-quality service to the patients/clients they treat. The physical therapist assistant is an educated health care provider who assists the physical therapist to provide rehabilitation services for individuals who are unable to function due to pathology, impairment, functional limitations, or who want to improve function via prevention. Students gain experience at both campus and off-campus clinical sites. The physical therapist assistant program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association (APTA), located at 1111 North Fairfax Street, Alexandria, VA 22314-1488. The APTA phone number is 1-800-999-2702.

### **Careers in Athletic Training**

The high incidence of injuries occurring through athletic participation and physical activity has become a national concern and has created a demand for individuals who have completed a CAATE-accredited athletic training education program. Job opportunities for certified athletic trainers have increased substantially, and the employment potential for athletic trainers continues to increase. The ultimate goal of this program is to prepare graduates for certification by the BOC and for careers in athletic training. Many high schools utilize athletic trainers to provide better health care for their interscholastic athletic programs. In addition, four-year colleges and universities, as well as junior and community colleges, provide significant possibilities for employment. Positions with professional teams exist; however, they are fewer in number than those associated with interscholastic athletic programs. There is an increasing number of opportunities in physical therapy clinics and industrial settings with corporations such as Disneyland, Xerox and Coca-Cola. California's ATEP graduates work as athletic trainers in a wide variety of settings nationwide, including professional sports, colleges and universities, high schools, hospitals, outpatient clinics, and industrial and corporate settings.

### **Careers in Gerontology**

Variety is the best word to describe jobs in gerontology. The bachelor's degree in gerontology prepares students to pursue graduate education in gerontology or a related discipline or to work with older people in settings, including long-term care facilities; retirement communities; senior housing; federal, state and local government offices on aging; home health care agencies; senior centers, adult day services; adult protective service agencies; care management agencies; business and industry; leisure programs; and health promotion programs.

### **Careers in PTA**

The aging of the baby boomer generation has created many new opportunities in physical therapy. Pennsylvania has the nation's second oldest population with 15 percent of all Pennsylvanians over the age of 65. According to Pennsylvania's Department of Labor and Industry, the need for physical therapist assistants is expected to increase 15 percent through the year 2014. Physical therapist assistants provide therapy services under the supervision and direction of the PT. They assist with data collection; implement delegated

patient interventions; make appropriate clinical judgments; modify interventions within the PT's established plan of care; participate in discharge planning and follow-up care; document the care provided; educate and interact with PT and PTA students, aides, volunteers, patients, families and caregivers; and demonstrate an understanding of the significance and impact of cultural and individual differences. (Prepared by the Coalitions for Consensus conference by the APTA Education Division, 1995.)

### **Bachelor of Science – Athletic Training – 120 Credits**

Admission into the athletic training education program (ATEP) is competitive and only a limited number of students are selected each year. In the second semester of the freshman year, interested preprofessional students submit an application form to the program director, who, with the other ATEP faculty, screens the applications, conducts interviews and admits students to the professional phase of the ATEP. Candidates must have a 3.00 GPA in athletic training courses, a minimum of three documented observations, a successful interview, satisfactory completion of a written and practical entrance exam, and the ability to comply with the program's technical standards, with or without reasonable accommodation.\*For additional details on admission requirements, transfer requirements and/or a copy of the program's technical standards, contact the program director at Hamer Hall, Room 114, or visit the program's website at [www.calu.edu/academics/programs/athletic-training](http://www.calu.edu/academics/programs/athletic-training).

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

#### *Freshman Year*

<b>First Semester</b>	<b>14 Credits</b>
**ENG 101 English Composition I	3 crs.
**HSC 110 Human Anatomy and Physiology I	4 crs.
**PSY 100 General Psychology	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	3 crs.
<b>Second Semester</b>	<b>16 Credits</b>
*ATE 150 Introduction to Athletic Training	3 crs.
**ENG 102 English Composition II	3 crs.
**HSC 115 Current Health Issues	3 crs.
**HSC 120 Human Anatomy and Physiology II	4 crs.
General Education Course	3 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
*ATE 225 Evaluative Techniques I with Laboratory	4 crs.
*HSC 275 Functional Kinesiology	3 crs.
*HSC 300 Emergency Medical Technician	4 crs.
*ATE 204 Athletic Training Clinical Education I	2 crs.
General Education or Elective Courses	3 crs.

<b>Fourth Semester</b>	<b>16 Credits</b>
*ATE 265 Evaluative Techniques	4 crs.
*HSC 290 Therapeutic Modalities with Lab	4 crs.
*ATE 204 Athletic Training Clinical Education I	2 crs.
General Education or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*ATE 330 Therapeutic Exercise with Lab	4 crs.
*ATE 305 Athletic Training Clinical Education II	2 crs.
*ATE 425 Administrative Strategies in Athletic Training	2 crs.
300- or 400-Level General Education or Elective Courses	7 crs.

<b>Sixth Semester</b>	<b>14 Credits</b>
*HSC 325 Physiology of Exercise	3 crs.
*ATE 315 General Medical Assessment	3 crs.
*ATE 305 Athletic Training Clinical Education II	2 crs.
*FIT 400 Integrated Sport Performance Training	3 crs.
300- or 400-Level General Education or Elective Courses	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*ATE 400 Orthopedic Evaluation in Sports Medicine	1 cr.
*ATE 405 Athletic Training Clinical Education III	2 crs.
*ATE 440 Pharmacology	2 crs.
*ATE 460 Sports Medicine Research	3 crs.
300- or 400-Level General Education or Elective Courses	7 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*ATE 400 Orthopedic Evaluation in Sports Medicine	1 cr.
*ATE 405 Athletic Training Clinical Education III	2 crs.
300- or 400-Level General Education or Elective Courses	12 crs.

\*Required major and related courses.

\*\*Required and recommended General Education courses.

## **Bachelor of Science in Gerontology – 120 Credits**

The bachelor's degree is a career-oriented course of study that can accommodate both full- and part-time students, students with or without professional experience, and incoming freshmen and transfer students. The degree requires 120 semester credits, including 42 credits of gerontology course work. Students perform 6 to 12 credits of internship work in an agency or facility serving older adults.

For more information about the B.S. or certificate programs in gerontology, contact Mary Hart, assistant professor of gerontology, 724-938-4288 or [hart\\_ma@calu.edu](mailto:hart_ma@calu.edu).



The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
ENG 101 English Comp I	3 crs.
GTY 100 Introduction to Gerontology	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education Courses	8 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Comp II	3 crs.
GTY 200 Aging in American Society	3 crs.
General Education Courses	9 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
MAT 215 Statistics or PSY 220 Descriptive Statistics	3 crs.
GTY 300 Aging Policies and Services	3 crs.
General Education or Elective Courses	9 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
GTY 305 Biology of Aging	3 crs.
GTY 310 Aging and the Family	3 crs.
Related Elective	3 crs.
General Education or Elective Courses	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
GTY 340 Diversity and Aging	3 crs.
GTY 350 Ethical Issues in Aging	3 crs.
Related Elective	3 crs.
General Education or Elective Courses	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
GTY 315 Practicum in Gerontology	3 crs.
GTY 380 Wellness in Aging	3 crs.
GTY 330 Dying, Death and Bereavement	3 crs.
300- or 400-Level General Education or Elective Courses	6 crs.

### Senior Year

<b>Seventh Semester</b>	<b>15 Credits</b>
GTY 320 Alternatives in Long-Term Care	3 crs.
GTY 400 Adult Development and Aging	3 crs.
GTY 410 Research Methods Gerontology	3 crs.
300- or 400-Level Related Electives	6 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
GTY 430 Seminar in Gerontology	3 crs.
GTY 440 Internship	6–12 crs.
Related Electives	0–6 crs.

### Aging Specialist Certificate – 18 Credits

The aging specialist certificate is designed for both people currently working with older adults and undergraduate students majoring in other areas (social work, nursing, communication disorders, psychology, sociology, etc.) who are interested in an in-depth study of aging. The 18-credit program includes the following courses:

<b>Courses</b>	<b>18 Credits</b>
GTY 100 Introduction to Gerontology	3 crs.
GTY 300 Aging Policies and Services	3 crs.
GTY 315 Practicum in Gerontology	3 crs.
Gerontology Electives (3 courses from those below*)	9 crs.

\*Biology of Aging; Adult Development and Aging; Research Methods in Gerontology; Aging and the Family; Alternatives in Long-Term Care; Dying, Death and Bereavement; Diversity in Aging; Wellness and Aging; Ethical Issues in Aging; and Seminar in Gerontology.

### Associate of Applied Science in Physical Therapist Assistant

Admission to the PTA program is competitive, and a limited number of qualified students are selected into the technical phase of the program. A student will begin in the pre-technical phase of the program, after which application to the program is made during the fall semester, first year. Criteria for selection to the technical phase of the program are a minimum 2.75 GPA, including a B in HSC 110, and an interview with the PTA advisory committee.

The following five-semester schedule of courses provides a recommended framework for completing this program of study in 21 months.

### Year One

#### Pre-Technical Phase

<b>Fall Semester***</b>	<b>15 Credits</b>
**COM 101 Oral Communication	3 crs.
**HSC 110 Human Anat. and Physiology I	4 crs.
**PSY 100 General Psychology	3 crs.
*PTA 100 Introduction to Physical Therapist Assist.	3 crs.
*PTA 101 Basic Physical Therapy Procedures	1 cr.

**Fall Semester\*\*\*****15 Credits**

**UNI 100 First-Year Seminar	1 cr.
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\*\*\*This semester is designed to be a rigorous test of the student's academic abilities. The student's performance during the fall semester of the first year will largely determine if the student is admitted to the technical phase of the program.

**Technical Phase****Spring Semester****18 Credits**

**ENG 101 English Composition I	3 crs.
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**HSC 120 Human Anat. and Physiology II	4 crs.
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*HSC 290 Therapeutic Modalities	4 crs.
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*PTA 230 Physical Therapy Interventions Across the Lifespan	4 crs.
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**SOC 100 Principles of Sociology	3 crs.
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**Summer Semester****6 Credits**

*PTA 110 Introduction to Pathology	2 crs.
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*PTA 150 Physical Therapy Clinical Internship I	4 crs.
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**Year Two****Fall Semester****13 Credits**

*HSC 275 Functional Kinesiology	3 crs.
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*PTA 205 Interventions in Cardiopulmonary Impairments	2 crs.
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*PTA 210 Interventions in Neurologic Impairments	4 crs.
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*PTA 225 Interventions in Orthopedic Impairments	4 crs.
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**Spring Semester****14 Credits**

*PTA 200 Professional Issues in Physical Therapy	2 crs.
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*PTA 250 Physical Therapy Clinical Internship II	12 crs.
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\*Required major and related courses.

\*\*Required and recommended General Education courses.

**History and Political Science****Faculty**

Tuennerman (chairperson), Blumberg, Confer, Crawford, Edmonds, Heim, Madden, Marak, Slaven, Smith, Yamba

**Purpose**

History and political science are closely related disciplines that use the past to understand the present and the future. Our program mission is to encourage literate critical thinking by students, who work with faculty engaged in diverse, broadly based scholarships. History and political science faculty strive to mentor and develop students as they build character and careers.

**Programs**

The department offers Bachelors of Arts degrees in both history and political science, as well as minors in history, political science and prelaw. The Bachelor of Arts degree

in political science also offers a concentration in prelaw. The history major is general in nature, providing students with the opportunity to select areas of topical interest. Political science is a highly prescribed discipline. It limits its interests to the political aspects of human behavior, both national and international, including the study of power and organizations.

### Honor Society

Students who meet the academic requirements are eligible for membership in Phi Alpha Theta, National Honor Society in History, or Pi Sigma Alpha, the National Political Science Honor Society.

### Careers

Teacher, archivist and museum curator are professions directly related to the history major. Careers in law, religion, foreign service, both corporate and government, and diplomacy have a great reliance on historical knowledge. In addition, history majors are employed in the marketing field, the communications industry and the insurance industry.

Students may choose to concentrate in prelaw. A degree in prelaw prepares the student for a variety of careers in the public and private sectors.

### Bachelor of Arts in History – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

#### Freshman Year

<b>First Semester</b>	<b>16 Credits</b>
100-Level History Course	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.
General Education Courses	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
History Electives	6 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	6 crs.

#### Sophomore Year

<b>Third Semester</b>	<b>15 Credits</b>
100-Level History Course	3 crs.
HIS 295 The Craft of History	3 crs.
General Education, Minor or Elective Courses	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
100-Level History Course	3 crs.
General Education, Minor or Elective Courses	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
300- or 400-Level History Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	6 crs.
General Education, Minor or Elective Courses	6 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
300- or 400-Level History Elective	3 crs.
*300- or 400-Level History Course (Non-Western)	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
300- or 400-Level History Courses	6 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*HIS 495 Seminar in U.S. History	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	6 crs.
General Education, Minor or Elective Courses	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses.

### **Bachelor of Arts in Political Science: All Concentrations – 120 Credits**

See **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
*POS 100 Introduction to Political Science	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.
General Education Courses	9 crs.
<b>Second Semester</b>	<b>15 Credit</b>
*POS 105 American Politics	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	9 crs.

## Political Science and Prelaw Concentrations

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Political Science (American Politics) Course	3 crs.
General Education, Minor or Elective Courses	12 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*Political Science International Relations/Comparative Politics) Course	3 crs.
General Education, Minor or Elective Courses	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*POS 301 Quantitative Political Analysis	3 crs.
*300- or 400-Level Political Science (Political Theory) Course	3 crs.
*Pol. Sci. Course (300-Level or above)	6 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*300- or 400-Level Political Science (Public Policy) Course	3 crs.
*300-Level or above Political Science Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

## Political Science Concentration

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*300- or 400-Level Political Science Course	3 crs.
300- or 400-Level Political Science Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*POS 450 Seminar in American Politics	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	12 crs.

## Prelaw Concentration

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*300- or 400-Level Political Science (Public Law) Course	3 crs.
300- or 400-Level Political Science Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
*POS 450 Seminar in American Politics	3 crs.

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**Eighth Semester****15 Credits**

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300- or 400-Level General Education, Minor or Elective Courses

12 crs.

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**Minor in History – 21 Credits**

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Required Courses (12 credits; 2 from each list):

HIS 101, 104, 111, 207;

HIS 102, 106, 112, 208

History Electives: any three HIS courses at the 300-level or higher

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**Minor in Political Science – 21 credits**

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*Political Science Concentration*

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Required (6 credits): POS 100, 105

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**Minor in Prelaw**

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Required (12 credits): POS 105, 314, 312 and PHI 115 or PHI 211

Electives (9 credits): (choose three - at least 1 at the 300+ level, from at least 2 disciplines)

POS 306, 310, 316, 318, 236, 237, 320, 228, 229, 307, 327, 330, 222, 335

COM 220,230, 350, 405

HIS 308, 435

PHI 225, 320, 370, 325 or 405

CRJ any at 300+ level

Modern Languages – any speaking

## Honors Program

### Honors Advisory Board

S. Arrigo-Nelson (biological and environmental sciences); M. G. Aune (English), interim assistant director; L. Colleli, dean of Eberly College of Science and Technology; C. Fox (philosophy); G. Gould (chemistry and physics); R. Hess (health science); P. Hettler (business and economics); W. Hug (elementary education); A. Lyles (health science); A. Marak (history and political science) interim director; D. McGukin (communication studies); B. Melenyzer (elementary education); L. Prest (library services)

### Purpose

The honors program at California University of Pennsylvania provides an opportunity for an enhanced educational experience to our most talented students and faculty. Honors program students desire to pursue intellectual and creative growth beyond the usual requirements of their major field of study and intend to cultivate their individual and personal aspirations to learn. Honors program students and faculty expect to explore and participate in scholarly, professional and artistic exercises outside the classroom; they engage in community service activities, which complement their academic studies and nurture their personal sense of commitment and communal responsibility. Honors students anticipate exercising leadership while at California University; they prepare to become leaders while students in our program, and they expect to continue as leaders when they graduate.

## **Membership**

Membership in the University honors program is by invitation only. However, the honors program promotes outstanding intellectual achievement throughout the University, and undergraduate students in any program or division of the University may participate in the honors program. Each year, the applications of all incoming first-year and transfer students are reviewed, and those students with the very highest indicators of past and future academic success are invited to participate in the honors program.

## **Programs**

Each summer (since 1985) two honors program students receive scholarships to participate in the PASSHE Summer Honors Program. This program is noted for its academic quality and its opportunity, typically, to study abroad in such places as Ecuador (2003), Costa Rica (2004), France (2005), Ghana (2006), Europe (2007), China (2008), France (2009) and Egypt (2010). Honors program students have the opportunity to participate in the honors program residence hall, which includes specialty housing in Building A, as well as educational, social and recreational programming. The Honors program maintains a small, but high-quality, computer facility in the residence hall complex reserved for the exclusive use of its students and faculty. Each academic year, the honors program conducts and coordinates a special grouping of courses for its students and faculty. The course grouping focuses on a particular theme, rotating in a four-year cycle, including humanities, social science, fine art, environmental studies, education, business, natural science and life science. Honors program students are encouraged to be active scholars and have presented their work at local, regional, national and international conferences and in international publications.

## **Awards**

Currently, the honors program annually presents the following awards: Senior Thesis Project Award and the Outstanding Honors Program Graduating Senior Award.

## **Curriculum**

Courses designated as honors courses are restricted to members of the honors program and are offered at all class levels. In such courses, enrollment is kept low to encourage and ensure close interaction between student and professor. Additionally, most regular University course offerings at all levels may have an honors component. In such courses (called addenda), honors students fulfill the same requirements as other students in the class, but honors students perform certain independent work which is designed to enhance the regular departmental courses and which is agreed upon in writing by the student, the professor and the honors program. In all such courses, the successful completion of the course and its honors component is indicated on the student's transcript.

Honors program students are expected to maintain a minimum grade-point average sufficient to achieve the dean's list and to graduate with honors. Additionally, students must complete a minimum of 24 credits, including addenda and thesis project, within the honors program.

Inquiries about the honors program may be made of the director, California University of Pennsylvania, California, PA 15419-1394; 724-938-4535/1544; Fax 724-938-5710; or email [HONORS@calu.edu](mailto:HONORS@calu.edu).

## **Justice, Law and Society**

### **Purpose**

The philosophy of education for the Department of Justice, Law and Society is to integrate the substantive, procedural, theoretical and scientific aspects of law, crime, justice, anthropology and sociology with a liberal arts education while incorporating ethics, leadership and diversity. Although this philosophy is primarily professional, the students are exposed to a wide array of intellectual disciplines across the University.



The wide-ranging course offerings reflect the interdisciplinary approach and dedication to preparing graduates for a multitude of opportunities in justice systems, applied sociological practice and public archaeology, locally, nationally and internationally; to be able to communicate and make informed critical decisions; and to pursue graduate study in law, anthropology, sociology, criminal justice, criminology and forensic sciences.

### **Faculty**

Sweitzer (chairperson), Al-Khattar (coordinator of applied criminology), Hsieh, Hummel, E. Jones, Kuba, Larsen, McClintock, Nass, Warnick

### **Programs**

There are three principal programs within the Department of Justice, Law, and Society: justice studies, anthropology and sociology. Each of these programs has specialized concentrations, which are described below.

#### **Justice Studies**

The justice studies major consists of a core requirement of 11 courses that are designed to provide a broad and coherent approach to the six content areas identified by the Academy of Criminal Justice Sciences. Students then have five concentrations available to them: general justice studies, criminology, law and justice, corporate and homeland security, and forensic science. The forensic science concentration has two core courses and students can elect to take one or more tracks to include: crime scene investigation, behavioral crime, forensic accounting, computer forensics, forensic anthropology and general forensic science.

There is a 12-credit-hour foreign language requirement at the elementary and intermediate levels for students of justice studies. This language requirement can be met by taking the foreign language courses offered at Cal U, or if the student desires to take a foreign language not offered at Cal U, they make take the courses elsewhere and transfer them back into the program.

Transfer students may transfer up to 24-credit-hours of criminal justice courses toward the justice studies degree requirements. Credit for life experiences and military or professional training may be available, but such credit cannot be counted toward the 48 justice studies required courses. Such credit, if awarded, will typically apply to the additional electives category or general education requirements, if applicable.

#### **Anthropology**

The anthropology major consists of a core requirement of six courses that are designed to provide a broad and coherent approach to the two concentrations. The first is a forensic anthropology concentration consisting of six required courses. The second is an archaeology concentration also consisting of six required courses. In addition to these, a series of low and mid-range courses can be taken as general electives or as electives for the general education requirements. In addition to the B.A. in anthropology, students can also complete a minor in anthropology.

#### **Sociology**

Sociology is the systematic study of all features of group life beginning with family and extending to global arrangements. The primary purpose of the sociology program is to prepare students for graduate work in sociology or a related social science advanced degree. The sociology program is also a strong liberal arts major which provides its graduates with the necessary skills for entry-level positions requiring knowledge of human behavior. Our graduates hold positions in community agencies at the local, national and international level; nonprofit organizations; trade associations; labor unions; foundations; and small and large corporations.

In addition to the B.A. in sociology and a minor in sociology, the department, in conjunction with the College of Education and Human Services, provides a teacher

certification program for those interested in teaching the social sciences in secondary schools. The department also works with the women's studies program and offers a selection of courses on gender issues in social institutions and social movements.

The applied concentration within the sociology major is oriented toward preparing students for research positions in applied settings. Students are trained to:

- Use sociological concepts, theories, skills, and research methods to understand social and organizational problems;
- Apply these tools to concrete, real-world, practical problems faced by organizations and communities at all levels; and
- Provide organization leaders with practical solutions to these problems.

Students are required to take 12 credits in social research methods, plus statistics, and a three-credit internship in the second semester of their senior year. Graduates may work in diverse applied settings such as industry, government, higher education, voluntary associations, and as solo practitioners/consultants. Examples of applied sociological work in these settings include:

- Evaluating the effectiveness of various educational policies/programs;
- Investigating the social norms promoting or inhibiting the spread of AIDS;
- Evaluating and assessing the effectiveness of various criminal justice programs;
- Analyzing employment records for evidence of discrimination; and
- Planning medical services and facilities for a target population.

### **Honor Societies**

The justice studies program participates in the National Criminal Justice Honor Society (Alpha Phi Sigma). Anthropology majors are eligible for membership in the Gamma Chapter of Lambda Alpha, the National Anthropology Honor Society. Students in the sociology program are eligible for membership in Pi Gamma Mu, the social science honor society, and Alpha Kappa Delta, the honor society for sociology.

### **Special Program Offerings**

Justice studies faculty and students involve themselves in numerous activities beyond the normal academic experience. The program is an active participant in myriad justice-related activities at the regional, national and international levels. There are opportunities for student internships locally, nationally and internationally. Students can compete with the mock trial team, and there are membership opportunities in the Law and Justice Society, Forensic Science Club and Criminal Justice Club. Anthropology students engage in a wide variety of activities in the Anthropology Club and sociology students participate in the Sociology Club and the student section of the American Sociological Association (ASA).

### **Careers**

Justice studies graduates are qualified for numerous justice positions in agencies like the Pittsburgh, Philadelphia, New York City, and Washington, D.C., police departments. Graduates pursue careers in agencies such as the Pennsylvania State Police as well as federal law enforcement agencies like the U.S. Secret Service; Drug Enforcement Administration; Federal Bureau of Investigation; Bureau of Alcohol, Tobacco, Firearms, and Explosives; and the Immigration and Customs Enforcement (ICE). Some students obtain commissions as officers in the United States military and work in their criminal investigative and counterintelligence bureaus. Other graduates continue post-baccalaureate education in law, criminal justice, criminology and forensic science.

Anthropology graduates can pursue numerous careers. Those students taking the forensic anthropology concentration work with coroner's and medical examiner's offices as well as state, federal and international law enforcement agencies. Students specializing in

archaeology may work as archaeological excavation crew members, cultural resource management specialists, environmental impact reviewers, and museum curators and researchers. Students may also pursue careers in the Foreign Service as well as undertaking graduate study.

Students with an undergraduate degree in sociology find work in a variety of social settings. Material published by the American Sociological Association indicate that sociologists pursue careers in teaching and research in universities, federal, state, and local government, corporations, and small business and nonprofit organizations.

### **Bachelor of Science in Justice Studies – 120 Credits**

As previously noted, there are five concentrations that a student may elect to take in the justice studies program.

#### **General Justice Studies Concentration**

##### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
JUS 101 Introduction to Justice Studies	3 crs.
JUS 103 Correctional Systems	3 crs.
Language Elective	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Elective	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
JUS 102 Introduction to Law Enforcement	3 crs.
Track Elective	3 crs.
Language Elective	3 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.

##### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
Track Elective	3 crs.
JUS 331 Juvenile Justice	3 crs.
General Education Electives	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
JUS 361 Judicial Administration	3 crs.
Language Elective	3 crs.
Track Elective	3 crs.
General Education Electives	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
JUS 375 Criminal Law	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
JUS 376 Criminal Procedure	3 crs.
Track Elective	3 crs.
General Education Elective	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
JUS 466 Ethics and Leadership	3 crs.
JUS 494 Seminar in Justice Studies	3 crs.
General Education Electives	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
JUS 495 Research Methods	3 crs.
JUS 496 Criminological Theories	3 crs.
General Education Electives	9 crs.

**Law and Justice Concentration**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
JUS 101 Introduction to Criminal Justice	3 crs.
JUS 102 Introduction to Law Enforcement	3 crs.
Language Elective	3 crs.
UNI First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Elective	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
JUS 103 Correctional Systems	3 crs.
Track Elective	3 crs.
Language Elective	3 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Track Elective	3 crs.
JUS 361 Judicial Administration	3 crs.
Language Elective	3 crs.
General Education Electives	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
JUS 331 Juvenile Justice	3 crs.
Track Elective	3 crs.
Language Elective	3 crs.
General Education Electives	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
JUS 466 Ethics and Leadership	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
Track Elective	3 crs.
JUS 375 Criminal Law	3 crs.
General Education Electives	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
JUS 494 Seminar in Justice Studies	3 crs.
JUS 495 Research Methods	3 crs.
General Education Electives	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
JUS 376 Criminal Procedure	3 crs.
JUS 496 Criminological Theories	3 crs.
General Education Electives	9 crs.

**Criminology Concentration**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
Language Elective	3 crs.
JUS 101 Introduction to Justice Studies	3 crs.
JUS 103 Correctional Systems	3 crs.

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Elective	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 102 Introduction to Law Enforcement	3 crs.
Track Elective	3 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 331 Juvenile Justice	3 crs.
JUS 361 Judicial Administration	3 crs.
General Education Electives	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 375 Criminal Law	3 crs.
Track Elective	3 crs.
General Education Electives	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
JUS 376 Criminal Procedure	3 crs.
JUS 466 Justice Studies Ethics and Leadership	3 crs.
General Education Courses	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
JUS 495 Research Methods in Justice Studies	3 crs.
Track Elective	3 crs.
General Education Courses	9 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
JUS 494 Seminar in Justice Studies	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
JUS 496 Criminological Theories	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.

**Corporate and Homeland Security Concentration**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
JUS 101 Introduction to Criminal Justice	3 crs.
JUS 102 Introduction to Law Enforcement	3 crs.
Language Elective	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Elective	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
JUS 103 Correctional Systems	3 crs.
Track Elective	3 crs.
Language Elective	3 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 331 Juvenile Justice	3 crs.
JUS 361 Judicial Administration	3 crs.
General Education Electives	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 375 Criminal Law	3 crs.
Track Elective	3 crs.
General Education Electives	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
JUS 466 Ethics and Leadership	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
JUS 376 Criminal Procedure	3 crs.
Track Elective	3 crs.
General Education Electives	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
Track Elective	3 crs.
JUS 495 Research Methods	3 crs.
General Education Electives	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
JUS 494 Seminar in Justice Studies	3 crs.
JUS 496 Criminological Theories	3 crs.
General Education Electives	9 crs.

**Forensic Science Concentration**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
Language Elective	3 crs.
JUS 101 Introduction to Justice Studies	3 crs.
JUS 103 Correctional Systems	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Elective	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 102 Introduction to Law Enforcement	3 crs.
JUS 105 Introduction to Forensic Science	3 crs.
ENG 102 English Composition II	3 crs.
General Education Elective	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 331 Juvenile Justice	3 crs.
JUS 361 Judicial Administration	3 crs.
General Education Electives	6 crs.



<b>Fourth Semester</b>	<b>15 Credits</b>
Language Elective	3 crs.
JUS 375 Criminal Law	3 crs.
JUS 376 Criminal Procedure	3 crs.
General Education Electives	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
JUS 466 Justice Studies Ethics and Leadership	3 crs.
JUS 485 Forensic Law	3 crs.
General Education Electives	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
JUS 495 Research Methods in Justice Studies	3 crs.
Concentration Requirement #1	3 crs.
General Education Electives	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
JUS 494 Seminar in Justice Studies	3 crs.
Concentration Requirement #2	3 crs.
General Education Electives	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
JUS 496 Criminological Theories	3 crs.
Concentration Requirement #3	3 crs.
General Education Electives	9 crs.

**Forensic Science Track Required Courses**

<b>Crime Scene Investigation</b>	<b>9 Credits</b>
JUS 201 Criminal Investigation	3 crs.
JUS 380 Crime Scene Imaging	3 crs.
JUS 425 Advanced Criminal Law and Investigation	3 crs.

<b>Forensic Anthropology</b>	<b>9 Credits</b>
ANT 254 Forensic Anthropology	3 crs.
ANT 349 Anthropology of Law and Justice	3 crs.
ANT 446 Advanced Forensic Anthropology	3 crs.

<b>Behavioral Crime</b>	<b>9 Credits</b>
SOC 300 Sociology of Deviance	3 crs.

<b>Behavioral Crime</b>	<b>9 Credits</b>
JUS 459 Behavioral Analysis of Violent Crime	3 crs.
JUS 460 Sex Crimes and Predators	3 crs.
<b>Computer Forensics</b>	<b>9 Credits</b>
CSC 120 Problem Solving and Programming	3 crs.
CSC 300 Computer Operations	3 crs.
JUS 487 Computer Forensics	3 crs.
<b>Forensic Accounting</b>	<b>9 Credits</b>
ACC 200 Financial Accounting	3 crs.
JUS 309 White-Collar Crime	3 crs.
JUS 490 Forensic Accounting	3 crs.

### **Bachelor of Arts in Anthropology – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

#### **Forensic Concentration**

##### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ANT 100 Introduction to Anthropology	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Electives	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ANT 290 Archaeology	3 crs.
ENG 102 English Composition II	3 crs.
General Education Electives	9 crs.

##### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ANT 245 Human Osteology	3 crs.
MAT 215 Statistics or MAT 225 Business Statistics	3 crs.
General Education Electives	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ANT 254 Introduction to Forensic Anthropology	3 crs.
ANT 340 Research Lab in Physical Anthropology	3 crs.
General Education Electives	9 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ANT 349 Anthropology of Law and Justice	3 crs.
ANT 421 Anthropological Thought	3 crs.
General Education Electives	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ANT 446 Advanced Forensic Anthropology	3 crs.
Program Elective	3 crs.
General Education Electives	9 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ANT 497 Seminar in Physical Anthropology	3 crs.
General Education Electives	12 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
ANT 499 Senior Seminar in Anthropology	3 crs.
General Education Electives	9 crs.

### **Archaeology Concentration**

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ANT 100 Introduction to Anthropology	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education Electives	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ANT 290 Archaeology	3 crs.
ENG 102 English Composition II	3 crs.
General Education Electives	9 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ANT 355 Prehistoric American Indians	3 crs.
MAT 215 Statistics or MAT 225 Business Statistics	3 crs.
General Education Electives	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ANT 341 Research Lab in Archaeology	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ANT 360 Historic Sites Archaeology	3 crs.
General Education Electives	9 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ANT 400 Fundamentals of Archaeological Theory	3 crs.
ANT 421 Anthropological Thought	3 crs.
General Education Electives	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
ANT 445 Advanced Methods in Archaeology	3 crs.
Program Elective	3 crs.
General Education Electives	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
ANT 498 Seminar in Archaeology	3 crs.
General Education, Minor or Electives	12 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
ANT 499 Senior Seminar in Anthropology	3 crs.
General Education, Minor or Electives	12 crs.

**Bachelor of Arts in Sociology – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
SOC 100 Principles of Sociology	3 crs.
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
General Education and Electives	9 crs.

<b>Second Semester</b>	<b>15 Credits</b>
Sociology Elective	3 crs.
ENG 102 English Composition II	3 crs.
General Education and Electives	9 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
Sociology Elective	3 crs.
MAT 215 Statistics	3 crs.
General Education and Electives	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
Sociology Elective	3 crs.
General Education and Electives	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
SOC 410 Sociological Theory	3 crs.
Sociology Elective	3 crs.
General Education and Electives	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
SOC 415 Social Research Methods	3 crs.
Sociology Electives	6 crs.
General Education and Electives	6 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
Sociology Electives	6 crs.
General Education and Electives	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
SOC 495 Seminar in Sociology	3 crs.
General Education and Electives	12 crs.

### **Bachelor of Arts in Sociology: Applied Concentration – 120 Credits**

The applied concentration in sociology is geared to the student who wishes to pursue a career in research in applied settings and who seeks practical experience using sociological concepts, methods and theory. Students are required to take 12 credits in social research methods, plus statistics, and a three-credit internship in the second semester of their senior year.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
SOC 100 Principles of Sociology	3 crs.
UNI 100 First-Year Seminar	1 cr.

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
General Education Electives	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
Sociology Elective 1 of 4	3 crs.
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
General Education Electives	6 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
Sociology Elective 2 of 4	3 crs.
MAT 215 Statistics	3 crs.
SOC 312 Sociology of Organizations	3 crs.
General Education Electives	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
Sociology Elective 3 of 4	3 crs.
SOC 210 Social Stratification	3 crs.
General Education Electives	9 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
SOC 410 Social Theory and Society	3 crs.
SOC 415 Social Research Methods	3 crs.
General Ed, Electives/Minor	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
SOC 417 Field Research Methods	3 crs.
SOC 420 Applied Sociology	3 crs.
General Ed, Electives/Minor	9 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
SOC 425 Evaluation Research	3 crs.
General Ed, Electives/Minor	12 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
SOC 429 Sociological Internship	3 crs.
Sociology Elective 4 of 4	3 crs.

**Eighth Semester****15 Credits**

General Ed, Electives/Minor

9 crs.

**Bachelor of Arts in Social Sciences – 120 Credits**

General Education (48-51 credits, 15 credits in 300- or 400-level courses)

See **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

Major (42 credits)

Lower-Division Courses (21 credits): students must complete a 100- or 200-level course from each of the following disciplines: ANT, ECO, GEO, POS, PSY, HIS and SOC.

Upper-Division Courses (21 credits): students must complete a 300- or 400-level course from each of the following disciplines: ANT, ECO, GEO, POS, PSY, HIS and SOC.

Electives ( 30 credits)

**Minors****Minor in Anthropology Concentration– 21 Credits**

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Required (6 credits): ANT 100 and ANT 290

Select five courses (15 credits-hours) from: ANT 101, ANT 200, ANT 220, ANT 231, ANT 245, ANT 254, ANT 255, ANT 280, ANT 300, ANT 379, ANT 349, ANT 355, ANT 360, ANT 380, ANT 385, ANT 390, ANT 421, ANT 446.

**Minor in Justice Studies Concentration – 21 Credits**

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Core Courses JUS 101 Introduction to Justice Studies

JUS 375 Criminal Law

Concentrations (5 courses): Students follow the same courses found in the concentrations for the major.

**Minor in Forensic Science Concentration - 21**

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Required (12 credits): JUS 101, JUS 105, JUS 375 and JUS 485

Select three courses (9 credits) from: JUS 459, JUS 487, JUS 201, JUS 309, ANT 254, JUS 460, CSC 120, JUS 380, JUS 490, ANT 349, SOC 300, CSC 300, JUS 425, ACC 200, ANT 446.

**Minor in Sociology – 21 Credits**

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Required (9 credits): SOC 100, SOC 410, SOC 415

Sociology Electives (12 credits): select minimum of one course at 300+ level.

## Minor in Leadership Studies

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The College of Liberal Arts offers a minor in leadership studies. The leadership studies minor is an interdisciplinary program that helps prepare students to become effective participants in the workplace and community. Leaders are found in all facets of life, including education, business, politics and local communities. See [Liberal Studies](#).

With a leadership studies minor, students will gain the educational tools and social skills necessary to give them the competitive edge in the global economy. The leadership studies minor complements all majors because it is interdisciplinary, drawing electives from across the curriculum.

## Liberal Studies

The liberal studies degree is interdisciplinary/multidisciplinary in structure and is designed for students whose academic interests span traditional disciplinary boundaries. This major provides a flexible completion program for students whose circumstances have precluded the traditional degree route. The program is overseen by the dean of Liberal Arts and an advisory committee composed of faculty from diverse disciplines.

### Bachelor of Arts in Liberal Studies – 120 Credits

Courses from the humanities, natural sciences and social sciences are used to fulfill the major requirements. They include the following: Humanities – art, communication studies, English, foreign languages, literature, music, philosophy and theater; Natural Sciences – biology, chemistry, computer science, earth science, environmental science, mathematics, physical science and physics; Social Sciences – anthropology, criminal justice, economics, geography, history, political sciences, psychology, sociology and social work. No more than 24 credits of courses with the same course prefix should be included in the plan of study. A minimum of 18 credits must be upper level, 300 level or higher.

### Minor in Leadership – 21 Credits

The College of Liberal Arts offers a minor in leadership studies. Leaders are found in all facets of life, including education, business, politics and local communities. With a leadership studies minor, students will gain the educational tools and social skills necessary to give them the competitive edge in the global economy. The leadership minor complements all majors because it is interdisciplinary, drawing electives from across the curriculum.

### Careers

This minor is an excellent addition to any degree program because all careers of distinction demand both an understanding of and an ability to demonstrate leadership skills. In addition, this minor enhances and deepens an individual's ability to make sense of local, national and world events and the decisions made by individuals and groups with control over resources; and provides another set of conceptual tools for being a critical and responsible citizen of the world.

The minor requires 21 credits, including an internship and portfolio. Students must obtain permission prior to enrolling in the internship. Students are also required to assemble a portfolio of their work by selecting assignments completed in courses that apply to the minor. The portfolio will be discussed in detail in LEA 100 and will be used in maker presentations in LEA 400.

Required Courses	12 Credits
LEA 100 Introduction to Leadership Studies/Leadership and Power	3 crs.

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<b>Required Courses</b>	<b>12 Credits</b>
LEA 397 Internship in Leadership Studies	6 crs.
LEA 400 Capstone/Seminar in Leadership	3 crs.
<b>Leadership Electives</b>	<b>9 Credits</b>
Students must select at least one course from each of the following areas. Two courses (6 credits) must be at the 300 and 400 level.	
<i>Theory and Institutions Area</i>	
FIN 311, HIS 320, SOC 410, WST 200, BUS 342, MGT 311, JUS 101, JUS 361, HON 286, HON 388, MGT 300, MGT 301, POS 306, POS 310	
<i>Applied Area</i>	
JUS 465, EDF 290, MGT 452, NUR 375, SOC 378, COM 230, COM 320, GEO 378, GEO 474, POS 318, POS 319	
<i>Ethics Area</i>	
BUS 343, JUS 394, HON 285, PSY 211, SPT 305, PHI 220, PHI 320	

## **Mathematics, Computer Science and Information Systems**

### **Faculty**

Benbourenane (chairperson), Boff, Boukaabar, Chen, DeLorenzo, Hess, Kovalchick, Novak, Pyzdrowski, Rodi, Sible, Skocik, Sovak, Williams

### **Purpose and Programs**

- The Bachelor of Arts in mathematics is a sufficiently flexible program that permits the student to select courses that meet particular interests and needs. It allows for both depth and breadth of study in mathematics as well as study in the natural sciences.
- The Bachelor of Science in computer information systems is designed to prepare the student for continued study at the graduate level or for employment in business, industry or government.
- The Bachelor of Science in computer science is designed to provide the student with a strong computer science background that will prepare the student to succeed in either graduate school or industry.
- The Bachelor of Science in education degree is a program designed for the student who wishes to pursue a career in secondary teaching of mathematics.
- The Associate of Science degree in computer science technology is a two-year program designed to provide the student with a career-oriented computer information systems or computer science background. It is designed as a 2+2 program. If after the completion of the associate degree a student wishes to pursue a bachelor's degree, an additional 60 credits must be completed.

In addition to the degree programs, the department offers three 21-credit minors in computer information systems, computer science and mathematics.

### **Bachelor of Arts in Mathematics – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
MAT 272 Discrete Mathematics	3 crs.
MAT 281 Calculus I	3 crs.
UNI 100 First-Year Seminar	1 cr.
General Education, Minor or Unrestricted Electives	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 217 Scientific and Technical Writing I or ENG 211 Business Writing	3 crs.
MAT 282 Calculus II	3 crs.
MAT 341 Linear Algebra I	3 crs.
General Education, Minor or Unrestricted Electives	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
MAT 381 Calculus III	3 crs.
MAT 461 Statistical Analysis I	3 crs.
CHE 101 General Chemistry I or PHY 101 College Physics I	4 crs.
General Education, Minor or Unrestricted Electives	6 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
MAT 351 Abstract Algebra I	3 crs.
MAT 382 Calculus IV	3 crs.
CHE 102 General Chemistry II or **PHY 102 College Physics II	4 crs.
General Education, Minor or Unrestricted Electives	6 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*MAT Math Category I	3 crs.
*MAT Math Category II	3 crs.
General Education, Minor or Unrestricted Electives	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
MAT Math Category II	3 crs.
MAT Math Category III	3 crs.
General Education, Minor or Unrestricted Electives	9 crs.

### Senior Year

<b>Seventh Semester</b>	<b>15 Credits</b>
MAT 400 Mathematical Modeling	3 crs.
General Education, Minor or Unrestricted Electives	12 crs.
<b>Eighth Semester</b>	<b>12 Credits</b>
General Education, Minor or Unrestricted Electives	12 crs.

### Category I

<b>Choose one course</b>	<b>3 Credits</b>
MAT 451 Abstract Algebra II	3 crs.
MAT 481 Real Analysis I	3 crs.
MAT Complex Analysis	3 crs.

### Category II

<b>Choose two courses</b>	<b>6 Credits</b>
MAT 406 Differential Equations	3 crs.
MAT 441 Linear Algebra II	3 crs.
MAT 462 Statistical Analysis II	3 crs.

### Category III

<b>Choose one course</b>	<b>3 Credits</b>
MAT 419 Math Internship	3 crs.
PHY 341 Math Methods of Physics	3 crs.
MAT 304 History of Math	3 crs.
MAT 468 Field Experience in Math	3 crs.
CSC 475 Theory of Languages	3 crs.
CSC 424 Numerical Analysis	3 crs.

### Computer Information Systems, Bachelor's Degree

The Bachelor of Science in Computer Information Systems program at California University of PA is accredited by the Computing Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

With a Bachelor of Science in CIS, you'll be equipped with the tools necessary for continued study at the graduate level or for employment in business, industry or government. This program combines knowledge of leading-edge information technologies and systems methodologies with an understanding of the ever-changing needs of today's dynamic business environment.

### CIS Program Educational Objectives

It is the goal of the Computer Information Systems program to produce graduates who:

- meet their professional goals,
- continue to be life-long learners and
- meet their employer or continuing education expectations.

### *CIS Student Outcomes*

The CIS program of study enables students to achieve, by the time of graduation:

- An ability to apply knowledge of computing and mathematics appropriate to the discipline;
- An ability to analyze a problem and identify and define the computing requirements appropriate to its solution;
- An ability to design, implement and evaluate a computer-based system, process, component or program to meet desired needs;
- An ability to function effectively on teams to accomplish a common goal;
- An understanding of professional, ethical, legal, security and social issues and responsibilities;
- An ability to communicate effectively with a range of audiences;
- An ability to analyze the local and global impact of computing on individuals, organizations and society;
- Recognition of the need for, and an ability to engage in, continuing professional development;
- An ability to use current techniques, skills and tools necessary for computing practices and
- An understanding of processes that support the delivery and management of information systems within a specific application environment.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar or HON 100 Honors and University Orientation	1 cr.
ENG 101 English Composition I or HON 150 Honors Composition I	3 crs.
MAT 281 Calculus I	3 crs.
CIS 110 Introduction to Information Systems	3 crs.
CIS 120 Application Programming I	3 crs.
PSY 100 General Psychology	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 217 Science and Technical Writing or HON 250 Honors Composition II	3 crs.
MAT 195 Discrete Structures	3 crs.
BUS 100 Introduction to Business	3 crs.
CIS 220 Application Programming II	3 crs.
Free Elective #1	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
CIS 341 Cisco Certified Networking Associate (CCNA) 1	4 crs.

<b>Third Semester</b>	<b>16 Credits</b>
MAT 215 Statistics or MAT 225 Business Statistics	3 crs.
Business Core Elective #1	3 crs.
Multicultural Awareness Elective	3 crs.
COM Public Speaking Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ECO 201 Introductory Microeconomics	3 crs.
ACC 200 Financial Accounting	3 crs.
Natural Science Elective #1	3 crs.
Humanities Elective	3 crs.
MGT 300 Principles of Management	3 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
CIS 299 Systems Analysis I	3 crs.
CIS 321 Database Management Systems and Database Design	3 crs.
CIS 330 Web Programming I	3 crs.
Business Core Elective #2	3 crs.
Related Elective #1	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
CSC 302 Visual Programming	3 crs.
CIS 322 Database Application Development	3 crs.
CIS 352 Ethical Issues in Computing	3 crs.
CIS 354 Systems Project Management	3 crs.
Related Elective #2	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
CIS 490 Systems Analysis II	3 crs.
Related Elective #3	3 crs.
Health and Wellness Elective	3 crs.
Fine Arts Elective	3 crs.
Free Elective #2	3 crs.
<b>Eighth Semester</b>	<b>13 Credits</b>
CIS 492 Systems Development and Implementation	3 crs.
Free Elective #3	1 cr.
Natural Science Elective #2	3 crs.

<b>Eighth Semester</b>	<b>13 Credits</b>
Related Elective # 2	3 crs.
Values Elective	1 cr.

In order to graduate, the student must complete a minimum of 48 credits of upper-level course work (300 level or higher).

### **Computer Science, Bachelor's Degree**

The Bachelor of Science in Computer Science program at California University of PA is accredited by the Computing Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

This program helps you develop expertise in computer science, which enables graduates to be successful. In addition to being successful in industry, many of our graduates have gone on to achieve graduate degrees in computer science and other fields from universities throughout the country.

### ***CS Program Educational Objectives***

It is the goal of the Computer Science program to produce graduates who:

- are successful professionals in industry and graduate school,
- are life-long learners and keep current in their professional field, and
- perform ethically and professionally in industry and society.

### ***CS Student Outcomes***

To achieve the program goals of the Computer Science program, we will provide students with the opportunity to develop:

- an ability to apply knowledge of computing and mathematics appropriate to the discipline,
- an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution,
- an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs,
- an ability to function effectively on teams to accomplish a common goal,
- an understanding of professional, ethical, legal, security and social issues and responsibilities ,
- an ability to communicate effectively with a range of audiences,
- an ability to analyze the local and global impact of computing on individuals, organizations, and society,
- to recognize the need for and demonstrate an ability to engage in continuing professional development,
- an ability to use current techniques, skills, and tools necessary for computing practice,
- an ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices, and
- an ability to apply design and development principles in the construction of software system of varying complexity in a variety of language platform."

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
CSC 120 Problem Solving and Programming Constructs	3 crs.
ENG 101 English Composition I or HON 150 Honors Composition I	3 crs
UNI 100 First-Year Seminar	1 cr.
MAT 281 Calculus I	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
CSC 124 C Programming I	3 crs.
ENG 217 Science and Technical Writing	3 crs.
MAT 195 Discrete Mathematical Structures	3 crs.
MAT 282 Calculus II	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
CSC 216 Logic and Switching Theory	3 crs.
CSC 265 Object-Oriented Programming	3 crs.
Public Speaking	3 crs.
General Education Elective	3 crs.
General Education Elective	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
CSC 323 Assembly Language Programming	3 crs.
CSC 328 Data Structures	3 crs.
MAT 341 Linear Algebra I	3 crs.
CET 350 Technical Computing Using Java	3 crs.
Laboratory Science I	4 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>16 Credits</b>
CSC 360 Analysis of Algorithms	3 crs.
CSC 378 Computer Architecture	3 crs.
MAT 381 Calculus III or MAT 441 Linear Algebra II	3 crs.
CS Elective	3 crs.
Laboratory Science II	4 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
CSC 400 Operating Systems	3 crs.
CSC 455 Structure of Programming Languages	3 crs.
MAT 215 Statistics	3 crs.
CIS 352 Global, Econ. and Soc. Ethical Issues in Comp	3 crs.
CS Elective	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>13 Credits</b>
CSC 490 Senior Project I	3 crs.
CSC 475 Theory of Languages	3 crs.
CSC Computer Science Elective	3 crs.
Scientific Method	4 crs.

<b>Eighth Semester</b>	<b>14 Credits</b>
CSC 460 Language Translation	3 crs.
CSC 492 Senior Project II	3 crs.
CS Elective	3 crs.
General Education Elective	3 crs.
Elective	2 crs.

### **Bachelor of Science in Education in Mathematics: Certification for Secondary Education – 120 Credits**

See [Secondary Education](#).

### **Associate of Science in Computer Science Technology – 60-61 Credits**

The following four-semester schedule of courses provides a recommended framework for completing these program of study in two years.

### **Computer Information Systems Concentration – 60 Credits**

#### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
CSC 120 Problem Solving and Programming Constructs	3 crs.
CIS 110 Introduction to Information Systems	3 crs.
ENG 101 English Composition I or HON 150 Honors Composition I	3 crs.
PSY 100 General Psychology	3 crs.
MAT 281 Calculus I	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
BUS 100 Introduction to Business	3 crs.
CSC 124 Computer Programming I	3 crs.



<b>Second Semester</b>	<b>15 Credits</b>
MAT 195 Discrete Structures	3 crs.
ENG 217 Science and Technical Writing or HON 250 Honors Composition II	3 crs.
Free Elective	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
CSC 330 Creating Web Pages and Websites with HTML	3 crs.
MAT 215 Statistics or MAT 225 Business Statistics	3 crs.
CSC 265 Object-Oriented Programming	3 crs.
CIS 321 Database Management Systems and Database Design	3 crs.
COM Public Speaking Course (see <b>Public Speaking – 3 Credits</b> )	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
ACC 200 Financial Accounting	3 crs.
Humanities Elective	3 crs.
Natural Science Elective	3 crs.
CSC 299 Sophomore Project	3 crs.
Multicultural Awareness Elective	3 crs.

\*If the Bachelor of Science in computer science will be pursued, choose toward a related area (minor). Otherwise, choose from the following: CSC 199 Field Experience in Computer Science; CSC 302 Visual Programming; CSC 304 COBOL; CSC 306 FORTRAN; MAT 282 Calculus II.

\*\*If the Bachelor of Science in computer science will be pursued, choose a natural science from the following: CHE 101 General Chemistry I; BIO 115 Principles of Biology.

## **Computer Science Concentration – 61 Credits**

### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
CSC 120 Problem Solving and Programming Constructs	3 crs.
ENG 101 English Composition I	3 crs.
MAT 199 Pre-Calculus	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
CSC 124 Computer Programming I	3 crs.
ENG 102 English Composition II	3 crs.
MAT 195 Discrete Mathematical Structures	3 crs.
General Education	3 crs.
Elective*	3 crs.

## Sophomore Year

<b>Third Semester</b>	<b>15 Credits</b>
CSC 216 Logic and Switching Theory	3 crs.
CSC 265 Object-Oriented Programming	3 crs.
MAT 281 Calculus I	3 crs.
Public Speaking	3 crs.
Elective*	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
CSC 323 Assembly Language Programming	3 crs.
CSC 328 Data Structures	3 crs.
ENG 217 Science and Technical Writing	3 crs.
Programming Language	3 crs.
Natural Science**	4 crs.

\*If the Bachelor of Science in computer science will be pursued, choose toward a related area (minor). Otherwise, choose from the following: CSC 199 Field Experience in Computer Science; CSC 302 Visual Programming; CSC 304 COBOL; CSC 306 FORTRAN; MAT 282 Calculus II.

\*\*If the Bachelor of Science in computer science will be pursued, choose a natural science from the following list: CHE 101 General Chemistry I; BIO 115 Principles of Biology.

## Minors

### **Minor in Computer Information Systems – 22 Credits**

Required (19 credits): CIS 110, 120, 220, 330, 321, 341

Electives (3 credits): Select any one of the following: CIS 299, CSC 302, 419 or MAT 195

### **Minor in Computer Science – 21 Credits: Computer Science Concentration**

Required (15 credits): CSC 120,124, 216, 265; MAT 195

Electives (6 credits): Select any two of the following courses: CSC 302, 304, 306, 328, 419

### **Minor in Mathematics – 21 Credits**

Required (15 credits): MAT 272, 281, 282, 341, 381

Electives (6 credits): Select any two of the following courses: MAT 290, 303, 351, 382, 400, 406, 441, 461

## Military Science (ROTC)

### Faculty

Bonomo, Wilkinson, Helfferich

### About Military Science (Army ROTC)

The Army Reserve Officers Training Corps (Army ROTC) is a national program that provides college-trained officers for the U.S. Army, the Army National Guard and the U.S. Army Reserve. Army ROTC enhances students' education by providing unique leadership and management experience and helps develop self-discipline, physical stamina and poise.

This educational experience is further enhanced through the professional military education program. This program encourages students to take additional courses in

military history, written communication, human behavior, management and national security studies. Participation in field training/trips are required during each semester.

The Army ROTC program at California University of Pennsylvania is a satellite program delegated by the University of Pittsburgh military science program; classes take place on campus. For additional information not covered below, call the Military Science Department at 724-938-1680 or 724-938-1679, or visit our office in the Frich Biological Science Building (BSC), Room 217.

### **The Basic Program**

ROTC is traditionally a four-year program consisting of a basic and an advanced program. The basic program is usually taken in the freshman and sophomore years. The student incurs no military obligation.

Students may discontinue the basic program at any time. It consists of four semesters of training and instruction on areas of national defense, land navigation, small-unit leadership, military history and leadership development. Uniform, necessary textbooks and equipment are furnished without cost to the student.

To be eligible for the basic program, a student must be enrolled as a full-time student at California University and not be a conscientious objector. Students who have taken Junior ROTC or have military experience (active duty, guard or reserves) may receive advanced placement credit for the basic program.

### **The Advanced Program**

The advanced program is normally taken in the final two years of college. Instruction includes further leadership development and evaluation, organizational and management techniques, tactics, and administration. Training is directed toward preparing the student to be commissioned and assume responsibilities as a second lieutenant upon completion of all program requirements.

A paid Leadership Development and Assessment Course (LDAC) is held during the summer between the junior and senior year and is required of all advanced course students. This camp permits the cadet to put into practice the principles and theories acquired in classroom instruction. In addition to being paid approximately \$800 (for five weeks of leadership training), the cadet is paid travel expenses, room and board, medical and dental care, and other benefits while attending LDAC.

To be eligible for the advanced program, a student must:

- fulfill the requirements for the basic program;
- successfully complete the professor of military science's (PMS) interview and selection process;
- meet Army medical standards;
- have a grade-point average of 2.0 or better (2.5 or better preferred); and
- meet Army physical fitness standards.

### **Graduate Students**

Graduate students may avail themselves of the opportunity for commission in the Army through the ROTC on campus and earn a stipend while doing so. Applicants need not have previous service in the armed forces; however, they must attend a summer camp. Additional information may be obtained from the ROTC office on campus.

### **Two-Year Program**

The two-year program enables students who did not enroll in the basic program to become eligible for entry into the advanced program through one of three methods:

1. Armed Forces veterans and Junior ROTC graduates may qualify for entry into the advanced program;
2. Students may elect to attend the ROTC Leader's Training Course (a five-week program completed during the summer) before entering the advanced program;
3. Students may attend Basic Training as members of an Army Reserve or National Guard unit. To be eligible for the two year program, one must be a full-time student in good standing with the University and must have at least junior status, be pursuing a four-year degree, and satisfy all the entry requirements outlined above for the advanced program.

### **Army ROTC Stipend**

All students enrolled and contracted into the advanced program and those receiving scholarship benefits receive a stipend of \$300 for freshmen, \$350 for sophomore, \$450 for juniors and \$500 for seniors per month for 10 months of the school year. This stipend is tax-exempt.

### **Army ROTC Scholarships**

Advanced freshmen may compete for three-year merit scholarships whether or not they are enrolled in military science courses. These scholarships pay for tuition and fees up to \$20,000 a year, a flat book-rate of \$900 per year, and a stipend for 10 months of each school year. Applications for these scholarships are accepted from the end of the fall semester through the beginning of the spring semester.

### **Simultaneous Membership Program (SMP)**

This program provides membership in ROTC and an Army Reserve or Army National Guard unit at the same time. While enrolled in ROTC, the student is also filling a leadership position, such as platoon leader, in a Reserve or National Guard unit. This affords the student the opportunity to gain valuable leadership and management experience while attending the University. The student receives the ROTC stipend and drill pay from the Reserves. Students who qualify and take advantage of all the benefits that are available through this program may receive benefits of as much as \$12,000.

### **Military Science Student Activities**

Military science students are encouraged to participate in University and civic activities as much as their course load will allow. The Military Science Department and the Vulcan Cadet Corps sponsors activities such as serving as color guard for University functions, marching in parades, and formal and semiformal social activities.

### **Military Adventure Training**

In addition to all the training and activities offered by the Department of Military Science, a selected number of highly motivated cadets are afforded the opportunity to attend some of the U.S. Army's most prestigious and challenging military schools. Limited numbers of positions are available for cadets to attend the U.S. Army Airborne School (at Fort Benning, Ga.), the U.S. Army Air Assault School (at Fort Campbell, Ky., or Schofield Barracks, Hawaii), and the U.S. Army Northern Warfare School (at Fort Greeley, Alaska). School allocations are awarded on a competitive basis.

### **A Suggested Military Science Curriculum**

#### *Basic GMS Courses*

	<b>Fall Semester</b>	<b>Spring Semester</b>
Freshman	GMS 101 1A or GMS 101 2A	GMS 102 1A or GMS 102 2A

	<b>Fall Semester</b>	<b>Spring Semester</b>
Sophomore	GMS 201 1A or GMS 201 2A	GMS 202 1A or GMS 202 2A

The first four semesters of military science (100- and 200-series courses) constitute the basic program, allowing the college student to gain insight into the military as a profession without incurring any military obligation. The student learns about the role of the U.S. Army in providing for national security, basic leadership and management skills, as well as basic military skills.

The student is afforded the opportunity to participate in outdoor activities, such as rappelling, swim survival and white water rafting, besides participating in various social activities sponsored by the Cadet Corps.

### *Advanced GMS Courses*

	<b>Fall Semester</b>	<b>Spring Semester</b>
Junior	GMS 301 1A	GMS 302 1A
Senior	GMS 401 1A	GMS 402 1A

The 300- and 400-series courses constitute the advanced courses of military instruction for men and women who desire a commission as second lieutenant in the active Army, the Army Reserve or the Army National Guard. This phase is composed of the studies in advanced leadership and management, tactics, military law, modern instructional and training techniques, and ethics and professionalism. Students are evaluated on their leadership skills in various leadership positions. Acceptance by the professor of military science is a prerequisite for enrollment in the advanced program.

*Note:* “F” and “S” indicate whether the course is usually offered in the fall or the spring.

### **Leadership Lab**

Leadership lab must be scheduled as part of each general military science course (GMS 101 through GMS 302). GMS 401/402 do not schedule lab; however, students must attend. During lab students are evaluated in various leadership positions and give and receive hands-on basic military skill classes, such as first aid, swim survival, basic mountaineering, movement techniques, survival, and drill and ceremony.

## **Modern Languages and Cultures**

### **Faculty**

Gonzalez (chairperson), Pensa, Randall, Ribar, Cencich, Khalil

### **Purpose**

Rapid political and economic changes in the world require that students not only understand other cultures, but that they can communicate with persons in those cultures. In this sense, familiarity with speaking and reading a modern language and being aware of how persons in other countries think about the world is pragmatic.

### **Programs**

The department administers the following programs: liberal arts language programs in Arabic and Spanish; a language certification program for students who plan to teach in one of the language areas; and minors in modern language Arabic and Spanish.

Language and culture are closely aligned, and a series of culture courses taught in English are available. These indicate how artistic expression, geography, and economic and historical development mutually influence each other.

## Placement

Students entering a modern language course will be evaluated in order to determine the proper course-level placement for them. Students who wish to receive credit for previously acquired language proficiency can take a CLEP examination or a challenge examination.

## Careers

Linguistic ability in languages other than English can promote employment opportunities in organizations working internationally, especially legal, banking and commercial corporations; national and regional governmental agencies; social service and religious organizations; educational institutions; communications; import-export and travel businesses; and a variety of translation services.

## Bachelor of Science in Education: Certification in Spanish for Secondary Schools – 120 Credits

See [Secondary Education](#).

## Bachelor of Arts in Arabic Language and Culture

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. To ensure that they are making satisfactory academic progress, students should consult with their faculty advisor, ensure that they complete necessary prerequisites and required courses in sequence.

## Admission

- B.A. in Arabic language and culture.
- Meet California University of Pennsylvania undergraduate admissions requirements.
- Must have a SAT writing score of 460 or higher or an ACT writing score of 19 or higher, or equivalent transfer credits, or satisfactorily pass a writing test administered at California University of Pennsylvania.

Students wishing to take only the minor, certificate, individual courses, or those already holding an accredited bachelor's degree do not need to meet the above listed writing requirements.

## Registration

The Bachelor of Arts Arabic language and culture program, as well as all Global Online programs of study, is housed within California University of Pennsylvania's Office of Web-Based Programs. This office assists students with their online educational experience, from application to graduation.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition 1	3 crs.
ARB 101 Elementary Arabic I	3 crs
General Education, Minor or Electives	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
ARB 102 Elementary Arabic II	3 crs.
General Education Courses	9 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
ARB 203 Intermediate Arabic I	3 crs.
General Education, Minor or Electives	12 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
ARB 204 Intermediate Arabic II	3 crs.
General Education, Minor or Electives	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
ARB 350 Advanced Arabic I	3 crs.
General Education, Minor or Electives	12 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
ARB 351 Advanced Arabic II	3 crs.
General Education, Minor or Electives	12 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>9-12 Credits</b>
General Education, Minor or Electives	9-12 crs.
<b>Eighth Semester</b>	<b>9-12 Credits</b>
General Education, Minor or Electives	9-12 crs.

### **Arabic Electives**

Available in the summer semester preceding the senior year.

### *Arabic-related Electives*

<b>Courses</b>	<b>3-12 Credits</b>
MFL 479 Field Studies in Modern Languages and Cultures	3-12 crs.
ARB 480 Selected Topics in Arabic	3-12 crs.
MFL 481 Modern Language Internship	3-12 crs.

### **Bachelor of Arts in International Studies: Modern Language Track – 120 Credits**

For other tracks, see **Earth Science** and **Business and Economics**.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
FRE 101 Elementary French I or *FRE 203 Intermediate French I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.

<b>First Semester</b>	<b>16 Credits</b>
General Education Courses	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
FRE 102 Elementary French II or *FRE 204 Intermediate French II	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	9 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
*FRE 203 Intermediate French I or FRE 311 Conversation, Composition and Phonetics I	3 crs.
300- or 400-Level French Culture Course	3 crs.
SPN 101 Elementary Spanish I or *SPN 203 Intermediate Spanish I	3 crs.
General Education, Minor or Elective	6 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*FRE 204 Intermediate French II or *FRE 312 Conversation, Composition and Phonetics II	3 crs.
SPN 102 Elementary Spanish II or *SPN 204 Intermediate Spanish II	3 crs.
300- or 400-Level SPN Cultural Course	3 crs.
General Education, Minor or Electives	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
*SPN 311 Conversation, Composition and Phonetics I or SPN 401 Advanced Composition: Grammar and Stylistics	3 crs.
*FRE Language Elective at the 400 Level	3 crs.
300- or 400-Level General Education, Minor or Electives	3 crs.
General Education, Minor or Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*SPN 312 Conversation, Composition and Phonetics II or SPN 450 Colloquium	3 crs.
300- or 400-Level General Education, Minor or Electives	6 crs.
General Education, Minor or Elective	6 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
*SPN 400-Level Elective	3 crs.



<b>Seventh Semester</b>	<b>15 Credits</b>
*FRE 400-Level Elective	3 crs.
300- or 400-Level General Education, Minor or Electives	9 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*SPN 400-Level Elective	3 crs.
300- or 400-Level General Education, Minor or Electives	6 crs.
General Education, Minor or Electives	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses.

### **Bachelor of Arts in Spanish – 120 Credits**

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

For all departmental programs, see **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
SPN 101 Elementary I or *SPN 203 Intermediate I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.
General Education courses	9 crs.

<b>Second Semester</b>	<b>15 Credits</b>
SPN 102 Elementary II or *SPN 204 Intermediate II	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	9 crs.

#### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
SPN 203 Intermediate I or SPN 311 Conversation, Composition and Phonetics I	3 crs.
300- or 400-Level Spanish Culture Course	3 crs.
SPN Course	3 crs.
General Education, Minor or Elective	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
SPN 204 Intermediate Spanish II or SPN [SPN] 312 Conversation, Composition and Phonetics II	3 crs.
300- or 400-Level Spanish Culture Course	3 crs.
SPN Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
General Education, Minor or Electives	6 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
SPN 311 Conversation, Composition and Phonetics I or SPN 401 Advanced Composition: Grammar and Stylistics	3 crs.
GEO 325 Geography of Europe [GEO 328 Geography of Latin America]	3 crs.
General Education, Minor or Elective	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
SPN Conversation, Composition and Phonetics II or SPN 450 Colloquium	3 crs.
300- or 400-Level General Education, Minor or Electives	6 crs.
General Education, Minor or Electives	6 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
SPN 421 Survey of Literature I	3 crs.
300- or 400-Level General Education, Minor or Electives	6 crs.
General Education, Minor or Electives	6 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
SPN 422 Survey of Spanish American Literature II	3 crs.
300- or 400-Level General Education, Minor or Electives	9 crs.
General Education, Minor or Electives	3 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses.

## Music

### Faculty

Gonano (chairperson), Ikach, Sharer

### Commercial Music Technology

#### Purpose

This innovative, interdisciplinary program—the only music technology degree program of its kind offered in Pennsylvania State System of Higher Education universities—blends musical training with the development of multimedia and entrepreneurial skills, preparing you for careers in audio production, broadcast engineering, multimedia soundtrack composition and even videogame development.

Our faculty combines a traditional approach to the study of music with a concentration in the theories, techniques and technologies used in the contemporary recorded music industry. You'll learn the basics of acoustics, recording and mixed-media production, utilizing both conventional and emerging technologies.

Upon graduation from the program, you will be:

- Proficient in one instrument of choice (including voice);
- Well-versed in the four areas of music study: theory, history, ensemble performance and applied music production;
- Trained in integrating audio with video; and
- Skilled in the technology of creating, recording, manipulating and storing digital audio.

### Programs

The department offers a Bachelor of Science in commercial music technology, or students from any major may choose to minor in music.

Admission to the commercial music technology program is by audition only.

### Admission into the Commercial Music Technology Program

The Department of Music at California University of Pennsylvania offers a degree program at the undergraduate level in Commercial Music Technology.

Students wishing to enroll in the Department of Music at Cal U need to follow the procedures below:

#### 1. Return Audition Information Form

To reserve an audition date, complete an [audition preregistration form](#) and email it to [musicauditions@calu.edu](mailto:musicauditions@calu.edu). Fill out and return this form as soon possible.

The audition preregistration form is a Word document:

- open it and save it to your computer
- complete the form
- save it again
- email it as an attachment to [musicauditions@calu.edu](mailto:musicauditions@calu.edu)

The Music Department will contact you via email and/or mail with your day and time of audition.

#### 2. Attend Scheduled Audition

Specific information (itinerary, parking information, map, etc.) about the audition day will be mailed to students after receipt of the completed audition information form. Plan to attend all of the events listed in the itinerary. Typically, the audition day begins around 8:30 a.m. and concludes at approximately 4 p.m.

Audition dates can be found on the [Commercial Music Technology – Admissions Web page](#).

#### 3. Audition Material

Before auditioning, make sure to read our [Commercial Music Technology Audition Procedures Handbook](#).

#### 4. Notification of Acceptance into the CMT program

All accepted applicants will be notified via mail, and all acceptances will be contingent upon acceptance by the University at large. If you haven't already, you should apply for admission to Cal U.

### Careers

Cal U's Bachelor of Science in commercial music technology will give you a complete repertoire of skills, preparing you for careers as recording and broadcast engineers, audio engineers for television and film, digital composers and arrangers, videogame developers, sound mixers, and sales representatives within the music industry.

Cal U prepares you to enter the workforce with knowledge, integrity, character and experience. With the help of Career Services, we'll connect you to potential employers through networking events, job shadowing opportunities, on-campus recruiting, job and internship fairs, and organizational visits.

### **Commercial Music Technology: Curriculum**

The Bachelor of Science in commercial music technology can be completed in four years. The curriculum shown below illustrates the scope of courses that are required for graduation from this program. In addition to courses in music history, music theory and performance, commercial music technology majors will take classes in audio and video production, digital video, Web publishing, 3-D and computer animation, and music production, as well as business courses in economics and finance.

### **Bachelor of Science in Commercial Music Technology – 120 Credits**

#### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
GCM 101 Time-Based Media	3 crs.
MUS 211 Keyboard Class	3 crs.
MUS 215 Comprehensive Musicianship I	3 crs.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

<b>Second Semester</b>	<b>17 Credits</b>
ENG 217 Scientific and Technical Writing	3 crs.
MUS 100 Introduction to Music	3 crs.
MUS 315 Comprehensive Musicianship II	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

#### *Sophomore Year*

<b>Third Semester</b>	<b>17 Credits</b>
CMD 221 Speech Science	3 crs.
COM 141 Audio Production I	3 crs.
MUS 316 Comprehensive Musicianship III	3 crs.
MUS 380 Creative Digital Music	3 crs.
General Education Course	3 crs.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

<b>Fourth Semester</b>	<b>14 Credits</b>
ECO 100 Elements of Economics	3 crs.
MUS 416 Comprehensive Musicianship IV	3 crs.
MUS History/Forms/Analysis Elective	3 crs.
General Education Course	3 crs.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

*Junior Year*

<b>Fifth Semester</b>	<b>14 Credits</b>
GCM 180 Multimedia Foundations	3 crs.
MUS 390 Music Production I	3 crs.
MUS 425 Commercial Music Arranging	3 crs.
General Education Course	3 crs.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

<b>Sixth Semester</b>	<b>15 Credits</b>
COM 142 Video Production	3 crs.
GCM Technology Elective	3 crs.
MUS 490 Music Production II	3 crs.
MUS History/Forms/Analysis Elective	3 crs.
MUS 489 Music Tech Practicum	1 cr.
MUS Applied Instruction	1 cr.
MUS Performance Ensemble	1 cr.

*Senior Year*

<b>Seventh Semester</b>	<b>13-14 Credits</b>
THE 211 Lighting I	3 crs.
MUS 202 North American Music	3 crs.
MUS 499 Senior Project/Recital	3 crs.
MUS History/Forms/Analysis Elective	3 crs.
MUS 488 Music Tech Internship or MUS 489 Music Tech Practicum	var.

<b>Eighth Semester</b>	<b>14-15 Credits</b>
FIN 304 Personal Finance	3 crs.
GCM Technology Elective	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Eighth Semester</b>	<b>14-15 Credits</b>
MUS Applied Instruction	1 cr.
MUS 488 Music Tech Internship or MUS 489 Music Tech Practicum	var.

### **Purpose**

Did you ever meet anyone who did not like some type of music? Well, neither did we. Music is an important form of expression and enjoyment. To fully appreciate music, you have to understand it. At California University we provide the opportunity to experience this art form completely as a listener, a performer and a student.

### **Program**

The attainment of the music minor may be especially valuable to those who seek to enhance their chosen field. The Music Department offers courses in basic musicianship, theory, music history, education, applied electives and ensemble performance.

Contact the Music Department for more information regarding the commercial music technology major program.

### **Minor in Music – 24 Credits**

Nine of the 24 credits for the minor must be at 300 and/or 400 level. To achieve the minor in 24 credits, any student who begins private instruction at the 100 or 200 level must take their 300-level courses from the history, theory and education elective list.

Required Courses (9 credits): MUS 100, 215, 315.

History, Theory and Education Electives (9 crs. min.): MUS 300, 304, 306, 313, 372, 380.

Applied Electives (3 credits minimum): MUS 104, 211.

Private instruction courses are available to music minors.

The following courses are repeatable to a maximum of 8 credits each: MUS 109-409, 119-419, 129-429, 149-449, 159-459.

Performance Electives (3 credits minimum).

The following courses are repeatable to a maximum of 8 credits, the option to continue without credit is available: MUS 191, 192, 196, 198, 199, 307.

## **Nursing R.N.-B.S.N. Program**

### **Faculty**

Hettman (chairperson), Clites, O'Connor, Palko, Pina, Shelapinsky

### **Purpose**

California University's Department of nursing offers an upper-division program leading to a Bachelor of Science in Nursing. This program is intended for registered nurses who have already completed a diploma or associate degree in nursing.

The R.N.-B.S.N. program is specifically designed to provide the graduate with an educational foundation in the arts and sciences as well as nursing, to serve as a basis for graduate education and a commitment to lifelong learning. The program assists the R.N. with the synthesis of theories and research findings into the role of the professional nurse, and builds upon the R.N.'s competencies in nursing by providing an increased level of knowledge and experiences in a variety of settings. Graduates are thus prepared to assume a wide range of professional nursing roles in diverse health care environments.

The program is accredited by the Commission on Collegiate Nursing Education.

## Requirements

Eligibility to register for upper-division nursing courses requires:

- Graduation from an NLNAC-accredited associate degree or diploma program in nursing;
- Current licensure as a registered nurse in the Commonwealth of Pennsylvania; and
- Completion of the entry-level portfolio.

Specific information regarding admission requirements is available in the Department of Nursing and on the department website.

A minimum grade of C is required for completion of each nursing course. Additionally, all of the University's graduation requirements apply to the R.N.-B.S.N. program.

## Locations

The R.N.-B.S.N. program is offered in its entirety at three locations:

- the California University of Pennsylvania campus;
- the Southpointe Center in Canonsburg; and
- the Community College of Allegheny County – South Campus in West Mifflin (as part of our unique cooperative agreement with the community college).

## Bachelor of Science in Nursing – 120 Credits

Upon admission, 30 credits from the R.N.'s basic nursing program lower-division course work, along with 30 credits (as appropriate) for completed general education courses, will be accepted as the Academic Passport. An additional 15 credits will be awarded through completion of an entry-level portfolio evaluation. Students with more than 30 general education credits completed may transfer the additional course work per the University's transfer credit policy to meet the R.N.-B.S.N. program requirements. Students who already have another bachelor's degree are exempt from meeting the general education requirements with the exception of public speaking and statistics which are required by the nursing program. Students must consult with an academic adviser to determine courses needed for graduation.

## Freshman Year and Sophomore Year

Students in the R.N.-B.S.N. program take upper-level course work upon admission. Typical freshman- and sophomore-level courses are completed through transfer credits from the R.N.'s associate or diploma program in nursing. This should include English Composition I and II, Anatomy and Physiology I and II, Microbiology, and 6 credits in the social sciences. Transfer students who attended diploma programs which did not award college credit for the sciences (Anatomy and Physiology I and II, or Microbiology) may challenge these courses by taking an NLN examination through the Department of Nursing.

## Junior Year and Senior Year

Students typically progress through the program's junior and senior courses taking two courses one evening per week for four semesters, along with additional general education courses as needed. The following is a sample progression plan according to the order in which the nursing courses are offered. Nonnursing courses may be taken during any semester, or credit may be awarded by way of transfer credits or challenge exams.

## Sample Progression Plan

### *Junior Year*

#### **Fifth Semester**

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\*NUR 330 Philosophy of Professional Nursing

3 crs.

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### **Fifth Semester**

*NUR 370 Methods of Nursing Research	3 crs.
**General Education Courses as needed	

### **Sixth Semester**

*NUR 350 Health Assessment	3 crs.
*NUR 375 Leadership and Change in Nursing	6 crs.
**General Education Courses as needed	

### *Senior Year*

#### **Seventh Semester**

*NUR 450 Trends and Issues in Nursing	3 crs.
*NUR 470 Family Health Nursing	6 crs.
**General Education Courses as needed	

#### **Eighth Semester**

*NUR 410 Research Utilization in Nursing	2 crs.
*NUR 475 Community Health Nursing	6 crs.
*NUR 485 Professional Development	1 cr.
**General Education Courses as needed	

#### **General Education Requirements**

**Humanities	3 crs.
**Public Speaking	3 crs.
**Technological Literacy	3 crs.
**Statistics	3 crs.
**300- or 400-Level Electives (if needed)	6 crs.

\*Required major and related courses.

\*\*Required and recommended General Education courses.

## **Philosophy**

### **Faculty**

Hoy, Fox, Shaffer (chairperson), Press

### **Purpose**

The word “philosophy” comes from two Greek words that mean love (philos) and wisdom (sophia), and throughout much of history, anyone who sought knowledge was called a philosopher. Philosophy students study the historical development of theories about the nature of knowledge, reality and values; and they learn how to assess such theories. Students develop abilities to think logically, to explore issues from different perspectives, and to present their ideas effectively in writing.



## Programs

The philosophy major program of study covers the history of philosophy, logic and issues in philosophy which might be grouped as ethical, epistemological or metaphysical. The department also offers a minor in philosophy.

## Activities

The Philosophy Department advises the Philosophy Club, which gives students informal social opportunities for discussions, debates and lectures. The department also hosts topical lectures and forums.

## Careers

Philosophy majors go on to a variety of careers: law, ministry, teaching, civil service, management, to name a few. Indeed, the philosophy major is well-suited for any career that values critical reasoning, logical problem-solving and an ability to look at issues from many perspectives. Increasingly, the business world is looking for this kind of liberally educated person.

## Bachelor of Arts in Philosophy – 120 Credits

See **General Education** for a list of general education goals and objectives and the courses included on the menus for the various goals.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
*PHI 201 History of Ancient Philosophy	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.
General Education Courses	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
*PHI 115 Logic and Language or PHI 211 Formal Logic I	3 crs.
*PHI 206 16th- to 18th-Century Philosophy	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*PHI 225 Social and Political Philosophy or 370 Philosophy of Law	3 crs.
General Education, Minor or Elective Courses	12 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*PHI 320 Ethical Theory	3 crs.
General Education, Minor or Elective Courses	12 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
300- or 400-Level Philosophy Electives	6 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*PHI 325 Philosophy of Science or PHI 405 Epistemology	3 crs.
General Education, Minor or Elective Courses	12 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*PHI 410 Metaphysics or PHI 415 Philosophy of Mind	3 crs.
300- or 400-Level Philosophy Elective	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
300- or 400-Level Philosophy Elective	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	12 crs.

\*Required major and related courses.

\*\*Required and recommended General Education courses.

### **Minor in Philosophy – 21 Credits**

Required Courses (9 credits): PHI 115 or 211, 201, 206

Philosophy Electives (12 credits): select philosophy courses at the 300-400 level.

## **Professional Studies**

### **Faculty**

Nemeth (chairperson), Magers, Toras, Bassi, Blume, Dawida, Govern, Haywood, Smith, Scott, Uva, Morgan, Pastor, Scyphers, Kohlhepp, Noyes

### **Department Mission**

The Bachelor of Science in legal studies prepares its graduates for entry-level positions in the legal system or advancement from current position or rank. Legal studies is an eclectic field which addresses, analyzes and critiques the law and its implications from a social, administrative, occupational, operational, philosophical and managerial perspective. Special emphasis is given to the ethical considerations inherent in all legal decision making, the constitutional parameters of law and its practice and practical assessments of how law influences the culture, the community and the individual. Students will be exposed to theories of law, but just as critically, application principles and practices. Graduates will be not only learned in the law but in the roles and functions needed for many of the legal system's present employees.

This course of study enhances the ability to advocate and argue; the capacity to research and assess; the disposition to reconcile and mediate; and the plethora of human and institutional skills necessary for action, legislation or policy implementation.

Implementation of this Web-based degree serves historically underrepresented clientele, namely those who lack the flexibility or financial resources to attend class full time, those with variable work hours or family responsibilities that make attending a traditional graduate program a difficulty.

### Job Options

- Legal assistant or paralegal, legal administrator, law
- Office administrator, law enforcement and investigative services, government
- Service in administrative agencies, legal clerks, private sector justice
- Positions in business and banking, and
- Graduate study.

### B.S. in Science and Technology – Legal Studies Concentration

<b>Discipline Concentration</b>	<b>36 Credits</b>
LAW 300 The Paralegal Profession	3 crs.
LAW 310 Legal Research and Writing	3 crs.
LAW 320 Litigation and Evidence	3 crs.
LAW 330 Criminal Law for Paralegals	3 crs.
LAW 340 Family Law	3 crs.
LAW 350 Real Estate Law	3 crs.
LAW 360 Law, Business and the Workplace	3 crs.
LAW 370 Administrative Law	3 crs.
LAW 380 Estates and Trusts	3 crs.
LAW 390 Bankruptcy	3 crs.
LAW 400 Constitutional Law for Paralegals	3 crs.
LAW 410 Law and Ethics	3 crs.
<b>Paralegal Electives</b>	<b>24 Credits</b>
LAW 420 Law and Conflict Resolution	3 crs.
LAW 430 Elder Law	3 crs.
LAW 440 Immigration Law	3 crs.
LAW 450 Labor and Employment Law	3 crs.

Students are encouraged to enroll in electives relating to business, criminal justice, political science, computer science and social science at the 300-400 level.

### Unrestricted Electives: 9 - 12 hours

\*At least 40 percent of the total credits must be upper division courses (300 level or higher) to qualify for graduation, (48 credit hours).

\*Students must have minimum 2.0 grade-point average to qualify for graduation.

36 hours of discipline specific concentration (required electives) are needed along with 30-36 hours of additional electives. These additional electives will vary depending on the student's transcript and articulation transfer agreement.

# Psychology

## Faculty

S. Lonich (chairperson), Adair, Bloomquist, Cavasina, Ditkoff, John, Martin, Mason, Regeth, Rosengart, Scott, Toth

## Purpose

Psychology is one of the social/behavioral sciences engaged in the systematic study of behavior and mental processes. Psychology focuses on the study and explanation of patterns of individual behavior, thoughts and emotions. It does so from a variety of perspectives that emphasize intrapersonal and interpersonal, social, and physiological factors. The field of psychology seeks to understand individual behavior and use that information to assist people in living more adjusted and fulfilling lives.

## Programs

The department offers the Bachelor of Arts in psychology degree with two concentrations: general psychology and industrial/organizational psychology. Within the general psychology concentration, there are options for students interested in counseling and mental health care careers, or educational, child or developmental psychology. Industrial/organizational psychology is the research and applied specialty concerned with implementing the principles of psychology to business. It is the major for students interested in human resource management careers.

Minors in psychology and industrial/organizational psychology are also offered to students in other programs.

## Honor and Professional Societies

Qualified majors can join Psi Chi, the national honor society. The department also sponsors a Psychology Club which hosts guest speakers, organizes trips to conferences of professional interest, and provides career and employment information.

## Careers

Traditionally, psychologists have been employed in universities, schools and clinics. Today, more than ever before, they can be found working in businesses, hospitals, private practice, courtrooms, sports organizations, police departments, government agencies, private laboratories, the military and other settings. A student with a concentration in industrial/organizational psychology can find employment in personnel resource management. Students will be prepared to do personnel recruitment, training, testing and supervision. Many career opportunities in psychology, however, require an advanced degree.

## Bachelor of Arts in Psychology – 120 Credits: Both Concentrations

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### Psychology Concentration

#### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**ENG 101 English Composition I	3 crs.
*PSY 100 General Psychology	3 crs.
**UNI 100 First-Year Seminar	1 cr.
General Education Courses	9 crs.

<b>Second Semester</b>	<b>15 Credits</b>
**ENG 102 English Composition II	3 crs.
Psychology Content Course	3 crs.
General Education Courses	9 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*PSY 220 Descriptive Statistics in Psychology	3 crs.
General Education, Minor or Elective Courses	12 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*PSY 331 Inferential Statistics in Psychology	3 crs.
*PSY 345 History and Systems of Psychology	3 crs.
Psychology Content Course	3 crs.
General Education, Minor or Elective Courses	6 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*PSY 340 Psychological Testing	3 crs.
300- or 400-Level Psychology Content Course	3 crs.
General Education, Minor or Elective Courses	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
PSY 360 Experimental Psychology	3 crs.
PSY 400 Abnormal Psychology	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
300- or 400-Level Psychology Content Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	12 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
*PSY 460 Senior Seminar: Special Topics	3 crs.
300- or 400-Level Psychology Content Course	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.

**Industrial/Organizational Psychology Concentration**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
*PSY 100 General Psychology	3 crs.

<b>First Semester</b>	<b>16 Credits</b>
**UNI 100 First-Year Seminar	1 cr.
**ENG 101 English Composition I	3 crs.
General Education Courses	9 crs.
<b>Second Semester</b>	<b>15 Credits</b>
PSY 209 Industrial Psychology	3 crs.
**ENG 102 English Composition II	3 crs.
General Education Courses	9 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
*PSY 211 Social Psychology	3 crs.
*PSY 220 Descriptive Statistics in Psychology	3 crs.
General Education, Minor or Elective Courses	9 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
*PSY 345 History and Systems of Psychology	3 crs.
*MGT 352 Human Resource Management	3 crs.
General Education, Minor or Elective Courses	9 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
*PSY 340 Psychological Testing	3 crs.
*PSY 428 Advanced Industrial Psychology	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	9 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
*PSY 360 Experimental Psychology	3 crs.
*MGT 353 Compensation Management	3 crs.
*MGT 362 Labor Relations	3 crs.
*PSY 370 Interviewing Skills	3 crs.
300- or 400-Level General Education, Minor or Elective Courses	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
General Education, Minor or Elective Courses	12 crs.
Content Area Elective	3 crs.

**Eighth Semester****15 Credits**

300- or 400-Level General Education, Minor or Elective Courses

15 crs.

\*Required major and related courses

\*\*Required or recommended General Education courses

**Minor in Psychology – 21 Credits****Psychology Concentration**

Required (6 credits): PSY 100 and PSY 220

Electives (6 credits):

Select one: PSY 206, 207, 216, or 217

Select one: PSY 208, 209, 211, or 235

Select three 300- or 400-level Psychology Electives: (9 credits)

**Industrial/Organizational Psychology Concentration**

Required (21 credits) PSY 100, 209, 370, 428, MGT 352, 353, 362.

**Secondary Education****Faculty**

Hepner (chairperson), Edwards, Monroe, Zisk

**Purpose**

The Department of Secondary Education is responsible for the secondary education certification programs at the undergraduate, post-baccalaureate and graduate levels. At the graduate level, the advanced studies in secondary education program is offered leading to the Master of Arts in Teaching degree. Additionally, the Department of Secondary Education is responsible for several of the educational foundations and professional courses offered in the College of Education and Human Services.

**Programs**

Secondary certification is offered in art, biology, chemistry, physics, social studies, communications, English, earth science, mathematics and foreign languages (French and Spanish).

Individuals with bachelor's degrees may become certified through the post-baccalaureate certification only program by taking courses required for public school certification that were not taken at the undergraduate level. Secondary education majors are advised both in the Department of Secondary Education and in the department of their academic area.

Undergraduate secondary education majors are required to have a GPA of 2.80, pass the required Praxis I exams, and have both Act 34 and Act 151 clearances for formal Admission to Teacher Education. A GPA of 3.00 and passing scores for Praxis II are needed to apply for a Recommendation for Student Teaching.

Effective fall 2007, secondary education majors are required to declare a dual major with their certification content area. For example, chemistry education majors must also be chemistry majors and social studies education majors must also be history majors. The only exception is communications education which does not have an equivalent major.

## Bachelor of Science in Education: Art Education Certification K-12

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
ART 110 Drawing I	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
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ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
ART 119 Design 2-D	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
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SEC 200 Instructional Strategies in Secondary Education	3 crs.
ART 120 Design 3-D	3 crs.
Art Studio Course	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
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HSC 115 Current Health Issues	3 crs.
Art Studio Course	3 crs.
Art Studio Course	3 crs.
Art Studio Course	3 crs.
General Education Course	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
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EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
ART 308 Art History: Ancient to Medieval	3 crs.
General Education Course	3 crs.



<b>Sixth Semester</b>	<b>15 Credits</b>
SEC 421 Assessment in Art Education	3 crs.
EDF 333 Education Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
ART 316 Art History: Renaissance through Rococo	3 crs.
ART 322 20th Century Art	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 431 Teaching of Art	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
ART 410 Teaching Art in Pre-K thru Grade 8	3 crs.
Art Elective	3 crs.
Art Studio Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Biology Education Certification 7-12**

*Freshman Year*

<b>First Semester</b>	<b>17 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
BIO 115 Principles of Biology	4 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>16 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
BIO 120 General Zoology	4 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>18 Credits</b>
SEC 200 Instructional Strategies in Secondary Education.	3 crs.
BIO 125 General Botany	4 crs.

<b>Third Semester</b>	<b>18 Credits</b>
BIO 306 Human Anatomy	4 crs.
CHE 101 General Chemistry I	4 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>16 Credits</b>
HSC 115 Current Health Issues	3 crs.
PSY 208 Educational Psychology	3 crs.
CHE 102 General Chemistry II	4 crs.
EAS 100 Introduction to Earth Science	3 crs.
General Education Course	3 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>14 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience In Secondary Education	3 crs.
BIO 310 Ecology	4 crs.
CHE 331 Organic Chemistry I	4 crs.
<b>Sixth Semester</b>	<b>17 Credits</b>
SEC 426 Assessment in Science Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
PHY 121 General Physics I	4 crs.
BIO 328 Human Physiology	4 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>16 Credits</b>
SEC 436 Teaching of Science	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
ENS 495 Design and Analysis	3 crs.
BIO 478 Evolution	3 crs.
BIO 318 Genetics	4 crs.
<b>Eight Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 460 Classroom Management	3 crs.

## Bachelor of Science in Education: Chemistry Education Certification 7–12

### *Freshman Year*

<b>First Semester</b>	<b>17 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
CHE 101 General Chemistry I	4 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>16 Credits</b>
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ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
PSY 100 General Psychology	3 crs.
CHE 102 General Chemistry II	4 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>17 Credits</b>
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SEC 200 Instructional Strategies in Secondary Education	3 crs.
CHE 261 Analytical Chemistry I	4 crs.
CHE 331 Organic Chemistry I	4 crs.
MAT 281 Calculus I	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>18 Credits</b>
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HSC 115 Current Health Issues	3 crs.
CHE 30 Inorganic Chemistry	4 crs.
CHE 332 Organic Chemistry II	4 crs.
PHY 101 College Physics I	4 crs.
MAT 282 Calculus II	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>17 Credits</b>
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EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
CHE 451 Physical Chemistry I	4 crs.
PHY 102 College Physics II	4 crs.

<b>Sixth Semester</b>	<b>14 Credits</b>
SEC 426 Assessment in Science Education	3 crs.
SEC 350 Content Area Literacy	3 crs.
EDF 333 Educational Technology	3 crs.
CHE 368 Individual Work	1 cr.
CHE 452 Physical Chemistry II	4 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 436 Teaching of Science	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
CHE 361 Instrumental Methods	3 crs.
CHE 381 Environmental Chemistry	4 crs.
CHE 495 Chemistry Seminar	1 cr.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Communications Education Certification 7-12**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
COM 142 Video Production I	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
COM 230 Argumentation and Debate	3 crs.

<b>Third Semester</b>	<b>15 Credits</b>
ENG 371 Critical Theory and Teaching of Literature	3 crs.
THE 131 Fundamentals of Acting	3 crs.
THE 141 Stagecraft	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
HSC 115 Current Health Issues	3 crs.
THE 150 Introduction to Theatrical Design	3 crs.
ENG 372 Composition, Theory and the Teaching of Writing	3 crs.
PSY 208 Educational Psychology	3 crs.
General Education Course	3 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
SEC 350 Content Area Literacy	3 crs.
THE 320 Fundamentals of Directing	3 crs.
Theater Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
SEC 423 Assessment in English/Communication Education	3 crs.
EDF 333 Educational Technology	3 crs.
COM 445 Radio/TV in a Free Society	3 crs.
COM/THE Interpretation Elective	3 crs.
ENG 425 Shakespeare	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 433 Teaching of English and Comm.	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
COM 490 Communication Theory	3 crs.
THE/ENG Shakespeare Elective	3 crs.
ENG 345 English Grammar and Usage	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

## Bachelor of Science in Education: Earth And Space Science Education Certification 7-12

### *Freshman Year*

<b>First Semester</b>	<b>15 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
MAT 191 College Trigonometry	3 crs.
EAS 150 Introduction to Geology	4 crs.
EAS 240 Introduction to Meteorology	4 crs.

<b>Second Semester</b>	<b>18 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
EAS 163 Introduction to Oceanography	3 crs.
EAS 303 Hydrology	3 crs.
PSY 100 General Psychology	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
EAS 242 Climatology	3 crs.
EAS 131 Introduction to Environmental Geology	3 crs.
MAT 199 Pre-Calculus	3 crs.
General Education	3 crs.

<b>Fourth Semester</b>	<b>18 Credits</b>
HSC 115 Current Health Issues	3 crs.
EAS 200 Historical Geology	3 crs.
PHS 145 Astronomy	3 crs.
ENS 101 Introduction to Environmental Science	3 crs.
Earth Science Elective	3 crs.
General Education	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
SEC 300 Field Experience In Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
EAS 441 Advanced Environmental Geology	3 crs.
EAS 365 Remote Sensing: Satellite and Radar Interpretation	3 crs.
Earth Science Elective	3 crs.

<b>Sixth Semester</b>	<b>18 Credits</b>
SEC 426 Assessment in Science Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
EDU 310 Teaching in a Multicultural Society	3 crs.
Earth Science Elective	3 crs.
Earth Science Elective	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 436 Teaching of Science	13 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
Earth Science Elective	3 crs.
Earth Science Elective	3 crs.
Earth Science Elective	3 crs.

**Bachelor of Science in Education: English Education Certification 7-12**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
ENG 205 World Literature to 1600	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 101 General Psychology	3 crs.
ENG 206 World Literature from 1600	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
ENG 337 or 338	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
HSC 115 Current Health Issues	3 crs.
ENG 301 or 302	3 crs.
ENG 345 English Grammar and Usage	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
ENG 346 History of English Language	3 crs.
ENG 347 Introduction to Linguistics	3 crs.
ENG Writing Core Elective	3 crs.

<b>Sixth Semester</b>	<b>18 Credits</b>
SEC 423 Assessment in English/Communication Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
ENG 371 Critical Theory and the Teaching of Literature	3 crs.
ENG Writing Core Elective	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 433 Teaching of English and Communications (Fall only)	3 crs.
ENG 372 Composition Theory and Teaching of Writing	3 crs.
ENG 425 Shakespeare	3 crs.
ENG Writing Core Elective	3 crs.
General Education Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

## **Bachelor of Science in Education: Foreign Language (French) Education Certification K-12**

### *Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.



<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
FRE 101 Elementary French I	3 crs.
General Education Course	3 crs.
<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
FRE 102 Elementary French II	3 crs.
<i>Sophomore Year</i>	
<b>Third Semester</b>	<b>15 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
FRE 203 Intermediate French I	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
<b>Fourth Semester</b>	<b>15 Credits</b>
HSC 115 Current Health Issues	3 crs.
FRE 204 Intermediate French II	3 crs.
GEO 325 Geography of Europe	3 crs.
PSY 208 Educational Psychology	3 crs.
General Education Course	3 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
FRE 421 Survey of Literature I	3 crs.
FRE 311 Conversation, Composition and Phonetics I	3 crs.
FRE French Culture Elective	3 crs.
<b>Sixth Semester</b>	<b>15 Credits</b>
SEC 424 Assessment in Foreign Languages Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
FRE 312 Conversation, Composition and Phonetics II	3 crs.
FRE 422 Survey of Literature II	3 crs.

Senior Year

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 434 Teaching of Foreign Languages	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
FRE 401 Advanced Composition, Grammar and Stylistics	3 crs.
FRE 450 Foreign Language Colloquium	3 crs.
FRE French Culture Elective	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Foreign Language (Spanish) Education Certification K-12**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
SPN 101 Elementary Spanish I	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
SPN 102 Elementary Spanish II	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
SPN 203 Intermediate Spanish I	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Third Semester</b>	<b>15 Credits</b>
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
HSC 115 Current Health Issues	3 crs.
SPN 204 Intermediate Spanish II	3 crs.
GEO 325 Geography of Europe	3 crs.
PSY 208 Educational Psychology	3 crs.
General Education Course	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience In Secondary Education	3 crs.
SPN 421 Survey of Literature I	3 crs.
SPN 311 Conversation, Composition and Phonetics I	3 crs.
SPN Spanish Culture Elective	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
SEC 424 Assessment in Foreign Languages Ed.	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
SPN 312 Conversation, Composition and Phonetics II	3 crs.
SPN 422 Survey of Literature II	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 434 Teaching of Foreign Languages	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
SPN 401 Advanced Composition, Grammar and Stylistics	3 crs.
SPN 450 Foreign Language Colloquium	3 crs.
SPN Spanish Culture Elective	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Mathematics Education Certification 7-12**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.

<b>First Semester</b>	<b>16 Credits</b>
ENG 101 English Composition I	3 crs.
SEC 150 Introduction to Secondary Education	3 crs.
MAT 281 Calculus I	3 crs.
MAT 272 Discrete Mathematics	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
PSY 100 General Psychology	3 crs.
MAT 282 Calculus II	3 crs.
MAT 290 Technology for Math	3 crs.
General Education Course	3 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
MAT 381 Calculus III	3 crs.
MAT 215 Statistics	3 crs.
MAT 303 Geometry	3 crs.
Chemistry I or Physics I	4 crs.

<b>Fourth Semester</b>	<b>16 Credits</b>
HSC 115 Current Health Issues	3 crs.
MAT 341 Linear Algebra I	3 crs.
MAT 305 Theory of Equations	3 crs.
MAT 382 Calculus IV	3 crs.
Chemistry II or Physics II	4 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
MAT 406 Differential Equations	3 crs.
MAT 461 Statistical Analysis I	3 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
SEC 425 Assessment in Mathematics Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
MAT 304 History of Mathematics	3 crs.
MAT 351 Abstract Algebra I	3 crs.

*Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
SEC 435 Teaching of Mathematics	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
MAT 400 Mathematical Modeling	3 crs.
MAT 481 Real Analysis I	3 crs.
General Education Course	3 crs.

<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Physics Education Certification 7-12**

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
SEC 150 Introduction to Secondary Ed.	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Second Year</b>	<b>16 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
General Education Course	3 crs.
PSY 100 General Psychology	3 crs.
PHY 101 College Physics I	4 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>17 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
PHY 202 College Physics II	4 crs.

<b>Third Semester</b>	<b>17 Credits</b>
HSC 115 Current Health Issues	3 crs.
MAT 281 Calculus I	3 crs.
CHE 101 General Chemistry I	4 crs.
<b>Fourth Semester</b>	<b>14 Credits</b>
PHY 203 College Physics III	4 crs.
PSY 208 Educational Psychology	3 crs.
MAT 282 Calculus II	3 crs.
CHE 102 General Chemistry II	4 crs.
<i>Junior Year</i>	
<b>Fifth Semester</b>	<b>16 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience In Secondary Education	3 crs.
SEC 350 Content Area Literacy	3 crs.
MAT 381 Calculus III	3 crs.
PHY 301 Intermediate Electricity and Magnetism	4 crs.
<b>Sixth Semester</b>	<b>16 Credits</b>
SEC 426 Assessment in Sciences Education	3 crs.
EDF 333 Educational Technology	3 crs.
PHY Physics Elective	3 crs.
MAT 382 Calculus IV	3 crs.
PHY 321 Intermediate Mechanics	4 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>13 Credits</b>
SEC 436 Teaching of Science	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
PHY 331 Modern Physics	3 crs.
MAT 406 Differential Equations	3 crs.
PHY 495 Physics Seminar	1 cr.
<b>Eight Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

**Bachelor of Science in Education: Social Studies Certification 7-12***Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
UNI 100 First-Year Seminar	1 cr.
ENG 101 English Composition I	3 crs.
Math Course	3 crs.
SEC 150 Introduction to Secondary Ed.	3 crs.
HIS 101 U.S. History to 1877	3 crs.
General Education Course	3 crs.

<b>Second Semester</b>	<b>15 Credits</b>
ENG 102 English Composition II	3 crs.
COM 101 Oral Communication	3 crs.
Math Course	3 crs.
PSY 100 General Psychology	3 crs.
HIS 102 U.S. History since 1878	3 crs.

*Sophomore Year*

<b>Third Semester</b>	<b>18 Credits</b>
SEC 200 Instructional Strategies in Secondary Education	3 crs.
HIS 104 History of Western Civilization to 1500 or HIS 111 World History to 1500	3 crs.
POS 100 Introduction to Political Science	3 crs.
HIS 295 The Craft of History	3 crs.
General Education Course	3 crs.
General Education Course	3 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
HSC 115 Current Health Issues	3 crs.
HIS 106 History of Western Civilization since 1500 or HIS 112 World History since 1500	3 crs.
SOC 100 Principles of Sociology	3 crs.
GEO 100 Introduction to Geography	3 crs.
General Education Course	3 crs.

*Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
EDU 310 Teaching in a Multicultural Society	3 crs.
SEC 300 Field Experience in Secondary Education	3 crs.
PSY 208 Educational Psychology	3 crs.
ECO 100 Elements of Economics	3 crs.

<b>Fifth Semester</b>	<b>15 Credits</b>
History Elective	3 crs.
<b>Sixth Semester</b>	<b>18 Credits</b>
SEC 427 Assessment in Social Studies Education	3 crs.
EDF 333 Educational Technology	3 crs.
SEC 350 Content Area Literacy	3 crs.
ANT 100 Introduction to Anthropology	3 crs.
History Elective	3 crs.
General Education Course	3 crs.
<i>Senior Year</i>	
<b>Seventh Semester</b>	<b>18 Credits</b>
SEC 437 Teaching of Social Studies	3 crs.
EDU 340 Mainstreaming the Exceptional Learner	3 crs.
History Elective	3 crs.
HIS 495 Seminar in History	3 crs.
General Education Course	3 crs.
<b>Eighth Semester</b>	<b>15 Credits</b>
SEC 461 Student Teaching and School Law	12 crs.
SEC 400 Classroom Management	3 crs.

## Social Work

### Faculty

Twiss (chairperson), Barksdale, Boyle, Christopher, Jeffrey, Perry-Burney, Smiley, Thomas, Wass

### Accreditation

The social work program is accredited by the Council on Social Work Education.

### Program Mission

The mission of the California University of Pennsylvania B.S.W. program is to prepare committed, competent beginning social work practitioners to work with individuals, families, groups, organizations and communities. Taking an ecological and problem-solving approach, our aim is to develop generalist social work practitioners who will competently:

- Engage their environments,
- Provide adequate opportunities and resources,
- Develop the profession's knowledge base, and
- Enhance the social functioning of all.

This foundation-level preparation is integrated with the University's core values, rights and responsibilities and with the core values and ethical standards of the profession and provides the foundation for graduate education. As a publicly funded university in a



rural and small town area, we are specifically committed to improving the quality of life in our surrounding region and in the broader global society through the development of professional leadership, service, research and continuing education.

### **Program Goals**

The B.S.W. program at Cal U has four goals. These goals provide direction for our curriculum and our research and service activities.

**Goal 1:** Provide the student with generalist knowledge, skills and core social work values for entry into beginning social work practice in a variety of agencies and human service settings.

**Goal 2:** Provide the student with knowledge and skills to address social welfare needs and issues relevant to complex global societies.

**Goal 3:** Develop leaders prepared to enhance the development of social welfare and the delivery of social services.

**Goal 4:** Enhance social welfare, the provision of social services and the social work profession through service, research and continuing education, including work on advanced degrees.

The social work program does not grant social work course credit for life experience or previous work experience.

### **Careers**

Graduates of the social work program are eligible for membership in the National Association of Social Workers and, with a high enough GPA, for advanced standing in most accredited graduate social work programs. This degree provides career opportunities in a variety of human service settings, including government agencies, mental and/or behavioral health care facilities, hospitals and outpatient health care agencies, schools, drug and alcohol programs, prisons and other legal settings, family service agencies, etc. Social workers provide direct or indirect services on behalf of individuals, families, groups and communities.

### **Bachelor of Social Work – 120 Credits**

Full admission into the upper-division skills classes of the social work program requires that the student apply for degree candidacy after they have:

- Completed a minimum of 50 credit-hours;
- Completed SOW 150, ENG 101 and ENG 102 with a minimum grade of C; and
- Achieved an overall GPA of 2.0.

Students need to maintain a 2.5 GPA in the major to remain in good standing and to graduate from the program.

The social work faculty require that students in the major take the following courses as general education menu options:

<b>Courses</b>	<b>Credits</b>
ENG 101 English Composition I (with grade of C or better)	3 crs.
ENG 102 English Composition II (with grade of C or better)	3 crs.
SOW 308 Diversity in a Changing World (Multicultural Category)	3 crs.
SOW 303 Human Sex and Society (Wellness Category)	3 crs.
PSY 100 General Psychology (Social Science Category)	3 crs.
SOC 100 Principles of Sociology (Social Science Category)	3 crs.

The social work faculty recommend that students in the major choose from the following courses as general education menu options:

<b>Courses</b>	<b>Credits</b>
CSC 101 Personal Productivity Software	3 crs.
PHI 100 Perspectives in Philosophy	3 crs.
BIO 103 Contemporary Issues in Biology	3 crs.
BIO 112 Biology of Sexually Transmitted Diseases	3 crs.
GEO 311 Geographic Information Systems	3 crs.
MAT 215 Statistics	3 crs.

The social work faculty recommend that students in the major choose from the following courses as electives:

<b>Courses</b>	<b>Credits</b>
GTY 100 Introduction to Gerontology	3 crs.
ECO 100 Elements of Economics	3 crs.
POS 100 Introduction to Political Science	3 crs.
PSY 400 Abnormal Psychology	3 crs.
SOC 205 Contemporary Social Problems	3 crs.

Social work majors need to apply for acceptance to candidacy before enrolling in SOW 302 and need to complete Social Work Pre-Practicum Orientation the semester before they enroll in SOW 419 and SOW 420.

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

*Freshman Year*

<b>First Semester</b>	<b>16 Credits</b>
**ENG 101 English Composition I	3 crs.
**UNI 100 First-Year Seminar	1 cr.
**PSY 100 General Psychology or **SOC 100 Principles of Sociology	3 crs.
SOW 150 Introduction to Social Work	3 crs.
General Education Courses	6 crs.
<b>Second Semester</b>	<b>15 Credits</b>
**ENG 102 English Composition II	3 crs.
**SOC 100 Principles of Sociology or **PSY 100 General Psychology	3 crs.
*Social Work Special Interest: SOW 306 Social Work in the Rural Environment or SOW 330 Child Welfare or SOW 340 Poverty and Related Social Problems	3 crs.
General Education Courses	6 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>15 Credits</b>
*SOW 301 Social Work Interviewing	3 crs.
*SOW 315 Human Growth and Behavior: Birth to Young Adult	3 crs.
*2nd Social Work Special Interest (see above) SOW 350 Social Work with Aging or SOW 364 Juvenile Delinquency or SOW 495 Seminar in Special Topics	3 crs.
General Education Courses	6 crs.

<b>Fourth Semester</b>	<b>15 Credits</b>
*SOW 302 Social Work Practice With Individuals	3 crs.
*SOW 308 Diversity in a Changing World	3 crs.
*SOW 316 Human Growth and Behavior: Young Adult to Late Life	3 crs.
*SOW 320 History and Philosophy of Social Welfare	3 crs.
General Education Courses	3 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
*SOW 348 Social Work Practice With Families and Groups	3 crs.
*SOW 366 Social Policy Analysis and Social Service Delivery	3 crs.
*3rd Social Work Special Interest (see above)	3 crs.
General Education Course	6 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
*SOW 303 Human Sexuality and Society	3 crs.
*SOW 370 Policy Practice in Social Work	3 crs.
*4th Social Work Special Interest (see above) or SOW 410 Social Work in Mental Health or SOW 350 Social Work with Aging or SOW 364 Juvenile Delinquency or SOW 495 Seminar in Special Topics	3 crs.
General Education Course	6-8 crs.

### *Senior Year*

<b>Seventh Semester</b>	<b>15 Credits</b>
*SOW 405 Social Work Research Methods	3 crs.
*5th Social Work Special Interest (see above)	3 crs.
General Education Courses	6 crs.
Free Electives	3 crs.
Pre-Practicum Orientation	0 crs.

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**Eighth Semester** **15 Credits**

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*SOW 349 Social Work Practice With Organizations and Communities	3 crs.
*SOW 419 Social Work Practicum I	6 crs.
*SOW 420 Social Work Practicum II	6 crs.

\*Required major and related courses

\*\*Required and recommended General Education courses

**Recommended Course Sequence for Transfer Students with General Education Completed**

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**First Semester (Fall)** **15 Credits**

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SOW 150 Introduction to Social Work	3 crs.
*SOW 301 Social Work Interviewing	3 crs.
*SOW 315 Human Growth and Behavior I: Birth to Young Adult	3 crs.
*1st Social Work Special Interest SOW 306 Social Work in the Rural Environment or SOW 330 Child Welfare or SOW 340 Poverty and Related Social Problems	3 crs.
*2nd Social Work Special Interest (see above)	3 crs.

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**Second Semester (Spring)** **18 Credits**

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*SOW 316 Human Growth and Behavior II: Young Adult to Late Life	3 crs.
*SOW 302 Social Work Practice with Individuals	3 crs.
*SOW 308 Diversity in a Changing World	3 crs.
*SOW 320 History and Philosophy of Social Welfare	3 crs.
*3rd Social Work Special Interest (see list) SOW 350 Social Work with the Aging SOW 364 Juvenile Delinquency SOW 410 Social Work in Mental Health SOW 495 Seminar in Special Topics	3 crs.
*4th Social Work Special Interest (see above)	3 crs.

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**Third Semester (Fall)** **15 Credits**

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*SOW 303 Human Sexuality and Society	3 crs.
*SOW 348 Social Work Practice With Families and Groups	3 crs.
*SOW 366 Social Policy Analysis and Social Service Delivery	3 crs.
*SOW 405 Social Work Research Methods	3 crs.
*5th Social Work Special Interest (see above)	3 crs.
Pre-Practicum Orientation	0 crs.

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**Fourth Semester (Spring)** **18 Credits**

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*SOW 349 Social Work Practice With Organizations and Communities	3 crs.
*SOW 370 Policy Practice in Social Work	3 crs.
*SOW 419 Social Work Practicum I	6 crs.

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\*Required major and related courses

## Theatre and Dance

### Faculty

Slavin (chairperson), Callery, Eperthener, R. Hess, O'Donnell, Pagen

### Purpose

As a department within the College of Liberal Arts at California University of Pennsylvania the mission of the Department of Theatre and Dance is to build the students' knowledge, skills and character via the classroom and high quality theatrical productions. This prepares them for both entry-level employment and further study. The department services the cultural life of the University as it strives to be the best comprehensive public University in America while simultaneously feeding the cultural needs of greater southwestern Pennsylvania.

### Programs

Theatre is an undergraduate degree program in the College of Liberal Arts and is included in the undergraduate degree secondary education communication certification program in the College of Education and Human Services. Theatre serves a dual function, providing occupational education and training for talented students pursuing careers in theater and providing educational and performance opportunities for all students.

The Department of Theatre and Dance sponsors two play-producing groups with membership open to all students: University Players, which produces Mainstage Productions, and Mon Valley Dance Council, producing dance productions. These organizations, either individually or in combination, annually present six or more on-campus play, dance and musical productions.

The Department of Theatre and Dance rewards creative excellence by offering opportunities for upper-level students to produce shows, choreograph pieces, and to direct or design both major and minor productions. Theatre and dance majors are required to take practicum credits, which give students practical experience in various areas of production: technical production, dance, acting, design, management, directing, technical direction, touring theater and summer theater.

### Honor Society

Since 1938, outstanding students have annually been elected to the University Players' Hall of Fame. Membership in Alpha Psi Omega, the national honorary theater fraternity, is earned through both active participation in theater productions and achievement of satisfactory academic progress.

### Careers

Graduates of California University work throughout the country in professional and semi-professional theater; in film and television; in teaching; in community and regional theater; in recreation; and in rehabilitation theater, public relations, interior decoration, costuming and arts management.

### Bachelor of Arts in Theatre – 120 Credits

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

### *Freshman Year*

<b>First Semester</b>	<b>16-17 Credits</b>
ENG 101 English Composition I	3 crs.
THE 141 Stagecraft I	3 crs.
THE 150 Introduction to Theatrical Design	3 crs.
THE 356 Theatre Practicum	1 cr.
UNI 100 First-Year Seminar	1 cr.
General Education Courses	5-6 crs.

<b>Second Semester</b>	<b>16 Credits</b>
ENG 102 English Composition II	3 crs.
THE 131 Fundamentals of Acting	3 crs.
THE 356 Theatre Practicum	1 cr.
General Education Courses	9 crs.

### *Sophomore Year*

<b>Third Semester</b>	<b>16 Credits</b>
THE 302 History of Theatre I	3 crs.
THE 356 Theatre Practicum	1 cr.
General Education, Minor or Elective	9 crs.

<b>Fourth Semester</b>	<b>16 Credits</b>
THE 312 History of Theatre II	3 crs.
THE 320 Fundamentals of Directing	3 crs.
THE 356 Theatre Practicum	1 cr.
General Education, Minor or Elective	9 crs.

### *Junior Year*

<b>Fifth Semester</b>	<b>15 Credits</b>
THE 356 Theatre Practicum	1 cr.
Theatre Major Elective	3 crs.
Theatre Major Elective	3 crs.
General Education, Minor or Elective	9 crs.

<b>Sixth Semester</b>	<b>15 Credits</b>
THE 356 Theatre Practicum	1 cr.
Theatre Major Elective	3 crs.
Theatre Major Elective	3 crs.
General Education, Minor or Elective	9 crs.

## Senior Year

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**Seventh Semester** **12-15 Credits**

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THE 450 Theatre Practicum or  
Senior Thesis or  
THE 356 Theatre Practicum

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Theatre Major Elective 3 crs.

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300- or 400-Level General Education, Minor or Elective Courses 6-11 crs.

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**Eighth Semester** **12-15 Credits**

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THE 450 Theatre Practicum or  
Senior Thesis or  
THE 356 Theatre Practicum

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300- or 400-Level General Education, Minor or Elective Courses 9-14 crs.

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## **Bachelor of Science in Education: Certification in Communication (Theatre Concentration) for Secondary Schools (120 Credits)**

See [Secondary Education](#).

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**Minor in Theatre: Concentration in Theatre – 21 Credits**

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Required Courses (12 credits): THE 131, (132 or 133), 141, 150

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Theatre Practicum (9 credits): THE 350-358

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**Minor in Musical Theatre – 24 Credits**

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Required Courses (15 credits): MUS 215, MUS 304, MUS 315, THE 131, THE 320

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Applied Performance Electives (6 credits): DAN 301, DAN 302, MUS 211, THE 232

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Ensemble Performance Electives (Repeatable Courses - 3 credits):  
MUS 191, MUS 192, MUS 196, MUS 198, THE 350, THE 351

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**Concentration in Dance – 21 Credits**

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Required Courses (21 credits): DAN 133, 232, 233, 260, 302, 399

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Theatre Practicum (3-6 credits): THE 351

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The purpose of the dance minor is to allow University students to continue or start their dance experience within a university setting with emphasis on performance within a musical theater context. Students will learn and hone skills in the required courses, and be afforded additional rehearsal, technique and performance opportunities during the practicum hours. Studio courses will also emphasize dance vocabulary and history within each specific dance genre.

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**Concentration in Theatre History/Literature – 21 Credits**

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Required Courses (21 credits): THE 100, 302, 312, 304, 305, 306, 352

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**Concentration in Technical Theatre/Design – 21 Credits**

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Required Courses (6 credits): THE 141, 150

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Theatre Electives (9 credits): select three of the following courses:  
THE 211, 311, 271, 371, 225, 325, 328, 341

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Theatre Practicum (6 credits): THE 350, 358

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## Concentration in Acting – 21 Credits

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Required Courses (18 crs.): THE 101, 131, 231, 331, DAN 301, 302

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Theatre Electives (3 crs.): THE 231, 233, 309 or 350

## Women's Studies

Women's studies is an interdisciplinary field that provides a framework for examining women's and men's lives within individual, familial, national and global systems. Analysis of the complex intersections of individual and cultural factors, such as gender, sex, race, ethnicity, class, sexual orientation, age, religion and ability, and how they relate to power and social justice are integrated throughout the program.

Women's studies courses challenge students to reconsider assumptions about the similarities and differences between and among women and men. Students expand their knowledge of the experiences of groups who are often not highlighted in traditional curricula. As a result of increased knowledge, new perspectives and self-reflection, students gain an enhanced understanding of themselves and a greater respect for people of diverse populations.

### Minor in Women's Studies

The women's studies minor enhances women's and men's preparation for careers and promotes personal growth.

A minor in women's studies better equips a person for professional and personal life by promoting critical-thinking skills as well as a keen awareness of how gender and diversity affect perspectives and experiences. Employers often prioritize hiring candidates who appreciate and respect diversity and who are able to successfully work with diverse populations.

Advancement and success in many professional fields require taking advantage of the recent explosion of new information about gender, multiculturalism and cultural competence. The minor complements a wide range of fields, such as sociology, anthropology, criminal justice, education, social work, business, nursing, counseling, law, art, journalism, political science, athletics, English, medicine and psychology, to name a few.

Women's studies is a unique discipline in academia. Students have the opportunity and are encouraged to explore their relationship to the content of the curricula and to gain a deeper, more personal understanding of the material.

21 credits (12 of the 21 required credits must be in 300- and 400-level courses.)

<b>Required Courses</b>	<b>6 Credits</b>
WST 200 Introduction to Women's Studies	3 crs.
WST 400 Feminist Scholarship and Research: A Seminar	3 crs.
<b>Women's Experience Electives (select 2 courses)</b>	<b>6 Credits</b>
ANT 300 Cultural Views of Women	3 crs.
ENG 127 Woman as Hero	3 crs.
ENG 315 Survey of American Women Writers	3 crs.
HIS 309 Gender in Latin America	3 crs.
HIS 312 Women in Europe	3 crs.
HIS 325 History of American Women	3 crs.



<b>Women's Experience Electives (select 2 courses)</b>	<b>6 Credits</b>
NUR 101 Women's Health Issues	3 crs.
PSY 311 Psychology of Gender Roles	3 crs.
SOC 290 Gender and Work	3 crs.
SOC 320 International Women's Movements	3 crs.
WST 300 Selected Topics	3 crs.
WST 320 Lesbian, Gay, Bisexual, Transgender, Queer Studies	3 crs.
WST 330 Examining Gender, Race, Sexuality and Class in Visual Media	3 crs.
WST 430 Women's Studies Internship	3 crs.

The remaining course work should include three of the following courses. Students may also select from the remaining courses not chosen above.

*Women's Studies Electives*

<b>Course (select 3 courses)</b>	<b>9 Credits</b>
ANT 300 Cultural Views of Women	3 crs.
ANT 329 Anthropology Internship	3 crs.
ECE 319 Parent/Community Involvement in Education	3 crs.
ECE 405 Early Childhood Education Seminar	3 crs.
EDU 310 Teaching Multicultural Society	3 crs.
ENG 116 Myth, Magic and Mysticism	3 crs.
ENG 127 Woman as Hero	3 crs.
ENG 315 Survey of American Women Writers	3 crs.
GTY 200 Aging in American Society	3 crs.
GTY 300 Aging Policies and Services	3 crs.
GTY 310 Aging in the Family	3 crs.
GTY 330 Dying, Death and Bereavement	3 crs.
GTY 340 Diversity in Aging	3 crs.
HIS 309 Gender in Latin America	3 crs.
HIS 312 Women in Europe	3 crs.
HIS 325 History of American Women	3 crs.
HIS 347 Race and Ethnicity in U.S.	3 crs.
HIS 352 Native American to 1850	3 crs.
HIS 353 Native American from 1850	3 crs.
HIS 366 History of Modern Latin America	3 crs.
HIS 445 Social History	3 crs.
JUS 215 Victimology	3 crs.
JUS 399 Selected Topics (with WST director's approval)	3 crs.
PHI 225 Social/Political Philosophy	3 crs.
PSY 311 Psychology of Gender Roles	3 crs.

<b>Course (select 3 courses)</b>	<b>9 Credits</b>
POS 322 Politics in Middle East	3 crs.
POS 323 Politics in Latin America	3 crs.
POS 325 Politics in Asia	3 crs.
POS 326 Politics in Africa	3 crs.
PSY 424 Capstone (with WST director's approval)	3 crs.
PSY 425 Project (with WST director's approval)	3 crs.
SOC 205 Contemporary Social Problems	3 crs.
SOC 210 Social Stratification	3 crs.
SOC 290 Gender and Work	3 crs.
SOC 315 Social Minorities	3 crs.
SOC 320 International Women's Movements	3 crs.
SOC 325 The Family	3 crs.
SOC 377 Modern Freedom Movements	3 crs.
SOC 410 Social Theory and Society	3 crs.
SOW 303 Human Sex and Society	3 crs.
SOW 308 Minority Group Relations	3 crs.
SOW 340 Poverty/Related Social Problems	3 crs.
SOW 495 Seminar in Special Topics (with WST director's approval)	3 crs.
WST 300 Selected Topics in Women's Studies	3 crs.
WST 320 Lesbian, Gay, Bisexual, Transgender, Queer Studies	3 crs.
WST 330 Examining Gender, Race, Sexuality and Class in Visual Media	3 crs.
WST 430 Internship in Women's Studies	3 crs.

For more information about the Women's Studies Program, classes or requirements for the minor, contact:

Dr. Marta McClintock-Comeaux  
 Director of Women's Studies  
 Women's Studies Program  
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 250 University Ave.  
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 724-938-5245  
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# Course Descriptions

## **ACC – Accounting**

ACC 100. INTRODUCTION TO ACCOUNTING. The course emphasizes the practical use of accounting information to support decision making by those in the fields of business including sports/resort management. The course introduces the students to the fundamental concepts, procedures and terminology of accounting. (3 crs.)

ACC 200. FINANCIAL ACCOUNTING. The fundamentals of accounting concepts and procedures for sole proprietors, partnerships and corporations. The interpretation and use of financial statements and other relevant accounting information will be emphasized. (3 crs.)

ACC 201. ACCOUNTING I. The fundamentals of debit and credit; the use of journals and ledgers; basic accounting procedures; adjusting and closing entries; completion of accounting cycle; preparation of pertinent financial statements. (3 crs.)

ACC 202. ACCOUNTING II. A continuation of basic accounting principles with an emphasis on partnership and corporate accounting. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 218. FEDERAL INCOME TAX I. An introduction to individual federal income tax accounting. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 301. INTERMEDIATE ACCOUNTING I. In-depth treatment of basic accounting principles and concepts. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA examination. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 302. INTERMEDIATE ACCOUNTING II. A continuation of the in-depth treatment of basic accounting principles and concepts with the emphasis on corporations. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA examination. Prerequisite: ACC 301. (3 crs.)

ACC 318. FEDERAL INCOME TAX II. Advanced topics in federal taxation. Partnerships, decedents, estates, trusts, corporations, pension and profit-sharing plans, foreign income, securities, transactions, etc. Prerequisite: ACC 200 or ACC 201 and ACC 218. (3 crs.)

ACC 321. MANAGERIAL ACCOUNTING. For nonmajors; emphasizes the use of accounting data in the decision-making process of a business enterprise. Topics covered are cost-volume relationships; manufacturing costs and analysis; relevant cost analysis; budgeting and variance analysis; responsibility accounting and cost allocation; job and process product costing. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 331. COST ACCOUNTING I. An introduction to basic cost-accounting principles, cost-volume, profit analysis, standard costing, process and job order costing, and departmental budgeting. Prerequisite: ACC 200, or ACC 201. (3 crs.)

ACC 332. COST ACCOUNTING II. A survey of special topics in the field of manufacturing accounting. Prerequisite: ACC 331. (3 crs.)

ACC 341. NONPROFIT ACCOUNTING. An introduction to accounting for governmental and not-for-profit organizations, including analysis of current, plant and other general and special funds. Emphasis will be given to planning, programming and budgeting to achieve institutional objectives. Cost-benefit analysis will also be developed within the framework of funds allocation to specific programs. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 401. ADVANCED FINANCIAL ACCOUNTING. Special topics in accounting. Mergers and acquisitions, consolidated financial reports, fiduciaries, etc. Prerequisite: ACC 301. (3 crs.)

ACC 418. TAX PLANNING AND CONCEPTS. This course deals with the broad recognition of the tax effect on business decisions and a practical approach to tax planning for both the corporate and individual taxpayer. Prerequisite: ACC 200 or ACC 201. (3 crs.)

ACC 431. INTERNATIONAL ACCOUNTING. A study of the current state of international accounting standards (IFACs) and their relationship to the multinational corporation. Prerequisite: ACC 302. ACC 301. (3 crs.)

ACC 441. AUDITING. Internal control evaluation and financial compliance, professional ethics, auditing standards and procedures, statistical sampling, and EDP auditing. Prerequisite: ACC 301. (3 crs.)

ACC 491. ACCOUNTING INTERNSHIP. Practicum with public accounting firms, government or industry. Prerequisites: Junior standing or permission of instructor. (Repeatable; variable crs.; a maximum of 12 crs. may be used toward a bachelor's degree.)

ACC 495. SEMINAR IN ACCOUNTING THEORY. A review of the accounting literature with special emphasis on those topics concerning contemporary issues in accounting. Prerequisite: ACC 302. (3 crs.)

## **ANT – Anthropology**

ANT 100. INTRODUCTION TO ANTHROPOLOGY. This course is an introduction to biological anthropology (primatology, hominid evolution, variation in modern humans), archaeology (methods, evidences of the evolution and diffusion of culture), anthropological linguistics, and cultural anthropology (methods of participant observation, comparative data from non-Western societies, diversity and unity of culture). (3 crs.)

ANT 101. ARCHAEOLOGY FIELD SCHOOL. An introduction to archaeological procedures by participation in the excavation of a site, this course provides the opportunity for students to be involved in all phases of an archaeological

excavation, from initial preparation of the site for excavation through the processing of artifacts at the campus archaeological laboratory. Summer only. (3-6 crs.)

ANT 200. OLD WORLD PREHISTORY. A middle-level survey of the main archaeological focal points of the Old World. This course requires a basic understanding of archaeological concepts, goals and techniques. (3 crs.)

ANT 220. AZTECS, MAYAS AND INCAS. An introduction to and survey of the ethnology and preconquest archaeology of the advanced American Indian cultures of Meso-America and the Andean culture area. This course focuses on inquiry into the problems of cultural precocity. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 231. MEDICAL ANTHROPOLOGY. This introductory course emphasizes the contributions from biological anthropology, archaeology and cultural anthropology to the study of human sickness and health. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 232/BIO 232. FUNDAMENTALS OF BIOLOGICAL ANTHROPOLOGY. This course for both majors and nonmajors introduces students to the field of biological anthropology, including the study of evolutionary theory, modern human populations, the behavior and ecology of nonhuman primates, and the primate (human and nonhuman) fossil record. Special emphasis will be directed toward human form and behavior as a result of the complex interplay of biology and culture acting over millions of years of evolutionary change. Three hours weekly. (3 crs.)

ANT 245. HUMAN OSTEOLOGY. This lab-intensive course is designed to give students a thorough understanding of the complexity and usefulness of the study of human teeth and bones. Osteology is the study of human skeletal remains and is a crucial part of the physical anthropology curriculum. It has applications in archaeology, anatomy, paleontology and forensic science. Students will learn the entire human skeleton and be able to identify bones and teeth from fragments; determine qualities such as sex, age and pathology from osteological remains; and prepare a professional report on these topics. The application of such knowledge and training is extended into the medical profession, forensic investigation and paleoanthropology/archaeology. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 254. FORENSIC ANTHROPOLOGY. This course teaches the basic analysis of human remains for the medico-legal profession, covering the development of the field of forensic anthropology, how the biological profile of an individual is determined from the skeleton, how skeletal traumas are evaluated, estimation of the interval since death, and how far these assessments can be supported. The course includes discussion of investigation of crime scenes, the legal role of the physical anthropologist as an expert witness, and the importance of report preparation. Case studies of documented individuals are used. While the practical aspects of this field will be the primary focus, attention will also be drawn to the incorporation of anthropological approaches to dealing with death and the handling of human remains. (3 crs.)

ANT 255. WORLD ETHNOLOGY. This advanced course in cultural anthropology studies comparative data from text and films about non-Western cultures to reveal cultural differences and similarities and the nature of the ethnographic enterprise. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 280. INDIANS OF NORTH AMERICA. Social anthropology and cultural ecology of American Indian cultures is covered. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 290. ARCHAEOLOGY. This course is a comprehensive survey of archaeology: history, theory and techniques. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 300. CULTURAL VIEWS OF WOMEN. This discussion-based course is structured around the theme of how various world societies have viewed women. The cross-cultural perspective is the means by which American students learn to appreciate other cultural points of view and become more self-aware of their own cultural views about women. (3 crs.)

ANT 329. ANTHROPOLOGY INTERNSHIP. Learning new ideas and skills, as well as applying those already learned in class, is the objective of an internship. Internships are conducted under the guidance of both an on-site and a campus supervisor. Internships are a means for exploring career opportunities. (Variable crs.)

ANT 340. RESEARCH LABORATORY IN PHYSICAL ANTHROPOLOGY. This course will provide the student practical, hands-on experience in the cleaning/conservation, cataloging process and basic analysis (classification and description) of specimens commonly used in physical anthropology and how to report the results of laboratory analysis. It shows also how analysis and theory are inescapably linked. Hands-on projects use skeletal elements, dental, biological and paleontological specimens. Students will apply the scientific method in their analysis of data and will report the results in a professional manner within the classroom. Prerequisites: ANT 100; ANT 245; ANT 254; MAT 215 or MAT 225 or permission of the instructor. (3 crs.)

ANT 341. RESEARCH LABORATORY IN ARCHAEOLOGY. This course will provide the student practical, hands-on experience in the cleaning/conservation, cataloging process and basic analysis (classification and description) of artifacts from archaeological contexts and how to report the results of laboratory analysis. It shows also how analysis and theory are inescapably linked. Hands-on projects use faunal, lithic, ground stone and ceramic collections recovered from Late Prehistoric sites from southwestern Pennsylvania. Students apply the principles of hypothesis testing to artifact assemblages from sites that are part of ongoing research into the prehistory of southwestern Pennsylvania and the lower Upper Ohio River Valley. Prerequisites: ANT 100; ANT 290; MAT 215 or MAT 225 or permission of the instructor. (3 crs.)

ANT 349. ANTHROPOLOGY OF LAW AND JUSTICE. This course undertakes the study of the anthropology of law through an interdisciplinary approach and seeks to provide a basis for an in-depth understanding and critical analysis of the role of law in society. Included in the course are subject areas such as methods of approaching the anthropological study of law, e.g., ethnology and understanding the concepts of comparative legal pluralism

and mobile law. Specific areas of culture and law include the law of primitive man, Egypt, Rome, Greece and Mesopotamia. Jewish Law, Canon Law, Islamic Law and the English Common Law are also examined from the perspective of the influences of cultures and society on the law and their practices, rituals and ceremonies. Finally, the course covers topics relating to the legal aspects of archaeology, exhumations and giving testimony in court. (3 crs.)

ANT 355. PREHISTORIC AMERICAN INDIANS. The archaeology and reconstructed culture of Indians of the eastern United States is studied. Prerequisite: ANT 290 or permission of the instructor. (3 crs.)

ANT 360. HISTORIC SITES ARCHAEOLOGY. This course covers techniques, philosophy, work and aims of that branch of history and anthropology that studies the American past from a cultural-archaeological point of view. The course includes study of military and community restorations based on historical archaeology, such as Colonial Williamsburg, Plymouth Plantation, Independence Square, Fort Michilimackinac, Fort Ligonier and Fort Necessity. Some laboratory and field experiences included. Prerequisite: ANT 290 or permission of the instructor. (3 crs.)

ANT 379. SPECIAL PROBLEMS IN ANTHROPOLOGY. Special Problems in Anthropology is a topics course. Areas not covered by the existing curriculum can be explored in a focused study on a topic identified by a faculty member. (Variable crs.)

ANT 380. PROFESSIONAL PRESERVATION. This course is designed to provide the essential theoretical background knowledge and practical skills required for anyone working and handling artifacts and forensic specimens, as it introduces students to a wide range of collections-care responsibilities for a variety of collections (historical, archaeological, ethnographic, natural history and forensic science) found in museums and archaeological and forensic labs. The extensive comprehensive lab component of this course is designed to provide each student with an opportunity to combine theory with practical analysis, documentation and classification of specimens, and then employ step-by-step curatorial methods to properly treat and process historic, prehistoric and forensic materials recovered from archaeological investigations. Once the artifacts have been analyzed and stored, the student will be responsible for archaeological reporting and producing a scholarly presentation about the collection. Prerequisite: ANT 100 or permission of the instructor. (3 crs.)

ANT 385. PRIMATE SOCIETIES AND BEHAVIOR. This course is an advanced study of the nonhuman primates, including classification to the generic level. Prerequisite: ANT 285 or permission of the instructor. (3 crs.)

ANT 390. HUMAN ORIGINS. This course covers contemporary biological anthropology, emphasizing the evolutionary theory, genetics, nonhuman primates, taxonomic classification, the evolution of human beings as part of the evolution of the primates, the importance of technology, and the emergence and development of culture. Prerequisite: ANT 100 or permission of instructor. (3 crs.)

ANT 400. FUNDAMENTALS OF ARCHAEOLOGICAL THEORY. The course is devoted to an examination of the epistemology of archaeology through close, critical reading of a selected set of papers and readings covering the major theoretical and methodological issues in the discipline from the 18th century to the present and how these are used in the study of culture history, past lifeways and cultural process. Specific topics to be covered while discussing the historical development of archaeological method and theory include goals of archaeology, research design, hypothesis testing, CRM issues, the proper place of statistics in archaeological research, the role of ethnoarchaeological research, the use of analogy in archaeological reconstruction, site taphonomy, settlement patterns, evolutionary archaeology, and the relationship of archaeology to anthropology and history. Prerequisites: ANT 100; ANT 290, or permission of the instructor. (3 crs.)

ANT 421. ANTHROPOLOGICAL THOUGHT. Within a seminar context, the history of anthropological thought is examined from the period of the Enlightenment to modern times. Particular emphasis is placed on the emergence of the various schools of anthropology that have developed and waned over the past 100 years. Prerequisite: Junior or senior anthropology major, or permission of the instructor. (3 crs.)

ANT 445. ADVANCED METHODS IN ARCHAEOLOGY. A study of applications of technology to the study of archaeological remains, this advanced course focuses on geophysical reconnaissance, GIS, microscopic study of use-wear patterns on bone and stone tools, aerial photography, and other analytical techniques for the study of specific categories of archaeological remains. This course allows the students to acquire hands-on experience that is not available in any other course. Prerequisites: ANT 100; ANT 290; and ANT 400 (3 crs.)

ANT 446. ADVANCED FORENSIC ANTHROPOLOGY. Forensic anthropology is an applied area of physical anthropology. Students in this lab-intensive and lecture course will become familiar with the use and limitations of the most important osteological methods currently used by forensic anthropologists. This course employs methods developed in osteology, skeletal biology, bioarchaeology and paleopathology to the recovery and identification of human remains in a medico-legal context. This is a writing-intensive course. Prerequisites: ANT 100; ANT 245; ANT 254; MAT 215 or MAT 225. (3 crs.)

ANT 497. SEMINAR IN PHYSICAL ANTHROPOLOGY. This is an advanced course for studying a specific theoretical and/or methodological issue in physical anthropology. Examples of topics include primatology, classification and systematics, dental anthropology, and paleopathology. The selection of the topic or topics to be examined will vary in accordance with the research interests of the instructor and the students. Prerequisites: ANT 100; ANT 245; ANT 290 or permission of the instructor. (3 crs.)

ANT 498. SEMINAR IN ARCHAEOLOGY. An advanced course for studying a specific theoretical and/or methodological issue in archaeology. Examples of topics include settlement pattern archaeology, evolutionary archaeology, household archaeology, classification, systematics and cultural history units such as the Late Prehistoric and the Late Woodland. The selection of the topic or topics to be examined will vary in accordance with the research interests of the instructor and students. Prerequisites: ANT 100; ANT 290; ANT 400, or permission of the instructor. (3 crs.)

ANT 499. SENIOR SEMINAR IN ANTHROPOLOGY. All seniors are required to take this course. The senior seminar is an in-depth examination of issues relevant to the health, vitality and practice of anthropology. Some of the topics

to be discussed include epistemology, paradigms, interdisciplinary research, discipline goals, professional ethics, publication and careers. Prerequisite: Senior standing or permission of the instructor. (3 crs.)

## **ARB — Arabic**

**ARB 101. ELEMENTARY ARABIC I.** This is the beginner level in Arabic. This course covers and emphasizes the development of the basic skills of the Arabic language and includes instruction in basic pronunciation, comprehension, communication, and grammar. Students will also become acquainted with the culture of the Arab world and establish a solid foundation for more advanced courses in Arabic. Prerequisite: None. (3 crs.)

**ARB 102. ELEMENTARY ARABIC II.** Elementary Arabic II is the continuation of Elementary Arabic I. This course continues to introduce students to the people and culture of the Arabic-speaking world. Students will become familiar with Arabic grammar and language structure. They will have maximum opportunity to use the different language skills: listening, speaking, reading, and writing in Modern Standard Arabic (MSA). Students will develop greater competency in understanding MSA in both its written and spoken forms and in producing the language in writing and speech. This course will have a greater emphasis on active vocabulary learning, proper grammatical application and on developing the ability to use the language in real-world everyday situations. Prerequisite: Elementary Arabic I or equivalent. (3 crs.)

**ARB 203. INTERMEDIATE ARABIC I.** Intermediate Arabic I is the continuation of Elementary Arabic II. Prior to this course, students must have basic background knowledge in Modern Standard Arabic (MSA) vocabulary and syntax at the elementary level; they should have basic ability to communicate, using simple sentences and have the ability to comprehend simple written and spoken instructions and conversations in basic MSA. In this course, students will acquire additional vocabulary and a greater understanding of more complex grammatical structures. There will be an increased use of Arabic language at this level in instructions and communication. This course will provide the students with a strong foundation at the intermediate level in reading, writing, speaking and listening. There will be a continued emphasis on the acquisition of more complex grammatical structures, expanding vocabulary and discourse skills, and on developing competence in a wide range of communicative situations using all language skills. Prerequisite: Elementary Arabic II or equivalent. (3 crs.)

**ARB 204. INTERMEDIATE ARABIC II.** Intermediate Arabic II is the continuation of Intermediate Arabic I. This course provides additional practice to help students attain a higher level of skill development (e.g., listening, speaking, reading and writing) and linguistic accuracy. This course adopts a skills-based approach in which students gain mastery of the language through the use of authentic materials taken from various sources (books, periodicals, videos and radio documentaries). The selection of the materials is based on the complexity of the tasks and the students' professional and personal interests. Teaching vocabulary and grammar is integrated to the skills-based activities and is incorporated in the class activities as an aid to overcome any communication problems. Teaching techniques are student-centered, with the instructor as the facilitator. Instructions will be conducted mostly in Arabic. Prerequisite: Intermediate Arabic I or equivalent. (3 crs.)

**ARB 350. ADVANCED ARABIC I.** In this course, students will acquire a genuine command of the Arabic language with proficiency and the ability to communicate by listening, speaking, reading and writing. There is intense practice in conversation, composition and phonetics based on modern prose, as well as on natural spontaneous speech models. This course will be conducted in Arabic. Prerequisite: Intermediate Arabic II or equivalent. (3 crs.)

**ARB 351. ADVANCED ARABIC II.** This course is a continuation of Advanced Arabic I; it is intended to further develop students' proficiencies in speaking, writing, listening and reading so that they can be at a level necessary to communicate with flexibility, knowledge and ease in the language. Emphasis will mainly be placed on composition and oral discussion as well as concepts necessary for a sophisticated appraisal of literature and culture in Arabic. This course will be conducted in Arabic. Prerequisite: Advanced Arabic I or equivalent. (3 crs.)

**ARB 480. SELECTED TOPICS IN ARABIC LANGUAGE AND CULTURE.** This course provides students the opportunity to explore and research Arabic language and culture-related topics of interest that are not available as regular course offerings of the university. Prerequisites: Advanced Arabic II or Permission of instructor. (Variable 3-12 crs.)

**MFL 479. FIELD STUDIES IN MODERN LANGUAGES AND CULTURES.** This course primarily involves study-abroad educational experiences in modern languages and cultures that differ from internships. Examples include immersion instruction in the target language and in a country where the target language is widely spoken; undertaking academic coursework in any subject matter that is taught in the target language; attending a series of professional conferences that are substantially presented in the target language; and participating in organized educational and academic travel programs where the target language is largely spoken and the cultural and social activities relate to target-language environments. The field experience will enable the student to apply their respective language skills in real-world environments and will provide an invaluable experience, which will make the student more marketable upon graduation. Prerequisites: Permission of instructor. (Variable 3-12 crs.)

**MFL 481. MODERN LANGUAGE INTERNSHIP.** This course is intended to provide the student with an opportunity to work in a professional setting and to learn about areas that are not available or practical in an academic environment. The internship will enable the student to apply their respective language skills in the real-world environments and will provide an invaluable experience, which will make the student more marketable upon graduation. Prerequisites: Permission of instructor. (Variable 3-12 crs.)

## **ART — Art**

**ART 106. ART APPRECIATION.** An introduction to the major movements in art which helped shape Western civilization, this course is a survey of historical and contemporary approaches to painting, sculpture and architecture. Fall and spring. (3 crs.)

ART 110. DRAWING I. A beginning course in drawing skills and techniques stressing line, contour and value studies, and the study of linear perspective, this course stresses rendering techniques and the visual skills necessary for students to draw what they see. Fall and spring. (3 crs.)

ART 119. DESIGN 2-D. This course is an examination of elements and principles used in two-dimensional visual composition. The student uses a variety of media to solve problems in the theory and practice of art fundamentals. Fall and spring. (3 crs.)

ART 120. DESIGN 3-D. This course is an examination of elements and principles of three-dimensional visual composition. These include all the elements and principles used in two-dimensional design, as well as the concepts of mass and volume. Fall and spring. (3 crs.)

ART 127. INTRODUCTION TO GRAPHIC DESIGN. This course provides a foundation in visual communication, provides an understanding of the major concepts of graphic design and how design relates to advertising and marketing, and introduces the computer as a production tool. Fall and spring. (3 crs.)

ART 130. BIOLOGICAL ILLUSTRATION. An introductory course in biology and drawing with an emphasis on the relationship between form and function. Working with plants and animals, and using a combination of macroscopic and microscopic specimens, students will focus on the careful observation and interpretation of biological forms. Drawing instruction will focus on a variety of techniques commonly used in the biological sciences. Biology instruction will introduce students to basic scientific methodology, the diversity of living forms, the variety of ecological strategies related to those forms, and their scientific classification. This is a team-taught lecture and studio course, with the class in biology lecture one day, and in the studio/lab instruction the second day. Corequisites: ART 130. Three lecture-hours and three studio-hours weekly. (3 crs.)

ART 165. ARTIST'S WORKSHOP. Through contact with distinguished visiting artists, this course provides insight into the basic language elements, media, tools, techniques and principles of art production as a professional endeavor. As needed. (Repeatable, variable crs.)

ART 166, 266, 366, 466. SELECTED TOPICS. This course will provide material not covered in regular art studios or art history classes. It will provide faculty and students the opportunity to explore in depth new ideas and techniques on selected topics. As needed. (Repeatable, variable crs.)

ART 227, 327, 427, 428. GRAPHIC DESIGN STUDIO. A progressive level of graphic design courses that will emphasize creative, visual problem solving; graphic design history, theory and criticism; and the creation of portfolio quality work, client relationships and professional practices. Prerequisites: ART 127 and ART 119. (Art 428 repeatable to 18 crs.) ART 227 and 427, fall; ART 327 and 428, spring. (3 crs.)

ART 262. COLOR THEORY. The course is designed to teach the effective use of color across the areas of art and design. The course covers in detail fundamental studio elements along with historical perspective. Fall and spring. (3 crs.)

ART 308. ART HISTORY: ANCIENT TO MEDIEVAL. This course introduces students to the historical unfolding of the earliest significant ideas, images, events, artists and personalities involved with the visual arts — from cave art to the dawning of the Renaissance. The textual focus is upon these earliest visual arts from Europe, Asia and Northern Africa. Through lectures, visual aids and opportunities for study in the field, students with or without prior knowledge of visual art will learn how to make the art of this period accessible and useful. Fall and spring. (3 crs.)

ART 310. ADVANCED DRAWING. This advanced drawing course explores expressive drawing techniques and drawing media and is a continuation of work to improve performance of academic drawing skills. Emphasis is placed on drawing from a model to develop a knowledge of human anatomy and to understand its effects on the surface information of the human form. Basic drawing skills are required. Prerequisite: ART 110 Drawing I or equivalent. Fall and spring. (3 crs.; repeatable to 18 crs.)

ART 316. ART HISTORY: RENAISSANCE THROUGH ROCOCO. Art history from 1300 to 1750 surveys the major artists, styles and movements of the 14th to mid-18th centuries. Significant artistic developments are examined within their historical and cultural contexts. This course considers the art and art movements of Europe and the United States as well as the art of non-Western cultures. Through lectures, class discussions and opportunities for study in the field, students will learn how to make the art of this period accessible and meaningful and thus enhance their humanistic perspective. (3 crs.)

ART 317. ART HISTORY: NEOCLASSICISM THROUGH THE PRESENT. The major movements and artists from the neoclassical through the postmodern periods form the basis for this survey of art history. Works of art are examined within the context of their cultural, political and historical milieu. The artistic production of both Western and non-Western cultures is considered. Primary texts are discussed as the course provides a foundation in the theory and criticism appropriate to these periods. (3 crs.)

ART 323. WOMEN ARTISTS. This course examines the art produced by women from the ancient world to today, focusing on the modern period. The course begins with an analysis of work by women in its social, political, cultural and economic context. Texts representative of critical trends in scholarship will be discussed and related to works by women. As needed. (3 crs.)

ART 329. ART INTERNSHIP. Supervised experience provides the specific technical skills used in the art world outside the classroom and studio, e.g., mounting exhibits, techniques of art restoration, graphic arts production techniques, and promoting arts and cultural events. Fall and spring. (Variable crs.)

ART 350. PRINTMAKING: RELIEF. This is a hands-on introduction to, and continued development of, the fundamental ideas, processes, practices, styles, methods, techniques and professional presentation of relief printmaking as an art form. The history, aesthetics and critical frontiers of relief printmaking as an art form will also be addressed throughout the course. This course may be repeated for additional credit. (3 crs.)

ART 375. JEWELRY/METALS: CASTING. This course is designed to give the student a thorough introduction to the materials and processes used in the jewelry/metals medium with a specific emphasis on the casting process. Design issues as well as technical processes will be addressed through a variety of studio exercises and problems. Creativity, problem solving skills and craftsmanship will all be emphasized as well as an understanding of the cultural and historical aspects of this expressive medium. This course may be repeated for additional credit. (3 crs.)

ART 377. JEWELRY/METALS: FABRICATION. This course is designed to give the student a thorough introduction to the materials and processes used in the jewelry/metals medium with a specific emphasis on the fabrication process. Design issues as well as technical processes will be addressed through a variety of studio exercises and problems. Creativity, problem solving skills and craftsmanship will all be emphasized as well as an understanding of the cultural and historical aspects of this expressive medium. This course may be repeated for additional credit. (3 crs.)

ART 382. CERAMICS STUDIO. In this introductory exploration of clay through hand-building techniques and the potter's wheel, students examine the various forms and functions of the ceramic vessel. The course focuses on forming processes and the glazing and firing of pieces made in the studio. Fall and spring. (3 crs.)

ART 383. PAINTING STUDIO. An introduction to the fundamentals of painting, this course places emphasis on fundamental techniques of rendering, including the study of light and shadow, color, intensity control and projection, and recession of objects in space. Work and exercises are done primarily in oil paints. Work in watercolor or acrylic may be done with prior approval of the instructor. Fall and spring. (3 crs.)

ART 385. SCULPTURE STUDIO. This course is an introduction to the basic language, elements, media, tools, techniques and principles of the organization of sculpture. The basic techniques of manipulation, subtraction, substitution and addition involving different media and tools is covered. Fall and spring. (3 crs.)

ART 410. TEACHING VISUAL ART IN PRE-K THROUGH GRADE 8. This course is designed to prepare beginning teachers of visual art to effectively meet the diverse challenges of teaching at the Pre-K through Grade 8 levels of learning. Students learn how to establish a safe, efficient, creative classroom driven by a student-centered, developmentally sound and standards-based curriculum that accounts for no child being left behind. Students develop a professional art education portfolio that demonstrates all they have learned. As needed. (3 crs.)

ART 411. TEACHING ART IN GRADES 9-12. This course is designed to prepare the K-12 art education specialist to be a more effective teacher of art students in grades 9-12 for the needs of the 21st century. Traditional and nontraditional materials and methods will be addressed in art production. In addition, art criticism, art history and aesthetics will be addressed in the context of a daily classroom expectation. Fine art, crafts and visual culture/visual literacy will be explored with a focus on preparing teachers who are able to deliver a solid foundation in visual thinking and learning as well as helping the more career-minded student. As needed. (3 crs.)

ART 422. ART HISTORY: THE ART WORLD AFTER MODERNISM. This is a seminar in art theory: The art world after modernism is a discussion-based course which considers the theoretical concerns informing and shaping artistic production and dialogue in the late 20th and 21st centuries. The study of primary sources in the form of critical writings addressing late modern, postmodern and contemporary art provides students with a thorough grounding in the bases for the development of the historical movements and the distinctive approaches to artistic production of the period. The course affords students the opportunity to integrate the knowledge of art history gleaned in survey courses with an extensive examination of salient art criticism and theory. As needed. (3 crs.)

ART 427. GRAPHIC DESIGN STUDIO. A progressive level of graphic design courses that will emphasize creative, visual problem solving; graphic design history, theory and criticism; and the creation of portfolio quality work, client relationships and professional practices. Prerequisites: ART 327. (3 crs.)

ART 438. FIGURE DRAWING. This advanced-level drawing course is a repeatable course which focuses on drawing from a model from life. Students work from live nude and clothed models to develop a high level of skill in drawing the human figure while exploring a wide variety of drawing media and techniques. As needed. (3 crs.)

ART 448. FIGURE MODELING. This advanced-level sculpture course is a repeatable course that focuses on sculpting from a model from life. Students work from live nude and clothed models to develop a high level of skill in sculpting the human figure while exploring a wide variety of sculpture media and techniques. As needed. (3 crs.)

ART 458. FIGURE DRAWING AND MODELING. This advanced-level drawing course is a repeatable course that focuses on drawing and sculpting from a model from life. Students work from a live nude and clothed model to develop a high level of skill in drawing the human figure while exploring a wide variety of drawing media and techniques. As needed. (3 crs.)

ART 490. SENIOR STUDIO THESIS. This capstone course for B.F.A. students prepares them for life as a professional fine artist. This course culminates in a professional portfolio, including a resume, artist's statement, biography and website, a grant proposal, an action plan for employment or graduate studies, and a solo or two-person gallery exhibition. (3 crs.)

ART 493. ADVANCED CERAMICS. This advanced course in ceramics skills and techniques on the potter's wheel and in-hand forming methods places considerable emphasis on glazing and firing a body of work completed through an in-depth study in clay. Prerequisite: ART 382. Fall and spring. (3 crs.; repeatable to 18 crs.)

ART 496. ADVANCED PAINTING. This repeatable painting studio develops proficiencies in painting techniques, rendering skills and the visual analysis of forms. Students explore a variety of painting methods, subjects and themes toward the goal of having each student achieve a unique approach to form and content. Prerequisite: ART 383. Fall and spring. (3 crs.; repeatable to 18 crs.)

ART 498. ADVANCED SCULPTURE. This repeatable studio course in sculpture is designed to enable students who are seriously interested in sculpture to experiment with many types of media and to investigate other reasonable materials that can be used in sculpture. They will also be expected to impose on themselves problems which



demonstrate critical thinking and analysis of materials. Prerequisite: ART 385. Fall and spring. (3 crs.; repeatable to 18 crs.)

### **ATE — Athletic Training**

**ATE 150. INTRO TO ATHLETIC TRAINING.** This course provides an opportunity to learn and understand common injuries and illnesses associated with athletic participation. Additionally, the course introduces the student to rehabilitation and treatment approaches for athletic injuries. The course also addresses the prevention and implication of athletic injuries. Spring. (3 crs.)

**ATE 204. ATHLETIC TRAINING CLINICAL EDUCATION I.** This course permits the undergraduate athletic training student to gain clinical and administrative skills through experiences with interscholastic and intercollegiate teams in the athletic training room and competition areas. Additionally, students complete the sophomore-level clinical proficiencies on a one-to-one basis in the classroom as part of the athletic training program's learning-over-time model. This course is repeated one time. Prerequisite: Admission to athletic training education program. Fall and spring. (2 crs.)

**ATE 225. EVALUATIVE TECHNIQUES I WITH LABORATORY.** This course entails the study of evaluation techniques of injuries to the lower extremities. Review of anatomy, injury recognition, muscle testing, treatment protocols and preventative measures are also examined. Prerequisites: Must be formally enrolled ATEP or by permission of the instructor. Fall. (4 crs.)

**ATE 265. EVALUATIVE TECHNIQUES II WITH LABORATORY.** This course entails the study of evaluation techniques of injuries to the spine and upper extremities. Review of anatomy, injury recognition, muscle testing, treatment protocols and preventative measures are also examined. Prerequisites: Must be formally enrolled ATEP student or by permission of the instructor. Spring. (4 crs.)

**ATE 305. ATHLETIC TRAINING CLINICAL EDUCATION II.** This course permits the undergraduate athletic training student to gain clinical and administrative skills through experiences with interscholastic and intercollegiate teams in the athletic training room and competition areas. Additionally, students complete the junior-level clinical proficiencies on a one-to-one basis in the classroom as part of the athletic training program's learning-over-time model. This course is repeated one time. Prerequisite: Admission to athletic training education program. Fall and spring. (2 crs.)

**ATE 315. GENERAL MEDICAL ASSESSMENT.** Concepts and skills for the evaluation of general medical conditions in athletes are the focus of this course. Pathological conditions of the respiratory, cardiovascular, gastrointestinal, genitourinary, integumentary and neurological systems are examined with emphasis on recognition and determining the need for physician referral and impact upon athletic participation. Prerequisite: Admission to athletic training education program. Spring. (3 crs.)

**ATE 330. THERAPEUTIC EXERCISE WITH LABORATORY.** Lectures and laboratory exercises explain the use and theory of therapeutic exercise and equipment used for rehabilitation in the sports medicine setting. Prerequisite: Must be a formally enrolled ATEP student or by permission of the instructor. Fall. (4 crs.)

**ATE 340. SPORTS NUTRITION.** This course covers nutrition and its applications to health and sports and is designed to provide the student with a sound nutritional background so that sound decisions may be made concerning all aspects of nutrition. Additionally, specific nutritional techniques used to improve athletic performance are addressed. Spring. (3 crs.)

**ATE 400. ORTHOPEDIC EVALUATION IN SPORTS MEDICINE.** This course consists of clinical evaluation of the injured athletes by the student and the physician to be used in determining the extent of an injury. The physician will critique each student's clinical evaluation and make suggestions as needed. The students will also observe evaluations in the physician's office and may observe surgery. This course must be repeated one time. Prerequisite: Admission to athletic training education program. Fall and spring. (1 cr.)

**ATE 405. ATHLETIC TRAINING CLINICAL EDUCATION III.** This course permits the undergraduate athletic training student to gain clinical skills through experiences with interscholastic and intercollegiate teams in the athletic training room and competition areas. Additionally, students complete the senior-level clinical proficiencies on a one-to-one basis in the classroom as part of the athletic training program's learning-over-time model. This course is repeated one time. Prerequisite: Admission to athletic training education program. Fall and spring. (2 crs.)

**ATE 425. ADMINISTRATIVE STRATEGIES IN ATHLETIC TRAINING.** This course focuses on administrative functions, litigation, staff relationships, ethics, budget and supplies, inventory, facility design, maintenance, safety assessment, student trainer organization, and resume writing. Prerequisite: Must be formally enrolled ATEP student or by permission of the instructor. Fall. (2 crs.)

**ATE 440. PHARMACOLOGY FOR THE ALLIED HEALTH SCIENCES.** The purpose of this course is to provide an overview of drugs commonly used to treat patients seen by persons working in the allied health professions. Medical reasons for drug treatment, specific actions of therapeutic agents and adverse effects are presented. Prerequisite: Must have completed at least 96 credits, or at the discretion of the instructor. Fall. (2 crs.)

**ATE 445. PILATES AS THERAPEUTIC EXERCISE.** This course will teach the philosophy and methods of Joseph Pilates. Students will learn to lengthen and strengthen the Powerhouse (area from the pelvic girdle to the shoulder girdle) through the original exercises developed by Joseph Pilates. Participants will not only learn the exercises, but how to cue them effectively and adapt them to general fitness classes and personal training or rehabilitation clients. Following the course students will have the option of sitting for the Powerhouse Pilates certification exam to obtain a certificate as a Pilates mat instructor. Spring. (1 cr.)

**ATE 460. SPORTS MEDICINE RESEARCH.** Different types of research, particularly descriptive and experimental, are presented. Emphasis is placed on developing library research skills, critically analyzing research and becoming a

knowledgeable consumer of research in order to apply it in the clinical environment. Prerequisite: Must be formally enrolled ATEP student or by permission of the instructor. Fall. (3 crs.)

## **BIO – Biology**

**BIO 103. CONTEMPORARY ISSUES IN BIOLOGY.** Basic biological principles are applied to the understanding of current social-biological problems and how these relate to an individual's personal life. Topics included are human sexuality, nutrition, health and disease, evolution, behavior, and the diversity of life. Three lecture-hours weekly. For students not majoring in biology. Fall and spring. (3 crs.)

**BIO 112. BIOLOGY OF SEXUALLY TRANSMITTED DISEASES.** A nonmajor biology course pertaining to the causes and consequences of human sexually transmitted diseases. Descriptions of the microorganisms which cause STDs and the factors involved in their dissemination will be studied. Special emphasis will be directed toward human behavior patterns and mores which are conducive to contracting these venereal diseases. Viral STDs (acquired immune deficiency syndrome, human papilloma disease, herpes simplex II and hepatitis B) will be emphasized because they can cause severe diseases or even death in humans; however, the more common venereal diseases (syphilis, gonorrhea, lymphogranuloma, venereum, chancroid and candidiasis) will also be studied. Three lecture-hours weekly. Variable. (3 crs.)

**BIO 115. PRINCIPLES OF BIOLOGY.** This course covers structures and functions common to all organisms: cell structure and function, chemical aspects of biological systems, energy and materials balance in nature, developmental biology, principles of genetics, evolution and ecology. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

**BIO 120. GENERAL ZOOLOGY.** A comprehensive survey of the animal kingdom, the course places an emphasis on evolutionary relationships and the interrelationships of animals with their environments. Laboratory study of representative members of the major phyla is included. Three lecture-hours and three laboratory-hours weekly. Prerequisite: BIO 115. Fall and spring. (4 crs.)

**BIO 125. GENERAL BOTANY.** This course is a survey of form and function of the major plant groups as well as the bacteria, algae, water molds, slime molds and fungi within the overall framework of a modern phylogenetic system of classification. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

**BIO 130. BIOLOGICAL ILLUSTRATION.** An introductory course in biology and drawing with an emphasis on the relationship between form and function. Working with plants and animals, and using a combination of macroscopic and microscopic specimens, students will focus on the careful observation and interpretation of biological forms. Drawing instruction will focus on a variety of techniques commonly used in the biological sciences. Biology instruction will introduce students to basic scientific methodology, the diversity of living forms, the variety of ecological strategies related to those forms, and their scientific classification. This is a team-taught lecture and studio course, with the class in biology lecture one day, and in the studio/lab instruction the second day. Corequisites: ART 130. Three lecture-hours and three studio-hours weekly. (3 crs.)

**BIO 201. SURVEY OF BIOTECHNOLOGY.** A survey of the scientific principles, research methods, commercial applications, societal impacts and business environment that impact and define the operation of biotechnology and pharmaceutical companies. Students will learn how genes, proteins and cells work, how biotechnologists study and manipulate living organisms and how those methods are used to solve problems and create products in medicine, agriculture, industry, criminal justice and the environment. Students will examine ethical, social and economic issues affecting the use of biotechnologies and the business and regulatory environment in which biotechnology companies operate. The course gives a detailed industry overview relevant to science engineering computer science, information management and business majors considering technical or business careers in biotechnology and pharmaceutical companies or any student interested in biotechnology's impact on the human condition. This is a web-based course. (3 crs.)

**BIO 206. CONSERVATION OF BIOLOGICAL RESOURCES.** A study of biological aspects relating to plants and animals directly associated with water, soil and environmental changes, this course include numerous field trips into areas of western Pennsylvania to observe land reclamation, conservation practices and basic problems confronting human populations. Prerequisites: none. Three lecture-hours and three laboratory-hours weekly. Variable. (4 crs.)

**BIO 215. INTRODUCTION TO CELLULAR AND MOLECULAR BIOLOGY.** This course is designed to introduce the student to the basic concepts of cell chemistry and biology as well as introduce the concepts and skills of molecular biology. It will cover topics such as cellular organization in both prokaryotic and eukaryotic cells including organelles and genome organization. It will explore the Central Dogma, Genetics and Protein modification and sorting. The lab portion will consist of cell culture and cloning, introduction to molecular techniques such as gel electrophoresis, cloning, restriction enzyme digest and cell counting. Pre-requisite: BIO 120 or BIO 125. Fall and spring. (4 crs.)

**BIO 226. BASIC MICROBIOLOGY.** This course provides a survey of the prokaryotic and the medically important concepts of microbiology, including microbial control, acquisition of disease, and disease prevention and control. Prerequisites: This course is for students who are enrolled in a nursing program or have obtained permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Fall and summer. (4 crs.)

**BIO 230. ANATOMY AND PHYSIOLOGY I.** This course is a general survey of the basic anatomical terms of position and direction, relevant scientific units, chemical components of living organisms, homeostasis, animal cytology, histology, the integumentary system, rudiments of neurology, the skeletal system, and the cardiovascular system. Prerequisites: This course is for students who are enrolled in a nursing program or have obtained permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

**BIO 232. FUNDAMENTALS OF BIOLOGICAL ANTHROPOLOGY.** An introduction to the field of biological anthropology, this course includes the study of evolutionary theory, human evolution and the fossil record, modern

human populations, and the behavior and ecology of nonhuman primates. Three hours weekly, combining lecture and laboratory. Alternate spring. (3 crs.)

BIO 260. ANATOMY AND PHYSIOLOGY II. This course is a general survey of the basic structure of the peripheral and autonomic nervous systems, sensory receptors and special sense organs, the endocrine system, the cardiovascular system, the lymphatic system, the respiratory system, the digestive system, the urinary system, the reproductive system, human embryonic development, and metabolism. Prerequisite: BIO 230. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

BIO 305. COMPARATIVE VERTEBRATE ANATOMY. A comparative study of the vertebrate organs and organ systems of animals in the phylum chordata, this course places emphasis on evolutionary changes. Prerequisites: BIO 115 & 120. Three lecture-hours and three laboratory-hours weekly. Spring, even years. (4 crs.)

BIO 306. HUMAN ANATOMY. A study of the structure of the human body, this course includes discussion of the 11 fundamental systems. Each system is described in terms of its gross anatomy, with some discussion of histology and physiology where appropriate. Prerequisites: BIO 115 and 120 or permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Fall. (4 crs.)

BIO 307. PLANT ANATOMY. A detailed study of the form and function of the various cell and tissue types found in higher plants, this course also surveys how scientific knowledge of plant anatomy is applied within a diverse range of fields, including ecology, forensic science, archeology, climatology, the arts and engineering. Prerequisites BIO 115 and BIO 125. Alternate fall. (4 crs.)

BIO 310. ECOLOGY. Ecology presents the biology or environmental science student with a holistic approach to the study of the biological environment. Emphasis is on the natural environments of organisms, particularly as biotic assemblages of these organisms interact with their environments from the concrete levels of organization up to the regional and biome levels. Prerequisites: BIO 115, 120 and 125, or permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

BIO 318. GENETICS. An introduction to molecular genetics and to the basic principles of inheritance, this course covers gene interactions, multiple-factor inheritance, chromosome inheritance, chromosome mapping, chromosomal and extrachromosomal inheritance. The roles of mutation, selection, migration and genetic drift are investigated to determine the genetic composition of different populations. Prerequisites: BIO 115, CHE 101, MAT 181 and ENG 102 or ENG 217 or HON 250. Three lecture-hours and three laboratory-hours weekly. Fall and spring. (4 crs.)

BIO 325. ANIMAL HISTOLOGY. This course is a study of cellular differentiations in tissue, tissue identification and special functions, especially in the mammals. Prerequisites: BIO 115 and 120. Three lecture-hours and three laboratory-hours weekly. Spring, odd years. (4 crs.)

BIO 326. GENERAL MICROBIOLOGY. A detailed study of bacteria and viruses, this course also places some emphasis on fungi, algae and protozoans. Special emphasis is given to medical aspects of bacteriology, immunology and virology. The cytology, physiology, microbiology and culture of microbes are pursued in the laboratory. Prerequisites: BIO 115 and BIO 125, CHE 101 and CHE 102, or permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Fall. (4 crs.)

BIO 327. PARASITOLOGY. A comprehensive review of the biology of parasites and their interactions with their hosts and vectors. The course will cover principles of disease and epidemiology, the biology and ecology of the eukaryotic parasites causing disease in animals, the host response to infection, treatments, and preventive measures. Three lecture-hours and three laboratory-hours weekly. Prerequisites: BIO 125. Spring, even years. (4 crs.)

BIO 328. HUMAN PHYSIOLOGY. The functions of the human body are covered. Basic physiological phenomena are studied with considerable emphasis on clinical and practical application. Prerequisites: BIO 115 and BIO 120, or permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Spring. (4 crs.)

BIO 335. PLANT PHYSIOLOGY. The physio-chemical foundations of plant functions are investigated, including such topics as water and salt absorption, photosynthesis, respiration, plant growth substances, photoperiodic responses, mineral metabolism, germination and the effects of air pollution on plants. Recent advances in the field of plant physiology are included. Prerequisites: BIO 115 and BIO 125, CHE 101 and CHE 102. Three lecture-hours and three laboratory-hours weekly. Alternate spring. (4 crs.)

BIO 336. PLANT TAXONOMY. A study of relationships among the vascular plants, their classification and methods of identification, this course stresses plant families native to western Pennsylvania. Prerequisites: BIO 115 and BIO 125. Three lecture-hours and three laboratory-hours weekly. Alternate spring. (4 crs.)

BIO 337. ORNITHOLOGY. The study of bird life, this course covers classification, anatomy, ecology, behavior and recognition of birds, with emphasis on local species and their relationships to people and the ecological balance with other organisms. Prerequisites: BIO 120. Three lecture-hours and three laboratory-hours or field activity weekly. Spring. (4 crs.)

BIO 400. MAMMALOLOGY. This course is a study of the classification, distribution and natural history of mammals, with emphasis on eastern North American species. It includes field studies and laboratory work with preserved specimens. Prerequisites: BIO 115, 120 and 310. Three lecture-hours and three laboratory-hours weekly. Alternate falls. (4 crs.)

BIO 414. PLANT ECOLOGY. A study of the relationships between plants and their biotic and abiotic environments, this course focuses on plant community and population ecology. Prerequisites: BIO 125. Three lecture-hours and three laboratory-hours weekly. Alternate spring. (4 crs.)

BIO 418. BIOLOGICAL RESEARCH INVESTIGATIONS. This course is a research program for advanced undergraduate students who wish to pursue careers in biological or medical areas. Emphasis is placed on the use of various scientific instruments and biological procedures necessary for research investigations. The student works

closely with one or more faculty members on a research project which is departmentally approved. Each research project is unique, and the data should ultimately be published in a prominent biological journal. The student normally participates in one aspect of an ongoing research study and may pursue work for one or more semesters. Students can take a maximum of 12 credits, 6 of which may be counted in the area of concentration. Prerequisites: BIO 115 and BIO 125 (or BIO 120), one biology elective course, junior or senior standing, and a 3.0 GPA. Fall and spring. (1-4 crs.)

BIO 425. NEUROBIOLOGY. An examination of the structure and function of nervous systems, the course is designed to develop a detailed understanding of nervous system structure and function from the molecular level to the level of complex circuits such as learning and memory. A central theme is the comparison of the neurological circuits across phyla to identify basic organizational principles. Prerequisites: BIO 305 or 306 and BIO 328 or 486. 3 hours of lecture weekly. Variable. (3 crs.)

BIO 433. HERPETOLOGY. A consideration of the amphibia and reptilia from taxonomical, morphological, evolutionary, behavioral and physiological viewpoints, this course emphasizes ecological relationships. Prerequisites: BIO 115 and BIO 120. Three lecture-hours and three laboratory-hours weekly. Spring, even years. (4 crs.)

BIO 435. ICHTHYOLOGY. An introduction to the morphology, taxonomy, ecology and distribution of the major groups of freshwater fishes, this course emphasizes the northeastern U.S. fauna. Prerequisites: BIO 115 and BIO 120. Three lecture-hours and three laboratory-hours weekly. Fall, even years. (4 crs.)

BIO 441. ETHOLOGY. Ethology examines animal behavior within the framework of evolutionary biology, using the comparative methods (in both lecture and the laboratory) to examine similarities and differences in ecology, anatomy and physiology, genetics, and development patterns. Prerequisites: BIO 115, BIO 120, BIO 310 and BIO 318, or permission of the instructor. Three lecture-hours and three laboratory-hours weekly. Alternate spring. (4 crs.)

BIO 442. FOREST ECOLOGY AND DENDROLOGY. A study of the forest and its ecology and management, this course includes the identification of the major woody plants, their growth, structure and natural history. An emphasis is given to the forest communities and tree and shrub species common to the eastern United States. Prerequisites: BIO 125. Three lecture-hours and three laboratory-hours weekly. Fall, odd years. (4 crs.)

BIO 445. ENTOMOLOGY. A specialized study of insects, this course covers identification and classification, development phases, physiological characteristics, economic importance, and disease vectors. Prerequisite: BIO 115 and BIO 120. Three lecture-hours and three laboratory-hours weekly. Spring, odd years. (4 crs.)

BIO 450. IMMUNOLOGY. A detailed study of the immune system of animals, this course covers nonspecific and specific host responses to foreign materials, the interaction between cells of the specific immune response, the nature and diversity of the immune response, the practical applications of the immune response, and disorders associated with the immune response. Prerequisites: BIO 115, BIO 120 and BIO 318, or BIO 326. Three lecture-hours weekly. Spring, even years. (3 crs.)

BIO 478. EVOLUTION. This advanced course examines the mechanisms that result in biological evolution. Emphasis is placed on how these mechanisms operate at a variety of levels, from individual genes to distantly related species, and thereby produce the diversity of life observed on Earth. The origin of life, speciation and hominid evolution are also studied in detail. Prerequisites: BIO 115, BIO 120, BIO 125 and BIO 318. Fall. (3 crs.)

BIO 480. CELL BIOLOGY. This course studies the biology of the cell, with emphasis on the relationship of structure and function within the cell. It is a study of cell organelles, growth, division, macromolecules, membranes, synthesis and regulation. Prerequisites: BIO 115, BIO 120, BIO 125 and CHE 331. Three lecture-hours and three laboratory-hours weekly. Spring. (4 crs.)

BIO 486. COMPARATIVE ANIMAL PHYSIOLOGY. This course is a comparative approach to the study of physiological systems in animals relative to environmental pressures and phylogenetic standing. Prerequisite: BIO 115 and BIO 125. Three lecture-hours and three laboratory-hours weekly. Fall, even years. (4 crs.)

BIO 488. WATER POLLUTION BIOLOGY. This course is a survey of the impact of various types of environmental pollutants on aquatic biological communities. Community responses are analyzed in a lecture/laboratory format with emphasis on collection in the field. Three lecture-hours and three laboratory-hours weekly. Prerequisites: BIO 120, CHE 101. Fall, odd years. (4 crs.)

BIO 492. BIOLOGICAL AND ENVIRONMENTAL SCIENCE INTERNSHIP. Student interns are placed with an organization or institution which most nearly approximates their goals for employment. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with practical problems requiring real solutions in a relatively short time frame. Adviser and department chairperson approval is required before course enrollment. A total of 6 credits may be applied toward graduation in the following manner: A maximum of 3 credits may be applied to an appropriate core area in the biology curriculum. In the environmental studies and pre-professional programs, a maximum of 3 credits can be applied to the related electives area. In addition, a maximum of 3 credits may be applied to the free electives area in the general education requirement of any program. Prerequisite: Junior or senior standing and permission of the department. Fall and spring. (Variable: 1-12 crs.)

## **BUS — Business**

BUS 100. INTRODUCTION TO BUSINESS. This course provides background and insight into business organizations. It covers a variety of basic business concepts. The course focuses on major issues that affect today's organizations, such as domestic and global environments, corporate social responsibilities and ethics, managing businesses, people in organizations, marketing principles, accounting and financial issues, and information technology. Students will learn the many areas involved in operating a business in today's society and explore how businesses influence and interact with the social, political, legal, economic, technical, cultural and global external environments. (3 crs.)

BUS 242. BUSINESS LAW I. A study of commercial law as it relates to contracts, agency, and criminal and constitutional law pertaining to business. (3 crs.)

BUS 331. LEGAL ENVIRONMENT OF BUSINESS. A survey for business managers of the legal issues relevant to the general operation of businesses in the U.S. economy. Appropriate managerial tactics to address the various legal issues that may arise in daily business affairs are also identified. Prerequisite: MGT 300. (3 crs.)

BUS 342. BUSINESS, SOCIETY AND GOVERNMENT. A survey of the historical and contemporary relationship between government and business in the United States. Special emphasis is given to the developments of the past two decades. Prerequisite: MGT 300 or permission of instructor. (3 crs.)

BUS 343. CORPORATE SOCIAL RESPONSIBILITY. Incorporating the concept of social responsibility or corporate social responsiveness in the corporate business strategy; how to assess organizational performance on social issues and design information systems to monitor policies in a large complex organization; the identification of the stages of this process and the characteristic problems and tasks associated with each stage; the evolution and/or design of structures and procedures for handling social issues consistently with business strategies. Prerequisite: MGT 300 or permission of instructor. (3 crs.)

BUS 345. BUSINESS ETHICS. The course provides a framework to identify, analyze and understand how business people make ethical decisions and deal with ethical issues. Using a case method approach, students will analyze real-life business situations and gain insight into the realities and complexity of making decisions in a business environment. (3 crs.)

BUS 346. BUSINESS LAW II. A continuation of Business Law I. Basic legal concepts of sales, commercial paper, secured transactions and related topics. Prerequisite: BUS 242. (3 crs.)

BUS 371. ANALYTICAL METHODS. This is a course designed to teach mathematical methods of solving business problems. This will be especially useful to anyone who has opted not to take calculus. Prerequisite: MAT 181. (3 crs.)

BUS 379. SPECIAL PROBLEMS IN BUSINESS. Directed study dealing with contemporary issues in business. (3 crs.)

BUS 492. BUSINESS INTERNSHIP. The student is placed with a business firm, bank, government agency or nonprofit organization for on-the-job and/or counseling experience. It offers a practical training ground for students that supplements academic training by permitting them to address actual problems in a real business environment. Prerequisite: Junior standing or permission of instructor. (Repeatable; variable crs.; a maximum of 12 credits may be used toward a bachelor's degree.)

BUS 495. SEMINAR IN BUSINESS. An intensive examination of selected subjects from the general field of business. Prerequisite: Consent of instructor. This course is repeatable one time if the subject matter is different. (3 crs.)

## **XCP — Career Planning**

XCP 194. CAREER PLANNING. A self-discovery course that provides first- and second-year students the opportunity to develop career interests and goals. Students will gain an understanding of their interests and personal preferences by completing and critically analyzing the Keirsey Temperament Sorter and the Strong Interest Inventory. Topics include the role of career planning in life planning, decision making, sources of career information, and the relationship between careers and a college education. Enrollment is limited to students who have completed 59 credits or fewer. Spring. (1 cr.)

## **CHE — Chemistry**

CHE 100. INTRODUCTION TO CHEMISTRY. A preparatory course emphasizing the mathematical and reasoning skills needed to be successful in general chemistry. There are no prerequisites, and the course satisfies requirements in the natural science area for nonmajors. This course is not an elective for chemistry majors. Three class-hours each week. As needed. (3 crs.)

CHE 101. GENERAL CHEMISTRY I. An introductory course for majors and nonmajors. Topics covered include atomic structure, bonding, stoichiometry, chemical reactions, solutions and the gaseous state. Three class-hours and three laboratory-hours each week. Prerequisites: High school chemistry or CHE familiarity with algebraic manipulations and simple graphing is expected. Every semester. (4 crs.)

CHE 102. GENERAL CHEMISTRY II. A continuation of General Chemistry I. Topics covered include intermolecular forces, colligative properties, thermodynamics, kinetics, acids and bases, gaseous and ionic equilibria. Three class-hours and three laboratory-hours each week. Prerequisite: CHE 101. Every semester. (4 crs.)

CHE 103. CHEMISTRY FOR THE EVERYDAY WORLD. Chemical principles are introduced and applied to issues and problems facing society. The fundamental language and symbols of descriptive chemistry are covered and used as a means of describing the natural world. To promote science literacy, case studies of important current topics in science with an impact on society will be examined. Three class-hours each week. Spring and fall. (3 crs.)

CHE 151. INTRODUCTION TO CHEMISTRY LAB. Introduction to Chemistry Lab is a laboratory-oriented course in chemistry for nonmajors, including nursing program students who already have had Introduction to Chemistry. Laboratory experiments/activities are designed to provide a hands-on introduction to experimental methods. Each experiment allows the student to practice time-honored methods of science: making observations, taking measurements, recording data and drawing conclusions from the laboratory data. Three laboratory-hours per week. Prerequisites: None. Fall. (1 cr.)

CHE 261. ANALYTICAL CHEMISTRY. This is a traditional first course in quantitative analytical chemistry focusing on "wet" chemical analyses. The theory and application of gravimetric and a variety of titrimetric (neutralization, precipitation, and complex-formation) methods of analysis are presented. Emphasis is also given to statistical evaluation of analytical data and study of complex aqueous equilibria. Laboratory activities for this course focus on

experimental methods and procedures required for precise and accurate quantitative determination of composition of a variety of unknown samples. Three lecture-hours and three laboratory-hours each week. Prerequisites: CHE 101 and 102. Fall. (4 crs.)

**CHE 305. INORGANIC CHEMISTRY.** A continuation of General Chemistry II. This course focuses on the concepts of inorganic chemistry with emphasis on atomic structure, periodicity, group and bonding theories, coordination, solid-state and acid-base chemistry. Laboratory: Qualitative and quantitative analysis of elements; synthesis and analysis of inorganic complexes; write Journal of the American Chemical Society-style reports. Three class-hours and three laboratory-hours each week. Prerequisite: CHE 102. Spring. (4 crs.)

**CHE 331. ORGANIC CHEMISTRY I.** An introduction to the basic principles that govern the reactions of carbon-based compounds. Particular emphasis is placed on introduction of the basic functional groups and their structural and stereochemical properties. An introduction to reactions of functional groups, including alkanes, alkyl halides, alcohols, alkenes, alkynes and conjugated systems through study of reaction mechanisms, molecular modeling and synthesis. Students are introduced to and trained in important purification techniques and instrumentation used for characterizing molecules. Three hours lecture and three hours laboratory. Prerequisites: CHE 101, CHE 102. Summer and fall. (4 crs.)

**CHE 332. ORGANIC CHEMISTRY II.** A continuation of the study of organic functional groups. The student continues study of the properties, reactions and mechanistic evaluations of important functional groups, including aromatics, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amides and amines. Organic synthesis is introduced as a means toward interconversion of functional groups. Theory and interpretation of infrared spectroscopy, ultraviolet spectroscopy, nuclear magnetic resonance spectroscopy and mass spectrometry as a means to determining molecular structure is also introduced. Students will also be trained in design, implementation and report of experiments through an independent project. Three hours lecture and three hours laboratory. Prerequisites: CHE 101, CHE 102, and CHE 331. Summer and spring. (4 crs.)

**CHE 361. INSTRUMENTAL METHODS.** This course will expose the students to a number of important instrumental methods currently used for chemical analysis. The topics covered fit into three broad categories: (1) electrochemistry and electroanalytical methods, (2) spectroscopic methods, and (3) analytical separations and chromatographic methods. Both the theory and the application of these analytical methods are emphasized with particular focus on the technical details of instrumentation, the methodology employed for precise and accurate analytical determinations of samples, and the advantages and limitations of each method. An essential component is the incorporation of hands-on experience with many instruments in the laboratory portion of this course. Three lecture-hours and three laboratory-hours each week. Prerequisites: CHE 261. Spring. (4 crs)

**CHE 368. INDIVIDUAL WORK I.** An opportunity for students specializing in chemistry to organize, investigate and report on a specific problem of their own selection. Spring, summer and fall. (1 cr.)

**CHE 381. ENVIRONMENTAL CHEMISTRY.** In this course, students will learn the environment and modern environmental problems based on origin, fate, toxicity and remediation of chemical pollutants. Emphasis will be placed on the environmental implications of air, water, soil pollution, energy utilization, toxicology and chemical principles for various environmental processes that relate to green chemistry for pollution prevention and cleanup. These topics will be introduced through lectures, discussions, demonstrations and laboratory experiments. Prerequisite: CHE 331. Spring. (4 crs.)

**CHE 410. CHEMISTRY INTERNSHIP.** The student is provided an opportunity to work in an industrial or nonprofit research laboratory. This practical training is intended to supplement the academic program. Prerequisite: Junior or senior standing and permission of the department. Spring, summer and fall. (Variable: 1-12 crs.)

**CHE 415. BIOCHEMISTRY.** A comprehensive survey of the properties, reactions and structure of amino acids, proteins, enzymes, carbohydrates, fats and lipids, and nucleic acids. Special focus on protein structure and nomenclature, enzyme catalysis and kinetics, mechanistic analysis, and in-depth study of important metabolic pathways. Three class-hours and three hours laboratory each week. Prerequisites: CHE 331 and CHE 332. Fall. (4 crs.)

**CHE 451. PHYSICAL CHEMISTRY I.** Fundamentals of thermodynamics and chemical kinetics. Includes study of laws of thermodynamics, chemical, electrochemical and solution thermodynamics, phase stability and phase diagrams, properties of gases, liquids and solids, chemical reaction kinetics, and reaction mechanism. Three lecture-hours and three laboratory-hours each week. Prerequisites: Junior standing, CHE 261, MAT 282. Additionally MAT 381 is recommended. (4 crs.)

**CHE 452. PHYSICAL CHEMISTRY II.** Introduction to quantum theory of atoms, molecules and chemical bonding. Fundamental principles and postulates of quantum mechanics and their applications to atomic structure, molecular spectroscopy, molecular symmetry and molecular structure determination are studied in great detail. Three lecture-hours and three laboratory-hours each week. Prerequisite: CHE 451. (4 crs.)

**CHE 495. CHEMISTRY SEMINAR.** Students may choose a particular topic in chemistry and, under the supervision of a faculty member, prepare and present a seminar report. The topics are to be on material not covered in the undergraduate courses, or extensions of some particular aspect of chemistry included in less detail in an undergraduate course. Spring and fall. (1 cr.)

## **CIS — Computer Information Systems**

**CIS 110. INTRODUCTION TO INFORMATION SYSTEMS.** This course is an introductory study of information systems. Major topics include the role and value of information systems, hardware and software used in information systems, managing information and data resources, decision making, and developing information systems. Prerequisites: None. (3 crs.)

**CIS 120. APPLICATION PROGRAMMING I.** This course provides students with an understanding of business problems that are typically solved by writing computer programs, problem-solving techniques to enable students to

design solutions and programming skills learned in a traditional CIS course. Emphasis is placed on efficient software development for business-related problems. Students are required to write, test and run programs. Prerequisite: High school algebra or equivalent. (3 crs.)

**CIS 220. APPLICATION PROGRAMMING II.** This course provides students with advanced techniques for design and implementation of business solutions using object-oriented programming concepts. This course also covers the data structures that are typically learned in a traditional CS2 course. Emphasis is placed on efficient software development for business-related problems. Students are required to write, test and run programs. Prerequisite: CIS 120 Application Programming I with C- or better and CIS 110 Intro to Information Systems with C- or better. (3 crs.)

**CIS 299. SYSTEMS ANALYSIS I.** This project course introduces the students to "systems thinking" and experientially introduces the student to some of the basic concepts and tools of systems analysis, within the context of a real-life business problem. The traditional SDLC waterfall approach to systems analysis and design is stressed in order to prepare students for any business type or size (some of which may not have modern analysis and design tools). Students entering into this course must have a basic understanding of business and the idea of using programs that are integrated into systems to solve business problems. This requisite knowledge is built upon in teaching students how to analyze a business' current information system, how to extrapolate user needs and the business' additional processing requirements, and then how to design a system that not only meets the stipulated requirements while remaining within the project's constraints, but remains in line with the entity's mission/vision and optimizes business processes to position the entity more competitively in the market. Prerequisites: Sophomore standing or higher, BUS 100 Introduction to Business with a C- or better, CIS 110 Introduction to Information Systems with a C- or better, CIS 220 Application Programming II with a C- or better; prerequisite/corequisite: ENG 217 Science and Technical Writing. (3 crs.)

**CIS 321. DATABASE MANAGEMENT SYSTEMS AND DATABASE DESIGN.** This introductory course to DBMS (database management systems) provides the student with the theory and practice behind the use of modern DBMS. Database terminology and concepts covered include, but are not limited to, the logical and physical design of databases and the tables within them as determined through the analysis of information needs and modeling, the creation of ERD (entity relationship diagrams) and their translation into relational schemas (logical and physical design), normalization techniques, DDL (data definition language) and SQL (structured query language) for database, table, view and index creation and database performance and optimization. Prerequisites: CIS 299 Systems Analysis I with C- or better or Computer Science junior standing. (3 crs.)

**CIS 322. DATABASE APPLICATION DEVELOPMENT.** Building upon the conceptual understanding of a modern DBMS (database management system) and database and table design concepts gained in CIS 321 – Database Management Systems and Database Design, this course provides the student with the practice of applying database technology via the Oracle DBMS to the solution of business and other information-related problems. Experience is provided with database design and implementation based on a thorough analysis of requirements and information modeling. The use of structured query language (SQL) for interaction with a working DBMS for data creation, manipulation and extraction is stressed as well as optimization techniques, such as view creation and indexing. PL/SQL and database triggers are introduced. Prerequisites: CIS 321 Database Management Systems and Database Design with a C- or better. (3 crs.)

**CIS 325. DECISION SUPPORT SYSTEMS.** This course presents the concept of decision making within the framework of a contextualized management information system that utilizes databases or spreadsheets as tools in the problem-solving process. The course distinguishes between two logical components of a management information system: the transactional processing systems (TPS) and decision support systems (DSS), in which computer-based systems aid decision makers in confronting problems through direct interaction with data and analysis models. Some of the topics covered include critical-thinking problem solving through decision support, information requirements diagramming and influence diagramming, modeling, decision-making, frames of references in decision-making, and decision-making techniques, such as goal seeking, "What If" scenarios and graphic displays. Prerequisites: CIS 321 Database Management Systems and Database Design with a C- or better. (3 crs.)

**CIS 330. WEB PROGRAMMING I.** This course is designed for the computer information systems major. It provides the student with a thorough understanding of HTML, in order to enable to student to create Web pages and websites using HTML. It also provides the student with a thorough understanding of at least one client-side scripting language, in order to enable the student to begin creating database-driven websites. Students are required to write and test Web pages and websites that use client-side scripts. Prerequisite: CIS 220 Application Programming II with a C- or better. (3 crs.)

**CIS 332. WEB PROGRAMMING II.** This course introduces the student to server-side technologies. Students are required to write and test database driven websites that use both client-side and server-side scripts. Prerequisites: CIS 330 Web Programming I with a C- or better and CIS 322 Database Application Development with a C- or better. (3 crs.)

**CIS 341. CISCO CCNA 1.** This course is designed for the information systems major. It is the first in a series of four CCNA (CISCO Certified Networking Associate) courses. It provides the student with a thorough understanding of basic computer networking concepts. (4 crs.)

**CIS 342. CISCO CCNA 2.** This course is designed for the information systems major. It is the second in a series of four CCNA (CISCO Certified Networking Associate) courses. It provides the student with a thorough understanding of the router basics involved in computer networking. Prerequisite: CIS 341 with a C- or better. (4 crs.)

**CIS 343. CISCO CCNA 3.** This course is designed for the information systems major. It is the third in a series of four CCNA (CISCO Certified Networking Associate) courses. It provides the student with a thorough understanding of the switching basics and intermediate routing involved in computer networking. Prerequisite: CIS 342 with a C- or better. (4 crs.)

CIS 344. CISCO CCNA 4. This course is designed for the information systems major. It is the fourth in a series of four CCNA courses. It provides the student with a thorough understanding of wide area network (WAN) technologies and their role in computer networking. Prerequisite: CIS 343 with a C- or better. (4 crs.)

CIS 352. GLOBAL, ECONOMIC AND SOCIAL ETHICAL ISSUES IN COMPUTING. This course covers issues related to various global, economic and social frameworks and moves to topics specifically related to computers. Emphasis is placed on the study of ethical situations that arise as a consequence of the development and deployment of computers and related technologies. Case studies will be used to facilitate discussions in areas such as economics of information systems, computer crime and hacking, computer software ownership, database privacy, risks of computing, professional liability, Internet freedom in computing, and international laws and governance. Prerequisite: Junior standing. (3 crs.)

CIS 354. SYSTEMS PROJECT MANAGEMENT. This course, taken from the latest Model Curriculum for Information Systems (IS 2002), is intended for CIS or CS majors. Building on the systems analysis and design concepts of CIS 299, this course focuses on the management and completion of a systems-software development project. Both technical and behavioral aspects of project management are applied within the context of an information systems development project. Prerequisites: CIS 299 Sophomore Project with a C- or better. (3 crs.)

CIS 474. SPECIAL TOPICS IN INFORMATION SYSTEMS. This course allows current topics in information systems to be offered to the students in a timely fashion. The topics are not covered in other courses and will not be regularly offered as a special topic. The student is able to take the course several times as long as the course is covering topics different than those already taken. The course topic depends on the current trends in the field of information systems, the interests of the students and the instructor. The topics covered in the course are directed specifically to a junior or senior level offering. Prerequisite: Permission of instructor. (3 crs.)

CIS 490. SYSTEMS ANALYSIS II. This course introduces students to systems application development. They will study its history and terminology. The students will write requirements, specifications and design documents and one or more papers on software development life cycles. Prerequisites: CIS 354 Systems Project Management with C- or better and ENG 217 Science and Technical Writing with C- or better. (3 crs.)

CIS 492. SYSTEMS DEVELOPMENT AND IMPLEMENTATION. This course is a continuation of the Systems Analysis II course and the capstone course of the program. The project proposal developed and designed in the Systems Analysis II class will be implemented in this course. The student will produce a project users' manual and will demonstrate proficiency in the academic program through the development of the project. Prerequisite: CIS 490 Systems Analysis II with C- or better. (3 crs.)

## **CMD — Communication Disorders**

CMD 100. SURVEY OF SPEECH PATHOLOGY. This is the introductory course to communication disorders and the field of speech/language pathology. Fall. (3 crs.)

CMD 105. LANGUAGE AND SPEECH DEVELOPMENT. Emphasizes the normal development of speech, language and communication. The form and function of language are considered, i.e., phonology, syntax, morphology, semantics and pragmatics. Annually. (3 crs.)

CMD 108. NATURE OF LANGUAGE. This is a course about both the history and current use of language. A major focus of this course is to analyze the various components of language: phonetics, phonology, morphology, semantics, syntax, and the written representation. The sociocultural influence (dialects, accents) of language is also discussed. A comparison is made between human and animal languages. Lastly, language function is compared with brain structure. Annually. (3 crs.)

CMD 203. PHONETICS. Introduces practical phonology and phonetics as they apply to the communicative process. The student is required to learn and use the International Phonetic Alphabet. Annually. (3 crs.)

CMD 204. ANATOMY AND PHYSIOLOGY. The structure and normal function of the components of the human body participating in the production and reception of speech and language. Prerequisite: CMD 213. Alternate years. (3 crs.)

CMD 215. SPEECH SCIENCE. An introductory course in speech science: the study of the physical characteristics of speech, its perception, and its production. Alternate years. (3 crs.)

CMD 216. ARTICULATION. This course will provide the student with traditional views toward articulation disorders and their assessment and treatment. Current management and assessment procedures will be presented. Alternate years. (3 crs.)

CMD 218. INTRODUCTION TO CLINICAL PROCEDURES. This course is designed to give the senior-level communication disorders students their first in-depth view of actual clinical procedures. The major goal of the course is to consider all the issues related to basic/entry-level clinical interaction and to share information with classmates. Topics will include creating an appropriate clinical environment, professional behavior, motivating others, reinforcement principles, legalities of clinical interactions, record keeping, data collection, basic medical terminology, and administering basic speech and hearing screenings. Alternate years. (3 crs.)

CMD 220. COMMUNICATION ACROSS THE LIFESPAN. Through lecture, reading and direct observations, students will learn about the normal development of language across the lifespan. They will also learn about the abnormalities that occur at specific stages of life, as well as those that occur at all ages. Registration in CMD 220 Laboratory is required and will provide the student with client observations both on and off campus. Annually. (3 crs.)

CMD 300. SPEECH PATHOLOGY I. This course provides students with introductory knowledge of children with language and speech disorders. They will become aware of procedures and principles utilized by speech language pathologists in the assessment and management of children with language and speech delays/disorders. Prerequisites: CMD 100, 203, 204, and 213. Alternate years. (3 crs.)



CMD 301. SPEECH PATHOLOGY II. Primary emphasis is placed on several of the major speech disorders, namely fluency disorders, voice disorders, language disorders in adults, dysarthria, apraxia and dysphagia. Prerequisites: CMD 203, CMD 204, CMD 213. Alternate years. (3 crs.)

CMD 305. INTRODUCTION TO AUDIOLOGY. The course will provide the student with an understanding of the genetic and disease processes producing hearing loss in children and adults and the procedures used to assess hearing loss and rehabilitate persons with hearing impairment. Prerequisites: CMD 204 and CMD 213. Alternate years. (3 crs.)

CMD 306. ACOUSTICS/PSYCHOACOUSTICS. This course addresses the dual topic of acoustics and psychoacoustics. Sound perception (how sound is processed by the brain) is specifically addressed. This course would appeal to communication disorder majors or students in other majors who are interested in sound. (3 crs.)

CMD 320. ASSESSMENT OF SPEECH AND LANGUAGE. The student learns to administer, score and interpret speech and language tests and write diagnostic reports based upon the administration and results of such tests. Alternate years. (3 crs.)

CMD 321. COMMON ORGANIC DISORDERS. This course offers in depth study of several severe speech and language deficits. The populations chosen for study each term may differ. Examples of populations that have been studied in the past are cleft palate, cerebral palsy, autism, Alzheimer's Disease, etc. (3 crs.)

CMD 322. TECHNICAL WRITING HEALTH/EDUCATION. This course teaches students of the helping professions to write professional reports for both medical and educational settings. (3 crs.)

CMD 350. SIGN LANGUAGE AND BRAILLE. This is the only CMD course that is not required of CMD majors. Learn beginning American Sign Language in large group and small group practices. Learn about the Deaf culture. Learn to read and produce Braille using both a braille and a hand slate. Usually offered annually. (3 crs.)

CMD 352. SIGN LANGUAGE/BRAILLE II. This is the only CMD course that is not required of CMD majors. Learn intermediate American Sign Language in large group and small group practices. Learn about the Deaf culture. Learn to read and produce Braille using both a braille and a hand slate. Prerequisite: CMD 350 or former class work or documented experience using American Sign Language. (3 crs.)

CMD 400. CLINICAL PRACTICUM. Provides the student clinician with a variety of therapeutic and evaluation experiences with children or adults having speech, language, or hearing disorders. The first three experiences will be in the Speech and Hearing Clinic with individual clients, and the senior-year experience will be in our CMD preschool. Offered every fall and every spring. Prerequisites: GPA of 3.0 is absolutely required in order to enroll. (Repeatable class; 1 cr. in each of the first three years [fall or spring] and 3 crs. senior year.)

## COM – Communication Studies

COM 100. PERSPECTIVES ON COMMUNICATION. An introductory course intended primarily for majors in communication studies, this course explains the many perspectives from which communication may be studied and serves as an introduction to the discipline. (3 crs.)

COM 101. ORAL COMMUNICATION. This course is designed to develop the knowledge and skills necessary for preparing and presenting extemporaneous speeches to accomplish informative and persuasive goals on issues of civil, political or cultural importance. Course topics include audience analysis, research, organization, language use and delivery that facilitate effective communication with audiences. (3 crs.)

COM 105. SURVEY OF RADIO, TELEVISION AND FILM. An introduction to communication in radio, television and film, this course focuses on the effects of mass media on the audience and the individual and the role of mass media in news, documentaries, commercials and entertainment broadcasting. (3 crs.)

COM 141. AUDIO PRODUCTION I. This course covers the fundamentals of radio production, including the theory and use of audio lab equipment, writing and producing various types of basic radio programs, and the study of FCC rules and regulations as they apply to radio broadcasters. (3 crs.)

COM 142. VIDEO PRODUCTION I. Fundamentals of television studio production, including the use of equipment, are covered. This course has both a lecture and a laboratory component. Students must register for both the lecture and laboratory components in the same term. (3 crs.)

COM 165. INTERPERSONAL COMMUNICATION. This course seeks to help the student develop an awareness of the nature and complexity of interpersonal communication, recognize how perception of the self affects the ability to relate to others, and gain an understanding of those elements that shape the interpersonal communication process. (3 crs.)

COM 201. INTERCOLLEGIATE FORENSIC ACTIVITIES. Instruction, practice and performance of various forms of debate and competitive individual speaking and reading events are covered. Participation in intercollegiate competition, largely on some weekends, is required. Open to students in any major. (3 crs.)

COM 203. INTRODUCTION TO PUBLIC RELATIONS. This course examines PR as the communication function that allows organizations to interface with their environments and publics. It describes the public relations process as well as its history, the guiding principles and concepts of organizational advocacy, and explores the various career opportunities in the field. (3 crs.)

COM 220. GROUP COMMUNICATION. This course examines elements and processes in group communication as they are required for making decisions, solving problems, managing conflict, understanding interpersonal influence and interaction, and evaluating leadership roles. Both theoretical and practical guidelines as they apply to group communication are examined. Group projects and experiential learning activities may require participation in service-learning activities outside of class and off campus. (3 crs.)

COM 230. ARGUMENTATION AND DEBATE. This course aims to cultivate students' critical understanding of forms of reasoning as these are deployed by advocates in various situations. Students learn about argument form, structures and strategies used in supporting or undermining propositions. Students act as advocates for particular positions in a team debate and write critical analyses of advocates in debates, panel discussions and argumentative essays. (3 crs.)

COM 235. PRESIDENTIAL RHETORIC, 1960 TO THE PRESENT. A study of the written texts, audio tapes and videotapes of selected speeches by American presidents, this course explores the use of rhetoric in campaigns, in governance and in crises by the presidents in order to illustrate contemporary political speaking and is an examination of how to understand and evaluate presidential speaking. (3 crs.)

COM 241. AUDIO PRODUCTION II. Students will build upon the knowledge and skills learned in Audio Production I, including creating, writing, producing and evaluating various types of more sophisticated production projects. Strong emphasis on theory and practice of field production, creating sound and special effects. Prerequisite: COM 141 or permission of instructor. (3 crs.)

COM 242. VIDEO PRODUCTION II. This course is designed to prepare a student to perform in the various areas of single-camera electronic field production, including the fundamentals of scripting, planning and budgeting field shoots; gathering audio and video in the field; field lighting; skills and aesthetics of editing field produced video; and the understanding and reading of test equipment for video signals. Prerequisite: COM 142 or permission of instructor. (3 crs.)

COM 246. RADIO AND TELEVISION ANNOUNCING. Theories and practice of gathering, evaluating, writing and delivering newscasts, sports, commercials and interviews for radio and television audiences are covered. Prerequisite: COM 141 or COM 142 or permission of instructor. (3 crs.)

COM 250. ORAL COMMUNICATION: MANAGEMENT. Students will develop an awareness of, and an appreciation for, communication in the business world and preparing and presenting oral reports and speeches designed especially for persons who function in organizations, businesses or industries. (3 crs.)

COM 275. THE ART OF FILM. This course provides an introduction to the study of film and covers fundamental concepts in the history, aesthetics, style, technique and critical interpretation of film. The course emphasizes the filmmaker as a creative artist. (3 crs.)

COM 303. PUBLIC RELATIONS APPLICATIONS. This course seeks to develop the production skills necessary to function in an entry-level public relations position. Many assignments will help students develop: 1) proficiency using the host of vehicles PR practitioners use and 2) a portfolio. Effort will be made to create an atmosphere similar to the first job in PR. The instructor will be the first PR supervisor – the boss – editing the work; criticizing style; asking for research; forcing the student to plan, analyze, write, rewrite, prepare, repair, organize and reorganize. Prerequisite: COM 203. (3 crs.)

COM 315. LANGUAGE AND BEHAVIOR. This course focuses on developing language habits that improve sensory and symbolic perception, inference-making, evaluation and conflict management/resolution. Prerequisite: COM 165 or permission of instructor. (3 crs.)

COM 320. INTERCULTURAL COMMUNICATION. Students will gain insight into the cultural communication problems of individuals and groups in face-to-face communication and in technologically mediated communication. The course provides description and analysis of cultural factors in communication, such as perception, value systems, language codes and nonverbal communication. (3 crs.)

COM 325. MEDIA LITERACY. This course explores how media are used by individual, institutions and cultures. Students will apply their enhanced understanding of the media to construct more effective communication. (3 crs.)

COM 331. RADIO AND TELEVISION COMMERCIALS. This course focuses on the writing of commercial messages in varying lengths for both radio and television, including preparation of storyboards. Prerequisite: COM 141 or COM 142 or permission of instructor. (3 crs.)

COM 332. RADIO AND TELEVISION WRITING: NEWS. A study in the writing of news, commentary and documentary scripts for radio and television, this course also focuses on the press conference. Prerequisites: COM 141 or COM 142 or permission of instructor. (3 crs.)

COM 335. RADIO AND TELEVISION WRITING: DRAMA. This course focuses on writing and analyzing teleplays, film and/or radio plays for understanding of dramatic composition and unique needs of specific writing genres and audiences. (3 crs.)

COM 336. BROADCAST REPORTING. A further exploration of the principles of reporting for the electronic media, students will apply reporting techniques, ethical principles and legal principles in actual field experiences. (3 crs.)

COM 341. AUDIO: AESTHETICS AND APPLICATIONS. This course is designed as a discussion of various aesthetic principles in audio followed by application of these principles in student productions. Students must have mastered the mechanics of studio and field audio mixing, recording and editing prior to enrollment. Prerequisites: COM 141 and COM 241 or permission of instructor. (3 crs.)

COM 342. VIDEO: AESTHETICS AND APPLICATIONS. This course is designed as a discussion of various aesthetic principles in video followed by application of these principles in student-produced programming. Students must have mastered the mechanics of shooting and editing videotape prior to enrollment in this course. Prerequisites: COM 142 and COM 242. (3 crs.)

COM 350. PERSUASION. Methods of changing attitudes and behaviors through communication are studied, as well as analysis of individuals, audiences, occasions and subjects for persuasive appeals. Logical and psychological arrangements and the ethics of persuading and being persuaded are also covered. Preparation of persuasive speeches is emphasized. Prerequisite: COM 101 or COM 250 or permission of instructor. (3 crs.)

COM 355. BROADCAST MANAGEMENT. Students will develop a working knowledge of the managerial structures of broadcast organization. Prerequisite: COM 141 or COM 142. (3 crs.)

COM 363. SPORT COMMUNICATION AND MEDIA RELATIONS. This course provides sport management training in sports public relations, publicity and marketing. It includes writing for the media, managing media relationships and using media to obtain marketing objectives. Prerequisite: COM 303 or permission of instructor. (3 crs.)

COM 370. PUBLIC COMMUNICATION LAW AND POLICY. This course examines the meaning of the speech and press clauses of the First Amendment and the application of those clauses to the formulation of public communication policy. It considers electronic media policy formulation in the areas of commercial speech, contemporary speech controversies, privacy, public interest and evolving communication technologies from the perspectives of statute limitations, court constitutional interpretations, common law, regulatory mandates and international treaties. (3 crs.)

COM 438. PUBLIC RELATIONS CAMPAIGN MANAGEMENT. This course seeks to increase understanding of the management of public relations campaigns by integrating communications theory with professional practice. Special attention is given to techniques for designing, implementing and evaluating effective campaign strategies for clients. Prerequisites: COM 203, COM 303. (3 crs.)

COM 445. RADIO AND TELEVISION IN A FREE SOCIETY. This course is a study of the rights and obligations of the mass media producer, purveyor and audience. Prerequisite: COM 105 or permission of the instructor. (3 crs.)

COM 459. COMMUNICATION STUDIES INTERNSHIP. Opportunities for practical, professional communication work and field experiences in various off-campus settings are offered. Internships are to be jointly administered by an on-site supervisor and the departmental internship supervisor. (Variable crs.)

COM 461. COMMUNICATION CRITICISM. The study and application of the methods and critical perspectives used in communication criticism are emphasized. Students will critique a wide range of communication artifacts, which may include speeches, advertisements, films and the messages of public relations. (3 crs.)

COM 463. MEDIA CRITICISM. A study of critical approaches to audio, video and cinematic texts, this course emphasizes discussion and application of approaches that examine the meaning of media texts, the author's role in producing media texts, the impact of media texts on audiences, and the impact of the social and cultural milieu on the creative and critical process. Prerequisites: COM 105. (3 crs.)

COM 481. COMMUNICATION RESEARCH TECHNIQUES. This course is intended to provide an introduction to and practice in the construction of research that is appropriate to the student's area of interest in communication studies. It seeks to provide basic research skills to those anticipating graduate studies and to those anticipating employment in areas of communication studies. Prerequisites: Major, junior standing or permission of instructor. (3 crs.)

COM 484. PUBLIC RELATIONS CASES AND PROBLEMS. This is the capstone course for students in the public relations concentration. It seeks to develop analytical skills so that graduates may function in the four primary roles of the public relations practitioner: 1) monitor of public opinion and change; 2) voice of the corporate conscience; 3) advocate for organizations; and 4) monitor of organizational policies and programs. Prerequisite: COM 438 or permission of instructor. (3 crs.)

COM 490. COMMUNICATION THEORY. In this seminar, the theories of human communication are analyzed, debated and evaluated. (3 crs.)

## **CET – Computer Engineering Technology**

CET 235. DIGITAL ELECTRONICS DESIGN. This is a first course in digital electronics dealing with the theory and practice of modern electronic computer circuitry. Major units of the course include logic gates, integrated circuits, latches, counters, shift registers, arithmetic circuits and memory elements. Laboratory exercises reinforce the theoretical concepts by providing hands-on experience with digital integrated circuits, logic system simulation software, and digital troubleshooting equipment. Prerequisite: College Algebra or equivalent. Fall. (4 crs.)

CET 270. INTRODUCTION TO MICROPROCESSOR DESIGN. This course introduces the microprocessor from both the hardware and software viewpoints. It covers the stored program concept, addressing modes, the instruction set, bus operation and machine language implementation of software algorithms. Laboratory exercises are based on a microprocessor evaluation system and/or simulator to provide hands-on experience with course topics. Prerequisite: CET 235. Spring. (4 crs.)

CET 335. MICROPROCESSOR INTERFACING. This course deals with advanced concepts in the programming and the interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples. It covers the advanced architecture of modern processors and the many I/O peripherals now commonly found on-board the device. Detailed studies of computer I/O and interrupt techniques as applied to analog-to-digital, digital-to-analog, timers, parallel and serial interfaces are included. Laboratory activities provide the student with experience in developing the hardware and software required to incorporate microprocessors into systems that solve real-world interfacing problems. Prerequisite: CET 270. Fall. (4 crs.)

CET 350. TECHNICAL COMPUTING USING JAVA. This course enables the student to acquire a thorough understanding of the Java language and its application in solving engineering-related problems. Both Java programs and Applets will be studied. Emphasis is placed on efficient software development using structured programming techniques. Students are required to write, test and run programs using an appropriate version of Java. This course will also apply the object-oriented programming paradigm and build on the concepts of data abstraction, information hiding, and modularity. Prerequisites: CSC 124; Corequisite MAT 281. (3 crs.)

CET 360. MICROPROCESSOR ENGINEERING. This course examines the product development cycle of a typical microcontroller-based product. Methods of hardware and software development as well as their integration and debugging are studied. The student will design and implement a major term project utilizing these concepts plus various laboratory development tools as well as produce written documentation on the project, including both

requirements/specification and final reports. Also included is a survey of recent developments in microcontroller technology. Prerequisites: CET 335, ENG 217. Spring. (4 crs.)

CET 440. COMPUTER NETWORKING. This course involves the electronic hardware of networking systems such as those used to connect heterogeneous computers. Major topics include locality, topologies, media standards, Internet working devices and protocols. Hands-on application of network theory is provided via a laboratory-style term project involving a multiuser network computer system. The student will design and develop the hardware and communication software required to implement access to a network-available, shared resource. Prerequisite: CSC 124. Spring. (4 crs.)

CET 490. SENIOR PROJECT I. This course introduces students to software engineering. They will study its history, terminology, requirements, specifications and design. Students will write requirements, specifications and design documents, and one or more papers on software engineering topics. Prerequisites: CET 360, ENG 217. Fall. (3 crs.)

CET 492. SENIOR PROJECT II. This course is a continuation of the Senior Project I: Software Engineering course and the capstone course of the program. The project proposal developed and designed in the first senior project class will be implemented in this course. The student will produce a project users' manual and will demonstrate proficiency in the academic program through the development of the project. Prerequisite: CET 490. Spring. (3 crs.)

CET 495. COMPUTER ENGINEERING TECHNOLOGY INTERNSHIP. Student interns work with professionals in a computer engineering technology-related field to apply their understanding of computer hardware and software. The intent of the internship is to provide the student with practical work experience solving actual problems in a dynamic environment, yielding enhanced job opportunities upon graduation. Upper-level class standing and permission of the advisor, the department chair, and the dean are required before course enrollment.

## CSC — Computing Sciences

CSC 101. PERSONAL PRODUCTIVITY SOFTWARE. This course provides a structured laboratory experience designed to develop and enhance a student's proficiency in using selected Windows microcomputer application software packages. (3 crs.)

CSC 105. BASIC PROGRAMMING LANGUAGE. This course will provide the student with the knowledge to write well-structured modular programs in BASIC on a personal computer. The course assumes no prior knowledge of computers or programming. Prerequisite: High school algebra or equivalent. (3 crs.)

CSC 120. PROBLEM SOLVING AND PROGRAMMING CONSTRUCTS. This course will provide the student with a basic literacy of computers; present problem-solving heuristics and structured programming techniques; present language independent data types, operations, programming constructs and statements; introduce arrays and linked lists; and implement fundamental programs using an appropriate programming language. Prerequisite: High school algebra or equivalent. (3 crs.)

CSC 124. COMPUTER PROGRAMMING I. This course builds on CSC 120. It gives the student a thorough understanding of the presently adopted language so that the student will develop the ability to program in the language. Emphasis is placed on efficient software development using structured programming techniques. Students are required to write, test and run programs. Prerequisite: CSC 120 with C- or better. (3 crs.)

CSC 150. INTRODUCTION TO DATABASE APPLICATIONS. This course is an introductory study of database application software as it is used on a microcomputer. The more commonly used operations of a selected database applications software package will be presented. Introductory database design techniques, queries, forms and reports will be presented. Laboratory assignments and projects will be used to combine database theory and database software to solve information management problems. Prerequisite: Windows experience. (3 crs.)

CSC 199. FIELD EXPERIENCE IN COMPUTER SCIENCE. This course is designed for the associate degree student majoring in computer science. This course will enable students to apply their knowledge of computers to the real world of computer technology. The field experience will provide the student with an opportunity to see and work with the many aspects of computers in the workplace and should enhance the student's job opportunities. Prerequisite: Students should have completed 32 credits with a good GPA plus sufficient background to meet the needs of the field experience in which they will be participating. (Variable crs.)

CSC 201. INTERNET CONCEPTS. This hands-on course will help students develop proficiency using systems running Windows XP, will introduce students to all facets of the Internet, and will develop students' proficiency in Web-page design and publishing. Students will learn HTML (the language of the World Wide Web). Students will utilize various techniques to produce a personal Web page and may work in groups to produce a small website. Prerequisite: Windows experience. (3 crs.)

CSC 216. LOGIC AND SWITCHING THEORY OF THE COMPUTER. This course provides the student with an in-depth study of the basis of digital computers. Number systems, arithmetic operations, codes, Boolean algebra, Boolean minimization techniques, state transition tables and state transition graphs are discussed. Extensive emphasis is placed on the analysis and synthesis of synchronous and asynchronous combinational networks which form digital computers. Prerequisite: MAT 195 with C- or better. (3 crs.)

CSC 265. OBJECT-ORIENTED PROGRAMMING. This course introduces the student to object-oriented programming. Object-orientated programming offers a natural method for designing software systems that builds on the concepts of data abstraction, information hiding and modularity. Prerequisites: CSC 124 with C- or better. (3 crs.)

CSC 299 SOPHOMORE PROJECT. This project course introduces students to "systems thinking" and experientially introduces the students to some of the basic concepts and tools of systems analysis within the context of a real-life business problems. The traditional SDLC waterfall approach to systems analysis and design is stressed in order to prepare students for any business type or size (some of which may not have modern analysis and design tools). Students entering into this course must have a basic understanding of business and the idea of using programs that

are integrated into systems to solve business problems. This requisite knowledge is built upon in teaching students how to analyze a business's current information system; how to extrapolate user needs and the business's additional processing requirements; and then how to design a system that not only meets the stipulated requirements while remaining within the project's constraints, but remains in line with the entity's mission/vision and optimizes business processes to position the entity more competitively in the market. Prerequisites: Sophomore Standing or higher, BUS 100 Introduction to Business with a C- or better, CSC 110 Introduction to Information Systems with a C- or better, CSC 124 Computer Programming I with a C- or better, prerequisite/corequisite ENG 217 Science and Technical Writing. (3 crs.)

CSC 302 VISUAL PROGRAMMING. This course teaches Windows applications programming using the object-oriented, event-driven programming paradigm with the programming language Visual Basic .NET. It is designed as a beginning object-oriented, event-driven (OOED) programming course, but assumes students know Windows object vocabulary, have basic Windows file management skills, and are familiar with the generic procedural programming language constructs of looping, selection and sequential processing. Prerequisites: CSC 265 or CIS 220 with C- or better. (3 crs.)

CSC 304. COBOL. This course introduces students to the essential elements of the COBOL language using well-structured programming techniques. Students will write and execute report programs, control break programs, data validation programs, programs that implement tables and sequential update programs. Good analysis, design and structure will be emphasized. Prerequisite: CSC 124 or CSC 306 or CIS 220 with C- or better. (3 crs.)

CSC 306. FORTRAN. The FORTRAN language will be studied. Most of the major programming constructs of FORTRAN will be covered, including assignment statements, loops, decisions, subprograms, arrays, character manipulation and file processing. Comparisons with other languages will be made, and documentation of programs will be emphasized. Prerequisite: CSC 120 with C- or better. (3 crs.)

CSC 323. ASSEMBLY LANGUAGE PROGRAMMING. In this course students will study an assembly language. In doing so, students will develop some concepts related to the architecture and operations of the computer. Programs will be written and implemented using the instructions in this assembly language. Constructs such as selection, looping and subprograms will be implemented. Corequisite: CSC 328. (3 crs.)

CSC 328. DATA STRUCTURES. The design, use and programming of data structures, such as stacks, queues, linked lists and binary trees, will be discussed. Sorting and searching methods are also discussed in this course. The analysis of algorithms will be considered as well as the applications of the various data structures. Prerequisite: CSC 265 with C- or better. (3 crs.)

CSC 330. CREATING WEB PAGES AND WEBSITES WITH HTML. This course is designed for the information systems major. It provides students with a thorough understanding of HTML in order to enable students to create Web pages and websites using HTML. Students are required to write and test Web pages and websites. CSC 124 with C- or better or permission of the instructor. (3 crs.)

CSC 360. ANALYSIS OF ALGORITHMS. This course covers algorithm analysis theory and techniques. Students learn properties of both efficient and inefficient algorithms. The importance of analyzing algorithms before implementing them will be emphasized. This course will teach the skills necessary to determine the best algorithm for a given problem. We will investigate greedy, graph theoretic, divide and conquer, and distributed algorithms. We will cover both polynomial time algorithms and NP-completeness. Prerequisite: CSC 328 with C- or better. (3 crs.)

CSC 378. COMPUTER ARCHITECTURE. This course provides the student with an in-depth study of the organization of the central processing unit, arithmetic logic unit, control unit, instruction formats and addressing schemes of digital computers. Extensive emphasis is placed on the translation of assembly language instructions into their microsequence operations within the control unit and the interconnection and control of registers, arithmetic logic units, memory units and busses which form the central processing unit and the digital computer. Corequisite CSC 323 or CET/EET 270. (3 crs.)

CSC 400. OPERATING SYSTEMS. An operating system defines an abstraction of hardware behavior with which programmers can control the hardware. It also manages resource sharing among the computer's users. This course investigates these concepts as well as issues that influence the design of contemporary operating systems including management of processes, memory, devices, and files. Additional special topics may include scripting, security, fault tolerance, and real-time systems. Prerequisite: CSC 378 Computer Architecture with C- or better or CET/EET 270 Introduction to Microprocessor Design. (3 crs.)

CSC 419. INTERNSHIP. This course is designed for the computer science major who is seeking work experience in the computer science area. This intern experience will enable students to apply their knowledge of computers in the real workplace. The internship will provide the student with valuable computer experience that should enhance the student's job opportunities upon graduation. (3 crs.)

CSC 420. ARTIFICIAL INTELLIGENCE. This course offers a selective survey of key concepts and applications of artificial intelligence and an introduction to a language commonly used for building AI systems. Prerequisite: CSC 328 with a C- or better. (3 crs.)

CSC 424. NUMERICAL ANALYSIS. In this course, various mathematical algorithms and applications relating to the numerical computation are investigated. Topics include: roundoff errors and computer arithmetic; numerical instability; error analysis and estimation; approximation; Gaussian elimination and pivoting strategies for linear systems; numerical integration and numerical solution of differential equations; curve fitting, polynomial approximation; and regression. Prerequisite: CSC 260, MAT 282, and MAT 341. (3 crs.)

CSC 455. STRUCTURES OF PROGRAMMING LANGUAGES. Students will study the four categories of programming languages: imperative, object-oriented, functional and logic. An in-depth discussion of the imperative languages will be followed by discussions of the other three paradigms. Students will be required to investigate at least one language. Prerequisite: CSC 328 with C- or better and a minimum of 6 additional credits in programming languages. (3 crs.)

CSC 460. LANGUAGE TRANSLATION. This course studies the design and construction of compilers. Lexical analysis, syntactic analysis and code generation are investigated in detail. Language design, interpreters, semantic analysis, intermediate code generation and code optimization are also considered. Corequisite: CSC 475. (3 crs.)

CSC 475. THEORY OF LANGUAGES. This course is an introduction to abstract machine theory, combinatorial systems, computable functions and formal linguistics. Topics include finite-state machines, regular sets, Turing machines, Chomsky hierarchy grammars and languages. Emphasis is on surveying basic topics and developing an intuitive understanding in the theory of languages. Prerequisite: CSC 216 with C- or better and CSC 328 with C- or better. (3 crs.)

CSC 485. SPECIAL TOPICS IN COMPUTER SCIENCE. This course allows current topics in computer science to be offered in a timely fashion. Topics are not covered in other courses and will not be regularly offered as a special topic. The course topic depends on current trends in computer science and the interests of the students and the instructor. This course may be repeated if a different topic is offered. Prerequisite: Permission of instructor. (3 crs.)

CSC 490. SENIOR PROJECT I: SOFTWARE ENGINEERING. This course introduces students to software engineering. They will study its history, terminology, requirements, specifications and design. The students will write requirements, specifications and design documents and one or more papers on software engineering topics. Prerequisite: CSC 265 with C- or better and ENG 217 with C- or better. (3 crs.)

CSC 492. SENIOR PROJECT II. This course is a continuation of the Senior Project I: Software Engineering course and is the capstone course of the program. The project proposal developed and designed in the first Senior Project class will be implemented in this course. The student will produce a project users' manual and will demonstrate proficiency in the academic program through the development of the project and through a comprehensive outcomes examination. (3 crs.)

## **XJJ – Criminal Justice (Associate in Applied Science Program)**

XJJ 132. INTRODUCTION TO SECURITY. The practical and legal basis of security, the role of the security agent in modern society, and the interaction with law enforcement are addressed. Basic goals of security and loss prevention, areas of specialization, and career opportunities are discussed. (3 crs.)

XJJ 150. INTRODUCTION TO FORENSICS. This course is designed to introduce the various techniques and examination of evidence to applied science. It covers blood, semen, saliva and chemicals found at crime scenes and the latest tests available for processing. The interaction between criminal evidence and the law enforcement professional will also be discussed. (3 crs.)

XJJ 155. ADMINISTRATION OF CRIMINAL JUSTICE. An overview of the American criminal justice system dealing with the role of the police, courts and correctional institutions. The course also covers constitutional limits of police power, the trial process and sentencing structure, and the functions of the numerous agencies within the criminal justice system. (3 crs.)

XJJ 156. NARCOTICS AND DRUG ABUSE. This course delves into the study of narcotics, dangerous drugs and the people who abuse them; the implementation, evaluation and coordination of drug control programs; and the consideration of private treatment programs, civil commitment, procedures, public education programs and medical treatment programs. An overview of current illicit drugs that are available on the market and their effects on the human body will also be discussed. (3 crs.)

XJJ 157. CORRECTIONAL ADMINISTRATION. Organization, objectives and functions of a correctional agency will be studied. Principles of administration relating to the sound and efficient operation of correctional facilities will be discussed with emphasis on the special problems encountered in the field. The intake and exit strategies that are currently used by the Department of Corrections and the Commonwealth of Pennsylvania and the different varieties of treatments that are available while in custody will also be explored. (3 crs.)

XJJ 160. CRIMINAL LAW I. The laws of arrest, use of force, interrogation and evidence are studied. Pennsylvania law applicable to the law enforcement officer will be emphasized. Also under discussion will be the difference between misdemeanors and felonies. A lengthy section on civil rights is included. (3 crs.)

XJJ 165. SECURITY OPERATIONS AND PRINCIPLES OF LOSS PREVENTION. The course introduces the technical and applied practice of security. Emphasis will be on procedures and practices of security personnel, the theoretical use of alarm systems, locks, surveillance equipment, the application of safety practices and risk assessment. Uniform security standards and survey techniques will be discussed. Loss prevention programs related to internal employee theft, retail theft and insurance considerations will be emphasized. An overview of security investigative equipment, interview and interrogation skills, and preparing investigative reports will also be highlighted. (3 crs.)

XJJ 175. FIRST AID AND CPR/FIRST RESPONSE. Theory and practice of general first-aid techniques are covered, including the treating of illness, wounds, shock and emergency rescue. Also included will be HazMat response, identification and treatment of communicable diseases, and identification of local health organizations. (3 crs.)

XJJ 207. DOMESTIC TERRORISM. Discussions in this course will cover how domestic terrorism originates within the U.S. boundaries. Many forms of domestic terrorism will be investigated from blowing up silos to courthouses to bridges. Also discussed will be how water supplies are affected and the harmful effects of airborne pathogens. (3 crs.)

XJJ 208. ANIMAL LAW. This is an overview course and an introduction to the emerging field of animal law. Topics covered will include animal and state regulation of ownership, damages for harm to pets, anti-cruelty laws, agricultural animals, the animal rights movement, and veterinarian malpractice. Case studies will be utilized to illustrate these topics. (3 crs.)

XJJ 215. INVESTIGATIVE CONCEPTS. This course reveals fundamentals of investigative theory, developing informational processes, principles of interviewing and question construction, instrumentation techniques, identification of persons and things, investigation, and current issues involving invasion of privacy are also

considered. One main objective of the course is to prepare the student in the procedure of taking a case from arrest to conviction. (3 crs.)

XJJ 220. CRIME LITERATURE. Crime Literature is the application and study of criminal cases through the use of literature. Stories by Edgar Allan Poe and other crime dramas will be discussed, both fiction and nonfiction. (3 crs.)

XJJ 249. DIRECTED STUDIES. This is a seminar for advanced criminal justice students to study and analyze typical criminal justice problems. Extensive library work is required along with independent study of various problems. Special seminars may be considered for course credit at the discretion of the criminal justice coordinator. (6 crs.)

XJJ 256. PROBATION, PARDON AND PAROLE. Probation, pardon and parole are examined as judicial processes and executive functions. Emphasis is to be placed on the philosophical approach to probation, pardon and parole. Contemporary methods, such as work release programs, halfway houses and parole clinics, are to be examined. (3 crs.)

XJJ 261. INTERVIEW AND INTERROGATION. Fundamentals of the interviewing process and interrogative technology, taking into consideration the nature, methods and principles of interviewing with emphasis on role playing in interviews, are discussed. (3 crs.)

XJJ 262. CRIMINAL EVIDENCE. This course is a comprehensive analysis of the rules of evidence. Particular subjects include judicial notice presumptions, the nature of real and circumstantial evidence, burden of proof, province of court and jury, documentary evidence, confessions, admissions, and witnesses. Particular emphasis on evidence in criminal cases is examined. (3 crs.)

XJJ 270. CRIMINOLOGY. This course will investigate the nature and causation of crime, the approaches to the study of crime and its treatment and prevention, and the sociology of criminal law and the nature of criminal behavior. Relevant theories and research from well-known criminologists are discussed. (3 crs.)

XJJ 275. JUVENILE DELINQUENCY. The biological, psychological and sociological factors of juvenile delinquency are the main themes for this course. A survey of theories of juvenile delinquency and modern trends in prevention and treatment will also be discussed. (3 crs.)

XJJ 281. ORGANIZED CRIME. This course is a study in the development, structure and operation of organized crime in the United States today. Emphasized will be the major crime families, the extent and types of their criminal activities, as well as present efforts utilized to combat organized crime in both the public and private sectors. Current crime families will be discussed. (3 crs.)

XJJ 282. POLICE ETHICS AND PROBLEMS. Police Ethics and Problems introduces the student to the psychological and sociological factors affecting law enforcement and community response. Critical issues examined will include dissent and civil disobedience, discriminatory and selective law enforcement, police militancy, police ethics, and the effects of stress and job burnout in the criminal justice profession. (3 crs.)

XJJ 283. CRIMINAL JUSTICE INTERNSHIP. The Criminal Justice Internship affords second-year students an opportunity to work with a local law enforcement or criminal justice agency. Cooperating agencies include sheriff's office, local magistrate, police department, juvenile and adult probation, drug and alcohol services, state police, and the federal government. (6 crs.)

XJJ 284. UNDERWATER FORENSICS. Underwater Forensics deals with the collection of evidence found under water and its effects on the evidence. Proper collection and handling of underwater evidence, including guns, bodies or anything that can be defined as evidence, is also discussed. (3 crs.)

XJJ 290. ADVANCED UNDERWATER FORENSICS. Advanced Underwater Forensics will deal with case preparation for court, the collection of criminal evidence such as explosives, firearms and tool marks. The preservation of the body from the water to the autopsy will also be discussed. Prerequisite: XJJ 284. (3 crs.)

XJJ 299. UNDERCOVER SURVEILLANCE. Undercover Surveillance is an interactive course that demonstrates how local corporations train personnel on how to observe, respond and capture perpetrators of retail theft. This is a hands-on course that will require observation and surveillance. (3 crs.)

## **DAN – Dance**

DAN 132. BALLET TECHNIQUE I. Introductory instruction in the basic techniques applicable to ballet as practiced in western Europe and in the United States is covered. Basic techniques include barre exercises, port de bras and center practice with jumps, beats and turns. Previous experience in ballet STRONGLY recommended. Fall or spring. (3 crs.)

DAN 133. JAZZ TECHNIQUE I. Introductory, entry-level experience instruction in the basic techniques applicable to jazz and contemporary dance. The focus is on lengthening muscles and developing isolation techniques necessary for most forms of jazz dance. Includes standing floor, warm-up/stretch, and center practice jumps, turns and isolations. Fall or spring. (3 crs.)

DAN 232. BALLET TECHNIQUE II. The development of strength and fluidity through an extension of techniques demonstrated in specialized study and drill is the focus of this course. Emphasis is placed on quick retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: DAN 132 or permission of instructor. Fall or spring. (3 crs.)

DAN 233. JAZZ TECHNIQUE II. The development of strength and fluidity through an extension of jazz techniques demonstrated in specialized study and drill is the focus of this course. Emphasis is placed on quick retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: DAN 133 or permission of instructor. Fall or spring. (3 crs.)

DAN 260. MODERN DANCE. Modern dance is an expressive form of movement that serves to enhance individual creativity and exploration. The class will emphasize creative problem solving through movement and modern dance

technique. The development of movement quality, as well as the use of force, time and energy, will be explored while learning the rich history of modern dance. Every second spring. (3 crs.)

DAN 301. THEATRE DANCE I. Introductory, entry-level instruction in the basic elements of period movement/style used in acting and musical theater, as well as social/ballroom, jazz and tap dance, will be presented in this course. Student presentations of these various styles and dance forms used in musical theater will be provided by the instructor and evaluated for credit. This course is required for all theater majors and acting minors. Character shoes required for females. Fall or spring. (3 crs.)

DAN 302. THEATRE DANCE II. This course will help the dancer develop specific movement skill and style in the area of musical theater. Emphasis will be placed on the basic techniques of American modern, jazz and tap forms including those used by Agnes DeMille and Jerome Robbins (American modern), Bob Fosse and Michael Bennett (jazz), as well as Gene Kelly and Gregory Hines (tap). This course is required for dance minors. Prerequisite: Dance minor or permission of instructor. Fall or spring. (3 crs.)

DAN 399. DANCE HISTORY. The historical investigation of dance in its traditional, social and theatrical contexts. The student will be expected to give presentations, write papers and take part in group projects and discussions. Spring, odd years. (3 crs.)

## **ECE — Early Childhood Education**

ECE 200. This course is an introductory overview course in which students are exposed to many topics that they will explore in depth in future specialization courses for the program. In the course, students will gain firsthand experiences with professional behaviors expected of early childhood teachers. Thirty hours of field experiences are required, fulfilling the initial field requirement of the Early Childhood Education program. The California University of PA College of Education and Human Services unit has adopted the 10 standards for beginning teachers' licensing and development, written by the Interstate New Teacher Assessment and Support Consortium (INTASC). Thus, this course is designed to prepare teacher candidates in the knowledge, skills, and dispositions reflected in those INTASC standards. Additionally, because this course is specifically designed to provide teacher candidates with experiences in the field of early childhood education, its course objectives and performance assessments reflect the five early childhood professional preparation standards of the National Association for the Education of Young Children (NAEYC). Prerequisite: Minimum overall GPA 2.5. Fall. (3 crs.)

ECE 302. EMERGING LITERACY. The purpose of this course is to prepare early childhood teaching candidates to become facilitators of early literacy learnings. The content of this class deals with concepts of emerging literacy and instruction in language arts strategies for children from infancy through the primary grades. Prerequisite: Minimum overall GPA 2.5, EDE 211. Spring. (3 crs.)

ECE 304. THEMATIC TEACHING IN EARLY CHILDHOOD. This course introduces a thematic approach to planning and teaching integrated curricula and focuses on teaching science, social studies and health concepts. Students will gain in their understanding and skill in developing and implementing thematic units. Prerequisite: 2.5 GPA, EDE 211. Fall. (3 crs.)

ECE 315. MATHEMATICAL CONTENT IN EARLY CHILDHOOD. The student is introduced to how mathematics develops in the very young child and how to assess this development. The student is introduced to the teaching of arithmetic, measurement and geometry to the young child. Skills and understandings that children acquire from infancy to age 8 are covered. Prerequisite: 2.5 GPA, EDE 211. Fall. (3 crs.)

ECE 319. PARENT AND COMMUNITY INVOLVEMENT IN EDUCATION. This course emphasizes the role of parents and community in the framework of educational planning for young children. The student will demonstrate skills in planning education workshops. Students will use interview and conferencing techniques to learn from parents and community people actively involved in programs for children. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

ECE 320. FIELD EXPERIENCES WITH INFANTS, TODDLERS AND PRESCHOOLERS. This course is intended to provide the student with an introduction to working with young children ages infancy through 5, by providing field experiences in infant/toddler day care centers and preschool centers (day care, Head Start or nursery schools). The student will observe, plan activities and prepare learning materials for children in group settings. Lectures and classroom teaching are combined to give students an opportunity to discover their aptitude and interest in working with very young children. Prerequisites: Admission to teacher education. Spring. (3 crs.)

ECE 405. EARLY CHILDHOOD EDUCATION SEMINAR. This course provides learners with the opportunity to develop a simulated comprehensive plan for a program targeting young children. Students are taught a historical perspective from which to build quality early childhood programs, including philosophies, curriculum, schedules, floor plans and daily practices. Prerequisites: Admission to teacher education. Spring. (3 crs.)

## **EAS — Earth Science**

EAS 100. INTRODUCTION TO EARTH SCIENCE. This introductory course is designed to acquaint the student with the four general areas of earth science: astronomy, geology, meteorology and oceanography. The course consists of two hours of lecture and one hour of lab work. (3 crs.)

EAS 131. INTRODUCTION TO ENVIRONMENTAL GEOLOGY. This course deals with the interaction between man and his geologic environment. Emphasis is placed on the understanding of basic geologic principles and case studies of some of the classic examples of environment problems. Laboratory exercises and problems are an integral part of the course. This is intended as a survey course and a student needs only a limited background in geology. (3 crs.)

EAS 150. INTRODUCTION TO GEOLOGY. A survey course intended primarily for the nonmajor. Topics considered include the makeup of the earth, internal and external processes that occur within or on the earth, rocks and minerals,



fossils, Earth's origin and evolution, and the origin and evolution of life on this planet. Laboratory work is an integral part of the course. (4 crs.)

EAS 163. INTRODUCTION TO OCEANOGRAPHY. An introductory course in the study of the four main branches of oceanography: (1) geology of the oceanic basins (origins of the oceans, structure and geomorphology of the ocean's floor, methods of investigation); (2) chemistry of the oceans' waters; (3) physics of the oceans (currents, waves, tides, etc.); and (4) biology of the oceans (marine plants and animals). No preliminary studies required, but previous course work in EAS 100 or EAS 150 recommended. (3 crs.)

EAS 175. FIELD COURSE IN EARTH SCIENCE I. This course provides the student with opportunities to study meteorological, climatological, geological and oceanographic phenomena *in situ*; to apply the scientific method; to acquire critical thinking skills by examining earth features and processes and anthropogenic effects on selected natural phenomena; to understand the value of selected earth processes and features; and to quantify natural phenomena. Students will participate in an excursion. (3 crs.)

EAS 200. HISTORICAL GEOLOGY. This course is a study of the geologic history of Earth and the succession of the major groups of plants and animals as based on the geologic interpretation of rock formations and fossils. Field trips are an integral part of the course. (4 crs.)

EAS 210. SOILS. This introductory course in soil science presents basic concepts of soils, including composition and genesis; physical, chemical and biological properties; soil water; classification and mapping; soil conservation; management practices; and soil fertility and productivity. It introduces the relation of soil to other environmental concerns such as environmental quality and nonagricultural land use. (3 crs.)

EAS 230. EARTH RESOURCES. This is a survey course focusing on the diversity of the geologic resources of Earth. Attention is paid to the interaction of all of Earth's surficial systems, particularly the geosphere, hydrosphere and biosphere. Special emphasis will be placed on the mineral and energy resources of Pennsylvania. Students will explore the relation of resources to society and their importance to global and local economies. Lab and field sessions provide additional time for discussion and illustration of topics, as well as providing hands-on experience with selected locales and rock and mineral samples. (3 crs.)

EAS 240. INTRODUCTION TO METEOROLOGY. This course deals with the physics and chemistry of the atmosphere as influenced by the earth-atmosphere interaction. The effects of the physical controls as they alter the elements are emphasized. Basic laws of physics and chemistry are emphasized. The construction and analysis of weather maps is an integral part of the laboratory component of the course. Students are expected to visualize, interpret and investigate various weather phenomena as they relate to the current state of the atmosphere. Basic prediction of future weather conditions is the final culminating experience of the course after extensive laboratory investigations in both manual and computer settings. (4 crs.)

EAS 242. CLIMATOLOGY. In this course the elements and controls of climate are analyzed in a systematic fashion. Various methods and techniques of classifying climates are presented. The climate of each continent is regionalized, and the factors which produce the climatic patterns are investigated. (3 crs.)

EAS 300. NATURAL HAZARDS. This course examines the physical and social processes responsible for producing natural disasters. Specifically, the knowledge and theories learned in this course will provide the student with an understanding of the underlying science behind natural disasters and how socioeconomic factors contribute to the impact of disasters. Topics covered in the course include types of natural hazards, trends in the frequency and losses from natural hazard events, social vulnerability, and spatial variations in risk from natural hazards. These concepts will prepare the student for an understanding of where and why disaster events occur most frequently. The course will present and describe the mechanisms responsible for creating natural disasters and the how socioeconomic conditions make certain groups vulnerable to disasters. The values associated with how these vulnerable groups are treated and exposed to risk will be explored. How a social group or an individual's personal values impact their vulnerability to disasters through such variables as religious beliefs, perceptions of the environment or risk-averse attitudes will also be explored. (3 crs.)

EAS 303. HYDROLOGY. A survey course about the existence of water on Earth, topics include the occurrence and movement of water, physical and chemical characteristics of water, and climatologic and geologic considerations of surface and subsurface water. (3 crs.)

EAS 323. ATMOSPHERIC INSTRUMENTATION AND MEASUREMENT. This upper-division course in meteorology deals with the specifics of data collection and instrument functionality. Time will be spent dealing with proper site selection, the physical mechanisms present within an automated sensor array, and quality control for data collected. Students taking this course should have a detailed understanding of the role each meteorological parameter has in making a weather forecast. (3 crs.)

EAS 331. MINERALOGY. This course is an introduction to the morphology and internal structure of crystals and the chemical and physical characteristics of minerals. Laboratory time is devoted to the study of crystal models and the identification of selected mineral specimens. (3 crs.)

EAS 332. PETROLOGY. A complete survey of the major rock types (igneous, sedimentary and metamorphic) forms the basis of this course. Consideration is given to their origin, description and classification. Of particular importance is the relationship of the various rock types to the composition and historical development of the solid earth. Laboratory component emphasizes hand specimen identification, but some microscopic thin section work is also done. (3 crs.)

EAS 333. GEOCHEMISTRY. Geochemistry is essential to all aspects of modern earth science. This course provides an introduction to geochemistry for undergraduates pursuing careers in geology, environmental science, and atmospheric sciences. The course combines two distinct topical groupings. The first is an introductory focus on essential geochemical principles of thermodynamics and kinetics, aquatic chemistry, isotope geochemistry, and trace element geochemistry. The second is a deeper pursuit to understand the Earth from a geochemical perspective and

includes topics such as formation of the elements; formation of the Earth and solar system; evolution of the crust, mantle and core; weathering and stream chemistry; and ocean chemistry. (3 crs.)

EAS 335. REMOTE SENSING: MAP AND AERIAL PHOTOGRAPHY INTERPRETATION. This course covers the composition and interpretation of aerial photographs and various types of maps. Students will learn how to interpret photos and maps for quantitative and qualitative information on natural and anthropogenic features. Some of the work requires independent and group interpretation of maps, photographic slides of satellite imagery, computer processed and enhanced images, and SLAR imagery. (3 crs.)

EAS 340. SYNOPTIC METEOROLOGY I. An examination of the development and structure of large-scale weather systems and fronts, this course emphasizes the technique of analyzing and forecasting synoptic-scale weather situations. (3 crs.)

EAS 342. DYNAMIC METEOROLOGY. This course is an introduction to description and theory of atmospheric motion; analysis of forces, accelerated reference frames, conservation equations of mass, momentum and energy; scale analysis; pressure coordinates; geostrophic and gradient flow; thermal wind; kinematic description of the wind, trajectories; circulation and vorticity. The last part of the course will introduce quasi-geostrophic theory. (3 crs.)

EAS 343. GEOMORPHOLOGY. This course involves the study of the origin, history and characteristics of landforms and landscapes as they are produced by the processes of weathering, mass-wasting, fluvial, glacial, wind and wave erosion (or a combination of these) acting upon the geological materials and structures of Earth's crust. (3 crs.)

EAS 346. TROPICAL METEOROLOGY. This upper-division meteorology course focuses specifically on the weather and climate of tropical locations. Emphasis is placed on the structure and dynamics of tropical storm systems, their prediction and understanding. Students will also focus on the prediction of monsoons and land/sea breezes. Large-scale ocean-atmosphere interactions within the tropics, including El Nino and La Nina, are introduced as well as the tropical impact of global hydrology. (3 crs.)

EAS 365. REMOTE SENSING: SATELLITE AND RADAR INTERPRETATION. This course emphasizes the characteristics and scientific role of radar and satellite interpretation, as well as computer-assisted processing of spectral data acquired by satellites, as they relate to atmospheric analysis. (3 crs.)

EAS 372. FIELD MAPPING. This is a field-oriented course in which the student will learn proper use of measuring and mapping instruments and the techniques used in the construction of basic maps. (3 crs.)

EAS 375. MAP AND AERIAL PHOTO INTERPRETATION. This course covers the composition and interpretation of aerial photographs and various types of maps. Students will learn how to interpret photos and maps for quantitative and qualitative information on natural and man-made features. Some of the work requires independent and group interpretations of maps, photographic slides of satellite imagery, computer processed and enhanced images, and SLAR imagery. (3 crs.)

EAS 391. GEOLOGY OF NORTHWESTERN U.S. FIELD COURSE. A field course focusing on regional geology of northwestern states, including but not limited to Wyoming, Utah, Idaho and Montana. Students will visit and study geological features such as volcanoes, folds, faults, fossils, igneous intrusions, geysers and hot springs. Additional travel fees are required. (3 crs.)

EAS 392. GEOLOGY OF SOUTHWESTERN U.S. FIELD COURSE. A field course focusing on regional geology of southwestern states, including but not limited to Arizona, Utah, New Mexico and Colorado. Students will visit and study geological features such as volcanoes, folds, faults, fossils and dune fields. Additional travel fees are required. (3 crs.)

EAS 393. GEOLOGY OF EASTERN U.S. FIELD COURSE. This field course focuses on regional geology of eastern states. Trips will alternate between trips to the Great Lakes region, the Northeast (especially New England) and the Southeast. Students will visit and study geological features such as metamorphic terrains, folds, faults, fossils and glacial landscapes. Additional travel fees are required. (3 crs.)

EAS 402. GROUNDWATER HYDROLOGY. This course is designed as a follow-up course to Hydrology. It gives students the opportunity to study the principles governing the movement and occurrences of groundwater. (3 crs.)

EAS 414. SYNOPTIC CLIMATOLOGY. Synoptic climatology studies the relationship between the atmospheric circulation and the surface environment. The course draws on content from introductory climatology and indoctrinates the student in a physical environmental analysis via weather map patterns. The map pattern analysis requires use of simple to complex statistical procedures and appropriate research methods. The course will demonstrate how surface environmental variables, such as air/water quality, acid rain and drought can be understood in terms of various atmospheric circulation states and synoptic weather types. (3 crs.)

EAS 423. SEDIMENTOLOGY/STRATIGRAPHY. This advanced course focuses on sedimentary processes, sedimentary rock formation and stratigraphic interpretation. Students will use both quantitative and qualitative methods to identify, classify and interpret the history of sediments, sedimentary structures, and sedimentary rocks and formations. Students will study rock units in the local outcrops, correlate these units within the stratigraphic framework, and develop understanding of geological history of the region. The stratigraphy of the United States will be discussed. (3 crs.)

EAS 425. STRUCTURAL GEOLOGY. The primary and secondary structures of rock masses and their formation are covered in this course. Actual structures are examined in the field. Geologic maps are utilized. (3 crs.)

EAS 427. TECTONICS. This course evaluates tectonic theories within a framework of worldwide historical geology, with special attention given to the Appalachian and the North American Cordilleran orogenic events. (3 crs.)

EAS 431. BROADCAST PRACTICUM IN METEOROLOGY I. This course is an introduction to television weather broadcasts and Web "narrowcasts" with emphasis on creating accurate forecasts and on the techniques of

communicating weather information to the public. The course consists of weekly lecture/lab meetings and one-on-one critiquing/coaching to develop and improve descriptive science language/graphics and forecasting ability. Extemporaneous speaking styles will be stressed with timed delivery of weather information. The analysis of a weather graphics presentation will be presented, and ultimately, students will be expected to arrange their own weather "show" for presentation to the class. A brief history of media meteorology will also be covered. (3 crs.)

EAS 432. PRACTICUM IN BROADCAST METEOROLOGY II. A continuation of EAS 431, this practicum emphasizes studio performance of weathercasts. (3 crs.)

EAS 436. FIELD METHODS IN EARTH SCIENCE. This is a course designed to provide majors with knowledge of problems encountered in fieldwork and the techniques utilized to solve these problems. This course consists of planned trips. Lectures and discussions are used to supplement the trips. (3 crs.)

EAS 437. FIELD METHODS IN GEOLOGY. This is a course designed to provide students with a knowledge of geologic problems encountered in fieldwork and the techniques utilized to solve those problems. The student is exposed to geologic and topographic maps as well as various geologic instruments. The course consists of planned trips to areas of geologic interest. Summary reports, field exercises and laboratory problems constitute the students' work responsibility. (3 crs.)

EAS 438. COMPUTER APPLICATIONS IN EARTH SCIENCES. This is an upper-level course designed to provide students the opportunity to apply computer and mathematical procedures to the solution of earth and environmental science problems. Emphasis is placed on hydrologic systems, including groundwater, surface water and atmospheric water. Particular attention is paid to modeling natural systems using a range of techniques and software packages. Additional topics in the earth sciences may be addressed, including global climate and geophysical models. A written project will be required. (3 crs.)

EAS 441. ADVANCED ENVIRONMENTAL GEOLOGY. This course deals with the natural environment, particularly geologic factors that may impact upon human life or way of life. Emphasis is placed on an in-depth study of environmental problems and possible alternative solutions to such problems. Basic engineering principles as applied to geological problems are considered. Laboratory exercises, problems and written reports are an integral part of the course. (3 crs.)

EAS 445. ADVANCED SYNOPTIC METEOROLOGY. This course is a continuation of Synoptic Meteorology in which students will advance their knowledge to a greater level by applying their forecasting skills to real-time situations in both laboratory and competitive forecast settings. Students will apply the knowledge of Synoptic Meteorology in a project designed to test their ability to synthesize information, analyze the results from their study, and report the findings to the class. Students will elucidate current synoptic weather conditions with weekly oral reports to classmates prepared in advance with an organized rubric. Participation in asynchronous online weather discussion with their classmates to dissect the current weather scenario applying outcomes listed above to real-time scenarios is required. Various graphical display packages are incorporated into the analysis (e.g., Integrated Data Viewer [IDV], McIDAS and/or GEMPAK) and research project. (3 crs.)

EAS 448. WATERSHED EVALUATION AND MANAGEMENT. The purpose of this course is to analyze watershed characteristics. Physical and biotic watershed characteristics will be studied using lecture, illustrations and in-field demonstrations. A major component of the course is an extensive, written watershed study design. (3 crs.)

EAS 449. MESOSCALE METEOROLOGY. This upper-division meteorology course focuses on weather phenomena and processes that occur on scales of motion from a few kilometers to a few hundred kilometers. This course will show the differences and interactions among synoptic, mesoscale and convective processes, and will discuss requirements for observing, analyzing and forecasting mesoscale systems. Forecasting issues will be focused on the next generation of mesoscale models. Students taking this course should already be experienced in making short-term forecasts and nowcasts. (4 crs.)

EAS 452. PHYSICAL METEOROLOGY. This course examines the role of thermodynamics and radiation in the atmosphere. Topics covered in the course include the First and Second Law of Thermodynamics, adiabatic and diabatic processes, thermodynamic diagrams, and stability. These concepts will prepare the student for understanding exactly how the earth is heated by solar radiation. Specifically, those principles in atmospheric radiation will be investigated, including solar and terrestrial radiation, blackbodies, absorption and emission, and scattering. Prerequisite: EAS 340, MAT 282 or with permission of instructor. (3 crs.)

EAS 453. ADVANCED PHYSICAL METEOROLOGY. This course is a continuation of EAS 452. The physics relevant to the formation of droplets and precipitation, mixing and parcel theory, adiabatic lifting, nucleation, warm rain processes, cold rain processes, and the growth of hail are investigated. Finally, radiation concepts from EAS 452 are used to look at the impact of clouds on solar and terrestrial radiation. Prerequisite: EAS 452, EAS 340, MAT 282 or with permission of instructor. (3 crs.)

EAS 465. SEMINAR IN ATMOSPHERIC SCIENCE. This scientific writing and speaking course covers recent and historical developments in the atmospheric sciences. Students are required to participate in group presentations, complete two written research projects, and produce a critique of classmates' research projects. (3 crs.)

EAS 491. FIELD COURSE IN EARTH SCIENCE. This course is designed for earth science students who desire to apply their classroom knowledge to specific sites and earth science field problems. Each semester will include trips to various sites at which geologic, meteorological or oceanographic processes, principles and phenomena can be studied. (Variable crs.)

EAS 492. FIELD COURSE IN GEOLOGY. This course provides advanced geology students with opportunities to study geology *in situ*. Field trips to classic and less well-known sites will be incorporated with lectures, data collection and scientific reporting. Laboratory exercises will reflect field experiences. (Variable crs.)

EAS 495. SEMINAR IN EARTH SCIENCE. In this scientific writing course students pursue an earth science topic through library or field research. Students learn to define a problem, to obtain relevant literature, to gather data, and to write and defend a research paper. (3 crs.)

EAS 496. SEMINAR IN GEOLOGY. In this scientific writing course students pursue a geologic topic through library or field research. Students learn to define a geologic problem, to obtain relevant literature, to gather raw data, and to write and present a research paper. (3 crs.)

EAS 542. APPLIED CLIMATOLOGY. This course examines the effect of climate on the physical, biological and cultural environments and includes an analysis of historical (paleo-climatic), present-day and future relationships. Part of the course will examine current practices/methodological developments which represent the basic "tools" that underpin applied climatological research, many of which are statistical in nature. Significant time will be spent investigating the relationship between climate and a wide range of human activities and responses. This is a writing-intensive course, as defined by California University of Pennsylvania. (3 crs.)

EAS 563. COASTAL GEOMORPHOLOGY AND MARINE RESOURCES. A study of the physical processes that shape coastal landforms and the pelagic and neritic resources of the oceans, course topics include longshore transport, wave action, swash zone dynamics, estuarine and deltaic geomorphology, ferromanganese and petroleum resources, and beach structure. Prerequisite: EAS 163 or permission of the instructor. (3 crs.)

## **ECO – Economics**

ECO 100. ELEMENTS OF ECONOMICS. An introduction to the elements of economic analysis, structured particularly for the nonmajor. The student is exposed to the mechanics of the market system and a survey of modern macroeconomic theory and policy. (3 crs.)

ECO 102. ECONOMICS FOR ELEMENTARY EDUCATION MAJORS. This course provides an introduction to the fundamentals of economics focusing on a basic understanding of the economic way of thinking. (1 cr.)

ECO 200. CURRENT ECONOMIC ISSUES. An application of contemporary economic principles. Current readings in economics are examined. Prerequisite: ECO 100 or ECO 201. (3 crs.)

ECO 201. INTRODUCTORY MICROECONOMICS. An introduction to the market mechanism in a modern mixed economy; supply and demand analysis is applied to consumer markets as well as resource markets. (3 crs.)

ECO 202. INTRODUCTORY MACROECONOMICS. An introduction to the determination of national income; problems of inflation and unemployment; international trade; and economic growth. Emphasis is placed on the roles of monetary and fiscal policy in the conduct of macroeconomic policy. Prerequisite: ECO 100 or ECO 201 is recommended. (3 crs.)

ECO 242. GOVERNMENT AND BUSINESS. A study of the legal framework within which business operates, including the Sherman Anti-Trust Act, Clayton Act, Robinson-Patman Act Federal Trade Act, and other newer forms of social control regulation. The course explores the relationships between government and business: government as regulator, subsidizer, partner and competition. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 251. DEVELOPMENT OF THE AMERICAN ECONOMY. A survey of the beginning, development and growth of the American economy with emphasis on the business sector. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 301. INTERMEDIATE MICROECONOMICS. An analysis of the theories of consumer behavior and of firms in the allocation of resources, and of general price and distribution theory, with application to current economic issues. Prerequisites: ECO 201 and MAT 181. (3 crs.)

ECO 302. INTERMEDIATE MACROECONOMICS. Analysis of the determination of national income, employment and price levels. Discussion of consumption, investment, inflation and government fiscal and monetary policy. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 304. MONEY AND BANKING. Relationship of money and credit to economic activity and prices; impact of public policy in financial markets and for goods and services; policies, structure and the functions of the Federal Reserve System; organization, operations and functions of the commercial banking system, as related to questions of economic stability and public policy. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 308. PUBLIC FINANCE. A study of the role of federal, state and local governments in meeting public wants. Topics include analysis of tax theory and policy, government expenditures, public debt management, government budgeting, benefit cost analysis, and income redistribution. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 307. STATE AND LOCAL FINANCE. Principles and problems of financing state and local governments. Topics include taxation, expenditures, intergovernmental grants and governmental fiscal relations. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 311. LABOR ECONOMICS. An introduction to labor economics, theories of the labor movement, the American labor movement, wage and employment theory, comparative labor movements, and trade union impact on wages, prices and national income. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 320. MATHEMATICAL ECONOMICS. A course designed to enable economics and business majors to understand the simpler aspects of mathematical economics. Relationships of functions and graphs, simultaneous equations, maximization techniques, and those parts of algebra and calculus required for economic analysis are presented. Prerequisites: ECO 201, ECO 202 and MAT 181 or MAT 182. (3 crs.)

ECO 322. MANAGERIAL ECONOMICS. A survey of analytical techniques available to the modern business manager. Topics include economics for managers, business forecasting, cost and production functions, industrial pricing, profit planning, business decision making. Prerequisites: ECO 201, ECO 202 and MAT 181, or a course in calculus. (3 crs.)

ECO 331. REGIONAL ECONOMICS. An introduction to regional analysis: theories of city locations and hierarchies, industrial location patterns, land-use patterns, the short-run impact of industrial change upon employment in one community and on long-run differentials of per capita income between regions. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 342. ENVIRONMENTAL ECONOMICS. Environmental pollution, failure of the market system, and optimum resource allocation; levels of pollution abatement and public policy; energy and public policy. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 351. COMPARATIVE ECONOMIC SYSTEMS. An analysis of the institutional structure of each type of economy and understanding of the reasons for the similarities and differences of institutional structures by comparing capitalist, socialist and communist economic systems. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 360. INTERNATIONAL ECONOMICS. A descriptive and theoretical analysis of international trade, balance of payment accounts, comparative costs, mechanisms of international financial relations. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 379. SPECIAL PROBLEMS IN ECONOMICS. This course is designed to meet the changing interests of students and faculty. Topics vary in response to those interests. Prerequisites: ECO 201 and ECO 202 or permission of instructor. (Variable crs.)

ECO 401. INDUSTRIAL ORGANIZATION. Analysis of market structure and its relation to market performance, changing structure of U.S. industry, and pricing policies in different industrial classifications of monopoly and competition in relation to the problems of public policy. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 421. APPLIED ECONOMETRICS. The formulation, estimation and testing of economic models. Topics include single-variable and multiple-variable regression techniques, estimation of lagged relationships, use of dummy variables, problems of multicollinearity and autocorrelation, and system of equations. Prerequisites: MAT 215 or MAT 225 and ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 433. ECONOMICS OF GROWTH AND DEVELOPMENT. Understanding of the obstacles to economic growth, requirements for growth and other topics related to economic growth in underdeveloped countries. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 451. HISTORY OF ECONOMIC THOUGHT. An extensive survey of the development of economic thought from ancient times to the present, stressing the contributions of Smith, Ricardo, Marx, Marshall and Keynes. This course should be taken late in the undergraduate career. Prerequisites: ECO 201 and ECO 202. (3 crs.)

ECO 492. ECONOMICS INTERNSHIP. The student is placed with a business firm, bank, industrial firm, government office, health care facility or similar institution for on-the-job experiences related to classroom coursework. This course should be taken quite late in the undergraduate career. Credit-hours will range from 1 to 12 depending on the nature of the particular assignment. Prerequisite: Senior standing or permission of instructor. A maximum of 12 credits can be used toward the completion of degree. (Variable crs.)

ECO 495. SEMINAR IN ECONOMICS. An intensive examination of selected subjects from the fields of economics, management, business and labor relations. It is a repeatable course if course content is different. Prerequisite: Permission of instructor. (3 crs.)

## **EDS — Educational Studies**

EDS 455. MODERN METHODOLOGY IN SECONDARY SCHOOLS. This course is a capstone course in secondary education. Students will address current research on teaching planning, instructional strategies, classroom management and decision making skills. Emphasis is placed on adaptive teaching to address learning needs of pupils with contrasting SES backgrounds, interests, cultural heritages and learning modalities. Students focus on creating and managing a classroom which includes whole group, small group and individualized instruction. An emphasis is placed on developing critical thinking and pupil self esteem and responsive “hands on” environments. Fall and Spring. (3 crs.)

EDS 494. STUDENT TEACHING WORKSHOP. This course is a capstone course in secondary education. Students will address current research on teaching planning, instructional strategies, classroom management and decision making skills. Emphasis is placed on adaptive teaching to address learning needs of pupils with contrasting SES backgrounds, interests, cultural heritages and learning modalities. Students focus on creating and managing a classroom which includes whole group, small group and individualized instruction. An emphasis is placed on developing critical thinking and pupil self esteem and responsive “hands on” environments. Fall and spring. (3 crs.)

## **EDU — Education**

EDU 110. CRITICAL THINKING AND READING. Focuses on development of an understanding and ability to apply critical thinking and reading skills as effective tools for academic, career and personal growth. Students explore issues from multiple perspectives, generate and organize ideas, apply knowledge to situations, critically evaluate the logic and validity of information, analyze real life situations, recognize how attitudes and values shape opinions, and evaluate their own learning. Fall and spring. (3 crs.)

EDU 150. INTRODUCTION TO ELECTRONIC PORTFOLIO. This course is designed to introduce the computer software and hardware necessary to develop an electronic portfolio. Students will learn how to use a variety of software (LiveText, word processing, spreadsheet, PDF, the Internet, etc.) and hardware (computer, scanners, camera, etc.) to organize an electronic portfolio, which will be based on national and state teaching standards. The candidate's electronic collection and presentation of portfolio artifacts throughout the course are organized comprehensively to demonstrate knowledge, skills, and dispositions. Prerequisite: Accumulation of 15 credits. (3 crs.)

EDU 310. TEACHING IN A MULTICULTURAL SOCIETY. This course is designed to acquaint undergraduate students with basic concepts of multicultural education with emphasis on developing a culturally responsive classroom. The focus is on developing a classroom and school environment that enables all children, regardless of race, ethnicity, gender, socioeconomic status, language, religion, age, region and disability, to achieve academic success. After an overview of leading multicultural education theories of James A. Banks, Paul Gorski and others, students will study culture in the United States. Special emphasis will be placed on how each cultural element interacts with teaching and learning. Multicultural curricula and instructional strategies will also be addressed. This course will include self-examination of students' values, beliefs, and stereotypical beliefs that must be addressed to assist all students' success in school and understand one's responsibility within a global society. (3 crs.)

EDU 340. MAINSTREAMING EXCEPTIONAL LEARNERS. This course is designed to prepare educational personnel with the information and skills necessary for accommodating exceptional learners in a variety of school arrangements. Focus is on assessment and remediation of learning problems, classroom organization and management, teaching resources, legal issues, curriculum considerations, parent involvement, condition of professional services, and many other issues pertinent to the education of exceptional learners in the "mainstream" of education. Must have junior class rank. (3 crs.)

EDU 350. SUPPORTING ELL IN THE CLASSROOM. This course examines research-based English Language Learner (ELL) teaching and learning methods in K-12 mainstream classrooms. The major theories of second language acquisition will be reviewed and their implications for the second language classroom will be discussed. The primary goals of this course are (a) to familiarize teacher candidates with major theoretical issues and research-based methods in second language learning in formal and informal situations; (b) to provide teacher candidates with opportunities to develop communication strategies that will support their students learning; (c) to assist teacher candidates in becoming skillful at making appropriate teaching decisions that will nurture language learning among culturally and linguistically diverse students, in order to promote and increase academic achievement in the classrooms. Prerequisites: SEC 150 or TED 100 or EDE 200 or ECE 200 or ESP 301 (3 crs.)

EDU 449. STUDENT TEACHING – SPECIAL EDUCATION. This course is only for those students who are student teaching overseas or through another college or university. (Variable crs.)

EDU 459. STUDENT TEACHING – ELEMENTARY EDUCATION. This course is only for those students who are student teaching overseas or through another college or university. (Variable crs.)

EDU 469. STUDENT TEACHING – SECONDARY EDUCATION. This course is only for those students who are student teaching overseas or through another college or university. (Variable crs.)

## **EDF – Educational Foundations**

EDF 121. SCHOOLS AND VALUES. Schools and Values will examine the values that are taught and modeled in classrooms from preschool through postsecondary levels. The course will consider how teachers and other staff unavoidably contribute to the moral development of the students they serve. Although the course is designed primarily for education majors, it will address issues that should concern other majors who have a vested interest as citizens and parents in how schools influence the moral development of students. (3 crs.)

EDF 333. EDUCATIONAL TECHNOLOGY. This course provides the learner with fundamental concepts and skills that build a foundation for applying computer hardware and software in educational settings. The course focuses on the computer as an object of instruction, a productivity tool and an adjunct to instruction in the classroom. (3 crs.)

## **EET – Electrical Engineering Technology**

EET 110. ELECTRICAL CIRCUITS I. An introduction to the study of electrical circuits. Topics include resistance, voltage, current, mesh analysis and nodal analysis. Network theorems pertaining to DC sources are presented. Prerequisite: College algebra or equivalent. Fall. (4 crs.)

EET 160. ELECTRICAL CIRCUITS II. An introduction to the study of electrical circuits in the sinusoidal steady state. Topics include capacitors, inductors, complex numbers, AC mesh analysis, AC nodal analysis, and network theorems pertaining to AC sources. Prerequisite: EET 110. Corequisite: MAT 199. Spring. (4 crs.)

EET 215. INTRODUCTION TO INSTRUMENTATION. An introduction to the techniques of designing electronic instruments to measure physical quantities with the aid of transducers. Topics include analog and digital signal conditioning circuits, electronic filters and various electronic sensors. Circuits will be designed and tested from mathematical models in order to transfer signals to either an analog or a digital format. Prerequisite: EET 160. Corequisite or prerequisite: CET 235. Fall. (3 crs.)

EET 310. METHODS IN ENGINEERING ANALYSIS. Introduction to matrix theory, classical first- and second-order transient analysis, active filter and oscillator design, and Fourier analysis. Computer solutions to special problems will be presented. Prerequisites: EET 365, MAT 282, CSC 124. Corequisite: EET 320. Fall. (4 crs.)

EET 320. NETWORK ANALYSIS. A calculus-based circuit theory course. Topics include the introduction to Laplace transforms and the use of Laplace transforms in the study of circuit analysis, transfer functions and frequency response. Circuit analysis programming is used to compare computer solutions with analytic solutions. Prerequisites: EET 365. Corequisite: EET 310. Fall. (4 crs.)

EET 325. INTRODUCTION TO ELECTRIC POWER. A study of three-phase circuits, transformers, DC machines, polyphase AC machines and single-phase AC machines. Prerequisite: EET 160, CSC 124. Fall, every three years. (4 crs.)

EET 365. LINEAR DEVICES. This course is an introduction to the function of solid state devices. The emphasis is placed on the internal structure, function and limitations of linear devices such as diodes, transistors, power amplifiers, operational amplifiers and oscillators. Prerequisite: EET 215. Spring. (4 crs.)

EET 370. INSTRUMENTATION DESIGN I. The design of electronic instruments utilizing linear and digital integrated circuits. Topics will include electronic thermometers, force, pressure and flow measurements, and frequency counters. Numerical linearization methods for nonlinear transducers will be introduced. Prerequisite: EET 310 and EET 320. Spring. (4 crs.)

EET 400. SENIOR PROJECT PROPOSAL. The student will submit a written proposal for a project. After approval of the project the student will be assigned a faculty adviser. Minimum requirements for the proposal are submission of a functional specification and a time schedule for completion. Prerequisite: CET 360, EET 370, and senior status. Corequisite: ENG 217. Alternate fall. (1 cr.)

EET 410. AUTOMATIC CONTROL SYSTEMS. Design of feedback control systems and devices as applied to electrical machinery and transducers. Topics will include Bode plots, the root-locus method and Nyquist diagrams. Prerequisites: EET 310 and EET 320. Spring, every four years. (4 crs.)

EET 420. INSTRUMENTATION DESIGN II. A microprocessor-based instrumentation design course utilizing linear, digital and opto-electronic devices. Software solutions to input/output problems will be considered along with software solutions to nonlinear transducer data. Prerequisite: EET 370. Spring, every four years. (4 crs.)

EET 430. RF COMMUNICATIONS. Communication systems principles, including AM/FM modulation, AM/FM demodulation, transmitters, receivers, antennas, transmission lines, digital techniques and protocols. Prerequisite: EET 365. Spring, every two years. (4 crs.)

EET 450. SENIOR PROJECT. Employs the design, construction and analysis of an electronic device or instrument. Depending on the complexity of the project, total construction may not be required. With the approval from the adviser, group projects may also be involved. Three laboratory-hours per week. Prerequisite: EET 400. Alternate spring. (3 crs.)

EET 460. DIGITAL SIGNAL PROCESSING. Introduction to linear systems, digital filters and the Z-transforms, and the Fast Fourier Transform. Fundamentals of Shannon's sampling theory and the interfacing of analog signals to microprocessor based systems for digital signal processing. Prerequisites: CET 360, EET 310 and EET 320. Alternate years. (4 crs.)

EET 475. BIOMEDICAL ENGINEERING TECHNOLOGY. A study of widely used medical devices with emphasis on those types used for patient care in the hospital. The physics and engineering of various devices will be presented, and their relationship to human anatomy and physiology will be emphasized. Hospital organization and the role of the clinical engineering department will be examined. Prerequisite: EET 365. Spring, every four years. (4 crs.)

EET 476. BIOMEDICAL ENGINEERING TECHNOLOGY INTERNSHIP. Upon acceptance to a hospital, the student will work with a clinical engineer and/or a biomedical equipment technician inspecting, maintaining, calibrating, and modifying biomedical equipment. Programs of instruction will vary from hospital to hospital, but the student will be exposed to medical devices from all special and critical care areas. Prerequisite: EET 475. Summer. (4 crs.)

EET 495. ELECTRICAL ENGINEERING TECHNOLOGY INTERNSHIP. Upon acceptance to an internship site, the student will work with an electrical engineer and/or an electronic technician inspecting, maintaining, calibrating, testing, analyzing, assembling, modifying or designing various types of electronic devices. Programs of instruction will vary, but the student will be provided with practical work experience in a dynamic environment in which they will be dealing with actual problems requiring practical solutions. Adviser, department chairperson and college dean approval is required before course enrollment. Prerequisite: Upper-level standing. Fall, spring, and summer. (4 crs.)

## **EDE — Elementary Education**

EDE 200. INTRODUCTION TO ELEMENTARY EDUCATION. This course is an introductory overview course in which students are exposed to many topics that they will explore in-depth in future specialization courses for the program. In the course, students will gain firsthand experiences with professional behaviors expected of teachers. Thirty hours of field experiences are required, fulfilling the initial field requirement of the Early Childhood/Elementary Education program. Course objectives and performance assessments reflect the 10 standards for beginning teachers' licensing and development written by the Interstate New Teacher Assessment and Support Consortium (INTASC). Prerequisite 2.5 GPA. Fall and spring. (3 crs.)

EDE 211. INSTRUCTIONAL STRATEGIES IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION. This course is designed to teach students a set of teaching behaviors that are related to student achievement in the elementary and early childhood classrooms. Topics covered include conception of elementary/early childhood curriculum, Bloom's taxonomy of cognition, questioning and discussion behaviors, utilization of thinking skills, integration of subject areas, inductive and deductive teaching, observation and assessment of children, cognitive and affective concerns of children as outlined by Piaget, and content presentation skills. Through class discussions, practice sessions, role-playing and microteaching, the students will learn how to plan for and utilize strategies based on research in effective teaching and in the cognitive and affective development of children. Prerequisite: 2.5 GPA. Fall and spring. (3 crs.)

EDE 300. LANGUAGE AND LITERACY IN THE ELEMENTARY SCHOOL I. This is the first in a series of two required courses that examine the development of literacy in elementary-age children. Students are taught how to teach reading, writing, listening and speaking skills using an integrated approach consistent with the constructivist theory of teaching and learning. Theoretical orientations to several approaches of literacy instruction are introduced, analyzed and evaluated. Practical implications of these theories are examined in detail, and students are expected to demonstrate strategies through the use of microteaching as well as in fieldwork. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

EDE 305. MATHEMATICAL CONTENT AND METHOD IN THE ELEMENTARY SCHOOL. Emphasis is on understanding children's cognitive development and perception and their work with mathematics. To accomplish this it is suggested that students work with children. The professor demonstrates learning activities appropriate to the developmental and academic levels of children. As time permits, and on the basis of the experiences gained through

observing and working with children, critical analyses of commercial arithmetic materials and texts, as well as recent trends and current projects in arithmetic, will be considered. Prerequisites: 32 college credits, 9 natural science credits. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

EDE 306. TEACHING OF SOCIAL STUDIES FOR ELEMENTARY GRADES. The foundations of the social studies are examined. Instructional strategies for the constructivist classroom will be emphasized. Attention will be given to current trends and the present status of social studies. Prerequisites: 32 college credits, 9 social science credits. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

EDE 307. SCIENCE FOR THE ELEMENTARY SCHOOL. This course is designed to acquaint students with the history of science curricula, the content of science and the process of science teaching. The instructor will generate enthusiasm for science, encourage scientific inquiry, demonstrate positive attitudes, enhance appreciation for science and science interests, and model effective science teaching consistent with the Elementary/Early Childhood Department's Constructivist Model for Teaching. Prerequisites: 32 college credits; 9 natural science credits. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

EDE 311. CHILDREN'S LITERATURE. This course acquaints the student with literature available for children and various techniques that may be employed in elementary classrooms to stimulate interest in reading and telling stories and poems. Prerequisites: 32 college credits; 9 humanities credits. Prerequisite: 2.5 GPA. May take the same semester as EDE 211. Fall and spring. (3 crs.)

EDE 320. INTERMEDIATE FIELD EXPERIENCES 4-6. The student receives background and experience in working with intermediate-grade children in the classroom. Lectures and classroom teaching experiences are combined to give the student an opportunity to discover an aptitude and interest in working with children. Prerequisite: Admission to teacher education. Fall and spring. (3 crs.)

EDE 321. PRIMARY FIELD EXPERIENCES K-3. The students receive background and experience in working with elementary-grade children in the classroom. Lectures and classroom teaching experiences are combined to give students an opportunity to discover their aptitude and interest in working with young children. Prerequisite: Admission to teacher education. Fall and spring. (3 crs.)

EDE 322. EDUCATION SERVICES INTERNSHIP. This course introduces education services students to career opportunities of an educational nature, including child day care, classroom aides, docents, program planner, team-based trainer, exhibit development, Web design and research. The students will complete an internship, which is equivalent to 6 credits (approximately 20 hours per week), which could occur in settings such as libraries, museums, YMCA, Big Brothers/Big Sisters, local newspapers and other settings. This course is for students who are interested in educational opportunities but are not seeking Pennsylvania teaching certification. Prerequisite 2.5 GPA; EDE 211. Fall and spring. (6 crs.)

EDE 340. LANGUAGE AND LITERACY IN THE ELEMENTARY SCHOOL II. This is the second in a series of two required courses that examine the development of literacy in elementary-age children. Students review the theoretical bases of an integrated approach to teaching the language arts. Specific strategies that reflect these theories are then investigated, demonstrated and practiced. Such strategies teach children necessary literacy skills through a meaning-centered approach and emphasize the integration of all subject areas, as well as the connection between the language arts modes. Students are expected to demonstrate their abilities to connect theory to practice in fieldwork. Prerequisite: 2.5 GPA, EDE 211. Fall and spring. (3 crs.)

EDE 450. ASSESSING CHILDREN'S PERFORMANCE. This course presents practical methods and techniques for planning, construction, and use of oral, performance, essay and objective tests with an assumption that evaluation's role in the teaching/learning process is both active and fundamental. Prerequisite: Admission to teacher education. Fall and spring. (3 crs.)

EDE 461. STUDENT TEACHING. During this course the student is assigned to work in two classrooms in the public schools. Under supervision, the student observes and participates in all teaching activities related to the performance of a teacher's work in the elementary grades. Besides fieldwork, students attend practicum class once a week. Discussions are centered around the current materials utilized in all subject areas. Pennsylvania school laws relevant to the work of the classroom teacher are analyzed and discussed. Opportunities are provided to discuss problems encountered by students in their student-teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. Prerequisite: Recommendation for student teaching. Fall and spring. (12 crs.)

## **ELE — Pre-K through Grade 4 Education**

ELE 200. INTRODUCTION TO PRE-K THROUGH GRADE 4 EDUCATION. This course is an introductory overview course in which students are exposed to many topics that they will explore in depth in future specialization courses for the program. In the course, students will gain first-hand experiences with professional behaviors expected of Pre-K through Grade 4 teachers. Forty hours of field experiences are required, fulfilling the initial field requirement of the Pre-K through Grade 4 education program. The California University of Pennsylvania College of Education unit has adopted the ten standards for beginning teachers' licensing and development, written by the Interstate New Teacher Assessment and Support Consortium (INTASC), as well as the 2 CALTASC standards, diversity and field experience. This course is designed to prepare teacher candidates in the knowledge, skills, and dispositions reflected in those standards. Additionally, because this course is specifically designed to provide teacher candidates with experiences in the field of Pre-K through Grade 4 education, its course objectives and performance assessments reflect the preparation standards of the National Association for the Education of Young Children (NAEYC). Prerequisites: minimum 2.5 GPA, updated clearances. (3 crs.)

ELE 220. INSTRUCTION AND ASSESSMENT IN PRE-K. This course is designed to provide teacher candidates with in-depth instruction and authentic experience in developing curricula, which is multi-disciplinary and multi-dimensional. In this course, teacher candidates will examine appropriate curriculum and assessment for pre-school children. They will examine young children's approaches to learning and effective teaching that enhances learning. The



focus will be on a project approach to creating learning experiences that are intellectually stimulating and meaningful for young learners. This course introduces approaches to planning and teaching integrated curricula and using authentic assessment to inform practice. The course will focus on appropriate practices that address the whole child across all areas of development. Prerequisite: Minimum 2.5 GPA. (3 crs.)

ELE 221. INSTRUCTION AND ASSESSMENT K-4. This course is designed to provide teacher candidates with the knowledge, skills and dispositions necessary to create developmentally appropriate instruction and assessment activities for children in K through Grade 4 classrooms. Topics covered include K through Grade 4 curriculum models, developmentally appropriate practices, lesson planning, writing objectives, constructivist instructional strategies and assessment of student learning. Through class discussions, practice sessions, role-playing and microteaching, the teacher candidates will learn how to plan and use strategies that support Pennsylvania Department of Education academic standards and standards set forth by the National Association for the Education of Young Children. Prerequisite: Minimum 2.5 GPA. (3 crs.)

ELE 300. EMERGING LITERACY. The purpose of this course is to prepare early childhood teacher candidates to become facilitators of early language and literacy learning. The candidates will gain critical content knowledge in language acquisition as the basis for literacy development. The content of this class deals with concepts of emerging literacy and supports candidates to acquire strategies for developing high-quality, meaningful language and literacy experiences for young children from infancy through the first grade. This course will give candidates practicum experience as they design and implement literacy bags and conduct a case study with an individual young learner. In this study, candidates will research appropriate practice and examine literacy development, assessment and design/implementation of appropriate language and literacy learning activities. Prerequisites: minimum GPA 2.5, ELE 220; current clearances are required. (3 crs.)

ELE 301. LITERACY I: LANGUAGE ARTS. This is the first in a series of two required courses that examine the development of literacy in early elementary-age children. Candidates are taught how to teach reading writing, listening and speaking skills, with an emphasis on the development of writing skills, using an integrated approach, consistent with the constructivist theory of teaching and learning. Theoretical orientations to literacy instruction, with a focus on writing are introduced, analyzed and evaluated. Practical implications of these theories are examined in detail, and students are expected to demonstrate strategies through the use of lesson planning, presentations and teaching in the field. Prerequisites: minimum GPA 2.5, ELE 221; current clearances are required. (3 crs.)

ELE 302. LITERACY II: READING. This is the second in a series of two courses that examine the development of literacy in children and adolescents from Grades 4 through 8. Candidates are taught how to develop reading writing, listening and speaking skills, with an emphasis on the development of writing skills, using an integrated approach that includes a wide variety of literature, as advocated by the International Reading Association and consistent with the constructivist theory of teaching and learning. Theoretical orientations to literacy instruction, with a focus on writing are introduced, analyzed and evaluated. Practical implications of these theories are examined in detail and students are expected to demonstrate strategies through the use of formal and informal assessment, lesson planning, presentations and mini lessons. Prerequisites: completion of 48 credits, minimum 2.5 GPA, ELE 220. (3 crs.)

ELE 310. TEACHING MATH AND SCIENCE PRE-K. The teacher candidate is introduced to how mathematics and science skills develop in children between infancy and age 5 and how to assess this development. The candidates will recognize the naturalistic, informal and structured math and science activities that preschool children experience while they research, plan and lead small-group math and science activities for children in formal day care settings. These activities are developed according to the national math and science standards, NAEYC standards and Pennsylvania learning standards. These activities will include connections to other areas of mathematics and science, other subject areas and to real life situations. Prerequisites: minimum 2.5 GPA, ELE 221, current clearances. (3 crs.)

ELE 311. TEACHING MATH K-4. The teacher candidate is introduced to how mathematics skills develop in children in grades K through 4 and how to assess this development. The candidates will sharpen their own math skills while researching, planning and leading small group, math activities for children in their classrooms. These activities are developed according to the national math standards, NAEYC standards and Pennsylvania learning standards. These activities will include connections to other areas of mathematics, children's literature, other subject areas and to real life situations. Prerequisites: ELE 221, minimum 2.5 GPA, current clearances. (3 crs.)

ELE 321. TEACHING SCIENCE K-4. This course provides teacher candidates the science education knowledge, skills and dispositions expected of beginning elementary/early childhood teachers in self-contained classrooms. The course provides an overview of the nature of science, scientific inquiry and focuses on science process skill teaching strategies. Candidates learn and practice science teaching skills, such as: creating a classroom environment conducive to scientific inquiry, designing science lesson plans, assessing student attainment of academic standards and using the local community as a location and topic of classroom science instruction. The course seeks to connect students to the professional community of science education professionals and resources. Prerequisites: ELE 221, minimum 2.5 GPA; current clearances. (3 crs.)

ELE 331. TEACHING SOCIAL STUDIES K-4. The foundations of the social studies are examined. Instructional strategies and resources for the constructivist social studies classroom will be discussed and demonstrated. Attention will be given to current trends and the present status of elementary social studies. Prerequisites: ELE 221, minimum 2.5 GPA; current clearances. (3 crs.)

ELE 350. FAMILY AND COMMUNITY RELATIONS. This course emphasizes the role of families and the community in the framework of educational planning for children. The candidates must use their understanding and knowledge about the complex characteristics of children's families and communities to create and sustain respectful, reciprocal relationships that support and empower families and involve families in their children's development and learning. Prerequisite: Minimum 2.5 GPA. (3 crs.)

ELE 400. ISSUES, ADVOCACY AND LEADERSHIP. This course provides candidates with the opportunity to develop a simulated comprehensive plan for a program targeting young children. The candidates are taught current issues and trends in appropriate practice for young learners. They will examine essential social, historical and philosophical

perspectives in the field of early childhood education. In addition, they will analyze and apply skills that demonstrate effective advocacy and leadership. Prerequisite: Admission to teacher education. (3 crs.)

**ELE 410. PRE-K FIELD EXPERIENCE.** This course is intended to provide the student with an introduction to working with young children from infancy through five years of age by providing a total of 60 hours of field experiences in infant/toddler day care centers and preschool centers (day care, Head Start, nursery schools, Pre-K settings). The candidate observes, plans, and prepares learning plans and learning materials for children in group settings. Lectures and classroom teaching/observing are combined to give students an opportunity to discover their aptitude for, and interest in, working with very young children. Prerequisites: minimum GPA 2.5; current clearances. (3 crs.)

**ELE 411. K-4 FIELD EXPERIENCE.** This course is designed to provide students with an overview of Pre-K through Grade 4 schools and to prepare them to teach in the schools of the twenty-first century. Sixty hours of observation and teaching under the guidance and observation of a mentor teacher in an elementary classroom is a required part of the course activities. Current teaching technology and strategies to meet the needs of children will be researched, observed and discussed. Lectures and classroom teaching experiences are combined to give students an opportunity to discover their aptitude and interest in working with Pre-K through Grade 4 school children. Prerequisites: minimum GPA 2.5, current clearances. (3 crs.)

**ELE 461. STUDENT TEACHING PRE-K THROUGH GRADE 4.** The student teaching experience provides the opportunity for the teacher candidate to engage in pedagogy that is developmentally appropriate and embraces the constructivist model. Throughout this experience, the teacher candidate will develop an appreciation of the value and importance of building and sustaining supportive and responsible relationships with young children. Candidates complete the student teaching experience in two public schools and/or Pennsylvania authorized preschool classrooms and attend weekly practicum. Practicum discussions focus on current and developmentally appropriate materials, constructivist teaching strategies and techniques, technology in the classroom and Pennsylvania school laws relevant to the work of the classroom teacher. In addition to these school-based experiences, the teacher candidate is encouraged to engage in a series of community and cultural events with the surrounding school community. Prerequisites: admission to Teacher Education; department recommendation to student teach; passing Praxis II exams; current clearances. (12 crs.)

## **ELM – Grades 4 through 8 Education**

**ELM 200. INTRODUCTION TO MIDDLE LEVEL EDUCATION.** This course is an introductory overview course in which students are exposed to many topics that they will explore in depth in future specialization courses for the program. In the course, students will gain first-hand experiences with professional behaviors expected of teachers. Thirty hours of field experiences are required, fulfilling the initial field requirement of the Early Childhood/Elementary Education program. Course objectives and performance assessments reflect the twelve standards for beginning teachers' licensing and development, written by the Interstate New Teacher Assessment and Support Consortium (INTASC). Prerequisites: minimum 2.5 GPA, current clearances. (3 crs.)

**ELM 220. INSTRUCTION AND ASSESSMENT IN 4 TO 8 CLASSROOMS.** This course is designed to provide teacher candidates with the theoretical and practical background necessary to develop instruction and assessment activities that meet Pennsylvania Department of Education Academic Standards as well as the standards set forth by the National Middle School Association. Topics covered include: developmentally appropriate practices, grade 4-8 curriculum models, constructivist instructional strategies, and assessment of student learning. Through class discussions, practice sessions, role-playing, and microteaching, the teacher candidates will learn how to plan for and utilize strategies based on research in effective teaching. Prerequisites: 2.5 GPA, current clearances. (3 crs.)

**ELM 301. READING METHODS, ASSESSMENT AND INTERVENTION.** This course is designed to build upon a scientific base to the practice of teaching literacy to middle level students from grades four to eight, with an emphasis on comprehending a variety of texts in the content areas. Teaching strategies are based on theoretical and research-based assumptions that readers construct meaning as they decode, using what they know about print and the world to understand written text. Candidates learn how to assess, make instructional decisions, and provide interventions that will meet the needs of a diverse classroom population. The course is standards-based, supported by the Pennsylvania Department of Education standards for teacher preparation, as well as the International Reading Association (IRA), the Association for Childhood Education International (ACEI), the Interstate New Teacher Assessment Consortium (INTASC), and the National Middle School Association. Teacher candidates participate in university classroom and field experiences that provide them with the knowledge, pedagogy, and dispositions needed to teach literacy to middle school children in a variety of classroom settings. Prerequisites: 2.5 GPA, ELM 220, current clearances. (3 crs.)

**ELM 302. LANGUAGE ARTS METHODS, ASSESSMENT AND INTERVENTION.** This is the first in a series of two courses that examine the development of literacy in children and adolescents from grades 4-8. Candidates are taught how to develop reading writing, listening, and speaking skills, with an emphasis on the development of writing skills, using an integrated approach that includes a wide variety of literature, as advocated by the International Reading Association and consistent with the constructivist theory of teaching and learning. Theoretical orientations to literacy instruction, with a focus on writing are introduced, analyzed, and evaluated. Practical implications of these theories are examined in detail, and students are expected to demonstrate strategies through the use of formal and informal assessment, lesson planning, presentations, and mini lessons. Prerequisites: minimum 2.5 GPA, ELM 220, current clearances. (3 crs.)

**ELM 311. MATH METHODS, ASSESSMENT AND INTERVENTION.** This course reviews the teacher candidates' own math skills while they learn a variety of strategies to be used in teaching mathematics to elementary/middle level students. Rooted in national and PA math standards, assessment anchors and the common explanations children use to understand math, the candidates will engage in teaching short activities to small groups of children in grades 4 through 8. These activities will include connections to other mathematics concepts, to subject areas, and to real life situations. Prerequisite: 2.5 GPA, ELM 220, current clearances. (3 crs.)

ELM 321. SCIENCE METHODS, ASSESSMENT AND INTERVENTION. This course provides undergraduate teacher candidates the science education knowledge, skills and dispositions expected of beginning elementary/middle level teachers in discipline specific classrooms. The course provides an overview of the nature of science, scientific inquiry and focuses on science process skill teaching strategies. Candidates learn and practice science teaching skills based on science education research such as: creating a classroom environment conducive to scientific inquiry, designing science lesson plans, assessing student attainment of academic standards, and using the local community as a location and topic of classroom science instruction. The course seeks to connect students to the professional community of science education professionals and resources. Prerequisites: 2.5 GPA, ELM 220, 9 credits of general education science courses with labs in earth, life and physical sciences; current clearances. (3 crs.)

ELM 331. SOCIAL STUDIES METHODS, ASSESSMENT AND INTERVENTION. The foundations of the social studies are examined. Instructional strategies and resources for the constructivist social studies classroom will be discussed and demonstrated. Attention will be given to current trends and the present status of Grades 4-8 social studies. Prerequisites: minimum 2.5 GPA, ELM 220, current clearances. (3 crs.)

ELM 360. ENVIRONMENT, ECOLOGY AND NATURE STUDY EDUCATION. This course explores educational strategies, practices and ethics for use when teaching people about the environment, ecology, and natural history of their local community. Course activities examine the complex relationship between humans and their environment from multiple perspectives. Historical, current and research-based approaches to public school student and citizen education provide the focus for an in-depth examination of the individual's role in contributing to the health, sustainability and mutual dependence between natural communities and human communities. Prerequisites: 9 credits of science laboratory courses in earth, life and physical science, minimum 2.5 GPA, ELM 220, current clearances. (3 crs.)

ELM 411. FIELD EXPERIENCE GRADES 4 TO 6. The candidate receives background and experience in working with children in grades 4 through 6 in the classroom setting. Lectures and classroom teaching experiences are combined to give the candidate an opportunity to discover an aptitude for and an interest in working with children. Prerequisite: Minimum 2.5 GPA, current clearances. (3 crs.)

ELM 412. FIELD EXPERIENCE GRADES 7 TO 8. The candidate receives background and experience in working with children in grades 7 through 8 in the classroom setting. University classroom and school-based classroom teaching experiences are combined to give the candidate an opportunity to expand upon their knowledge base and apply methods that they have learned in university methods courses. Prerequisite: Minimum 2.5 GPA, current clearances. (3 crs.)

ELM 461. STUDENT TEACHING 4 TO 8. The student teaching experience provides the opportunity for the teacher candidate to engage in pedagogy which is developmentally appropriate and embraces the constructivist model. Throughout this experience the teacher candidate will develop an appreciation of the value and importance of building and sustaining supportive and responsible relationships with early adolescents. The candidate will complete the student teaching experience in two public school intermediate and/or middle school classrooms and attends weekly practicum. Practicum discussions focus on current and developmentally appropriate materials, constructivist teaching strategies and techniques, technology in the classroom, and Pennsylvania school laws relevant to the work of the classroom teacher. In addition to these school-based experiences, the teacher candidate is encouraged to engage in a series of community and cultural events with the surrounding school community. Prerequisites: Admission to teacher education, department recommendation to student teach, passing Praxis II exams, current clearances. (12 crs.)

## ENG – English

ENG 100. ENGLISH LANGUAGE SKILLS. This beginning course provides guided practice in writing and reading, with emphasis on the interrelationship of reading, thinking and writing. English Language Skills stresses fundamental principles of and attitudes toward writing, as well as how to put these principles and attitudes into practice. It emphasizes the ability to read correctly and to organize material effectively and, by adherence to the innate logic of language (revealed in its rules of grammar, syntax, punctuation and vocabulary choice), to express ideas clearly and precisely. Fall and spring. (3 crs.)

ENG 101. ENGLISH COMPOSITION I. Composition I is a sequel to English Language Skills. It provides guided practice in writing, with emphasis on thoughtful analysis of subject matter, clear understanding of the writing situation, flexible use of rhetorical strategies and development of stylistic options, particularly those related to an understanding of a variety of purposes and voices. ENG 101 continues the development of the essential writing, reading and thinking skills stressed in ENG 100. Fall and spring. (3 crs.)

ENG 102. ENGLISH COMPOSITION II. The sequence of Composition I – Composition II provides guided practice in writing, with an emphasis on more demanding writing situations. It continues the work begun in Composition I with more complicated rhetorical strategies and stylistic options, especially audience-centered considerations. ENG 102 introduces research and research writing at the undergraduate level. Prerequisite ENG. 101. Fall and spring. (3 crs.)

ENG 106. INTRODUCTION TO POETRY. An introduction to the elements of poetry, this course emphasizes close analysis and explication of selected poetry from a variety of poets. Fall and spring. (3 crs.)

ENG 107. INTRODUCTION TO FICTION. An introduction to the elements of fiction, this course focuses on the close reading of selected short stories and novels by a variety of authors. Fall and spring. (3 crs.)

ENG 108. INTRODUCTION TO DRAMA. This introduction to the basic elements of drama focuses on readings selected from works from the Greek Classical period to the Modern Age. Fall and spring. (3 crs.)

ENG 112. MYTH, MAGIC AND MYSTICISM. The course is a study of the four basic paths into the unknown: magic, mysticism, fantasy and myth. (3 crs.)

ENG 125. THE AMERICAN WEST. A general introduction to the literature of the Great American West, the course focuses on examination of a variety of literary types. (3 crs.)

ENG 127. WOMAN AS HERO. The course explores heroic roles assigned to women in literature, the contrast between reality and the literature, and the differences between fictional women created by male and female authors. An analysis of the reasons for these differences forms part of the subject. (3 crs.)

ENG 148. HORROR IN LITERATURE. An examination of the tradition of horror literature in England and America from a literary, historical and psychological viewpoint, the course also emphasizes the sociological implications of the popularity of the form. (3 crs.)

ENG 150. BASEBALL IN LITERATURE. This course requires the student to read, write and talk about a game that Steinbeck called a "state of mind," a game that is, in the words of Jacques Barzun, a way "to know America." Thus, students who work learn about both themselves and their country. (3 crs.)

ENG 155. BLACK LITERATURE. This course is an introduction to the writings of Black Americans in poetry, fiction and drama, ranging from the Harlem Renaissance of the 1920s to the contemporary productions of Leroi Jones, Ishmael Reed and Toni Morrison. (3 crs.)

ENG 160. INTRODUCTION TO BRITISH AND AMERICAN LITERATURE. The course introduces students to a selection of canonical British and American writers writing within the genres of poetry, short fiction, drama and the literary essay. (3 crs.)

ENG 167. JOURNALISM I (NEWS WRITING). An introduction to basic news gathering and news writing, the course is taught through in-class exercises and articles, which are submitted to local media. Prerequisite: ENG 101. Fall. (3 crs.)

ENG 169. JOURNALISM II (FEATURE WRITING). Students learn feature writing and in-depth news reporting and write several articles, some of which are submitted to local media. Prerequisite: ENG 167 or permission of instructor. Spring. (3 crs.)

ENG 170. ALL ABOUT WORDS. An introduction to the total complexity and fascination of words, the course deals with words as shapes, analogues, formulas and games. Indirectly, but significantly, it instructs in vocabulary by introducing a sizable vocabulary for talking about words and nurturing a student's natural curiosity about words. (3 crs.)

ENG 178. LITERATURE AND FILM. A study of the total relationship between literature and film, the course emphasizes the involvement of literary writers in motion pictures and television, the process of literary adaptation, and the influence of motion pictures on literary critics and writers. (3 crs.)

ENG 203. GREAT BOOKS. The texts and historical backgrounds of selections from the most highly regarded literature of the world are studied. The range is from the Classical Greek era to the 20th century. Fall and spring. (3 crs.)

ENG 205. WORLD LITERATURE TO 1600. Examples of works from a variety of periods and cultures through 1600 are examined for their literary merit and national characters. Works are read in translation. Prerequisite: ENG 101. Fall. (3 crs.)

ENG 206. WORLD LITERATURE FROM 1600. Examples of works from a variety of cultures and periods after 1600 are examined for their literary merit and national characters. Works are read in translation. Prerequisite: ENG 101. Spring. (3 crs.)

ENG 211. BUSINESS WRITING I. The course is an introduction to the analysis, writing and oral presentation of formal and semiformal documents essential to the business communities. Prerequisite: ENG 101. Fall and spring. (3 crs.)

ENG 217. SCIENTIFIC AND TECHNICAL WRITING. An introduction to the specific techniques used in the preparation of reports and other scientific documents, this course is recommended for science and technology majors. Prerequisite: ENG 101. (3 crs.)

ENG 218. SCIENTIFIC AND TECHNICAL WRITING II. Using a problem-solving approach to technical writing that includes adapting to various audiences, organization of complex documents and computer documentation, students will prepare extensive technical reports. Alternate spring. (3 crs.)

ENG 301. ENGLISH LITERATURE I. The course is a survey of English literature from the beginnings in the sixth century to the late 18th century. Prerequisites: ENG 101 and 102. Fall. (3 crs.)

ENG 302. ENGLISH LITERATURE II. This course is a survey of English literature from the Romantic poets to the present day. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 306. PRESS LAW AND ETHICS. This course helps student journalists understand not only what they can and cannot do by law, but what they should and should not do within commonly accepted standards of good taste and morality. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 308. RESEARCH FOR WRITERS. For students in each of the professional writing concentrations, this course introduces students to basic library materials and techniques, on-campus resources, government documents, research libraries, advanced techniques of interviewing, document analysis, etc., and concludes with a pre-publication draft of a researched paper in the student's area of specialization. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 312. JOURNALISM III (EDITING). This course emphasizes practical journalism. Journalism III teaches students how to edit and prepare materials for publication. Professional editing procedures are covered, ranging from rewriting, editing and proofreading to headline writing, layout and design. Prerequisites: ENG 167 and 169 or permission of instructor. (3 crs.)

ENG 315. SURVEY OF AMERICAN WOMEN WRITERS: METHOD AND TEXT. The importance of both text and method in the study of American women writers is emphasized in this course. Assigned readings and research workshops introduce students to a variety of texts and sources as well as methods for reading, discovering and

interpreting writings. Integration of text and method is achieved through a series of writing and research projects that are tied to the assigned readings. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 320. MULTIMEDIA JOURNALISM. Multimedia journalism is a class that asks students to examine critically and evaluate how journalism is evolving because of multimedia and to learn through hands-on projects how to create multimedia journalism. (3 crs.)

ENG 321. THE ENGLISH RENAISSANCE: SKELTON THROUGH DONNE. A study of nondramatic prose and poetry chosen from such writers as Thomas Wyatt, the Earl of Surrey, Thomas Sackville, John Skelton, Sir Philip Sidney, Edmund Spenser, William Shakespeare and John Donne, the course emphasizes such literary genres as the lyric and sonnet, and an examines various philosophical, historical and social documents. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 322. THE ENGLISH RENAISSANCE: BACON THROUGH MARVELL. A study of the nondramatic prose and poetry of England in the 17th century from the works of John Donne, Ben Jonson, Robert Herrick, George Herbert, John Milton and Henry Vaughan, the course emphasizes the three schools of poetry of this century. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 334. NEWSPAPER REPORTING I. This professional-level course acquaints students with basic newsroom procedures and assignments. Prerequisites: ENG 101, 102, 167 and 169 or permission of instructor. Writing intensive. (3 crs.)

ENG 337. SURVEY OF AMERICAN LITERATURE I. This course spans American literature from its Colonial inception to the end of the Civil War, the literature's formative years, focusing on diverse forms and voices of expression. This literature presents writings of native Americans, Colonialists, Federalists, Romantics, Transcendentalists, slaves and others as formative expressions of our American heritage. Writing intensive. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 338. SURVEY OF AMERICAN LITERATURE II. The second course of the two-course survey begins with the literature of the Reconstruction period, Realism and later Naturalism and moves to the experimental writing of the 20th century, culminating in works by contemporary authors. The emphasis is on showing the development of an eclectic and uniquely American literature. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 341. ROMANTIC LITERATURE. This course is an intensive study of selected works by such Romantic poets as William Blake, William Wordsworth, Samuel Taylor Coleridge, Percy Bysshe Shelley, John Keats and Lord Byron. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 342. VICTORIAN LITERATURE. This historical and critical survey of the poetry and nonfictional prose of the Victorian period focuses on such writers as Alfred Tennyson, Robert and Elizabeth Barrett Browning, Thomas Carlyle, Matthew Arnold, Dante Gabriel and Christina Rossetti, Gerard Manley Hopkins, John Stuart Mill, John Ruskin, John Henry Newman, T. H. Huxley and Walter Pater. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 345. ENGLISH GRAMMAR AND USAGE. This course provides future English teachers, professional writing majors and other interested students with a sophisticated background in English grammar. The course covers a variety of grammatical theories, issues of mechanical correctness in writing and the sociology of usage. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 346. HISTORY OF THE ENGLISH LANGUAGE. This course surveys the development of the language from its Germanic base to the emergence of American English. Explanations of sound shifts and foreign and social influences are covered. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 347. INTRODUCTION TO LINGUISTICS. This course examines the several areas of language study; history of the language, phonology and morphology, grammars (traditional and modern), and contemporary American usage, dialects, lexicography and semantics. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 348. HISTORY OF LITERARY CRITICISM. This course looks at major critical documents from Plato through the modern critics. An intensive examination of the works themselves, with some attention to their place in literary theory. (3 crs.)

ENG 350. SPECIAL TOPICS IN JOURNALISM GENRES. Special Topics in Journalism Genres is a theoretical and hands-on course, in which students study one of the following genres: editorials and commentary, arts and entertainment reporting and criticism, public affairs reporting and analysis, environmental reporting and analysis, health and fitness reporting and analysis, technology reporting and analysis, consumer and business reporting and analysis, or other genres. Students will read journalism articles in the genre, as well as report and write stories in that genre. (3 crs.)

ENG 351. PUBLISHING THE MAGAZINE. Students in this course publish a magazine, Flipside. They contribute works of literature and reportage, illustrate the magazine with original work or with photographs, solicit contributors, finance the magazine through advertising, and establish editorial policy. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 352. STUDIES IN WRITING. This course is a study in style, its definition, its analysis, and the techniques modern writers of creative nonfiction use to achieve it. Students analyze the work of such writers as Tom Wolfe, Joan Didion, Hunter Thompson and Truman Capote, then apply to their own prose the techniques these writers use. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 354. AMERICAN JOURNALISM. A study of the recent history of journalism and the present state of the profession, this course emphasizes print journalism; however, the news gathering and reporting aspects of radio and television are also covered. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 355. SURVEY OF THE ENGLISH NOVEL I: THE BEGINNING THROUGH SCOTT. A study of the development of the novel from its beginnings through the Romantic period, this course places emphasis on Daniel Defoe, Samuel Richardson, Henry Fielding, Tobias Smollett and Jane Austen. Prerequisites: ENG 101 and 102. (3 crs.)

- ENG 356. SURVEY OF THE ENGLISH NOVEL II: DICKENS TO THE PRESENT. This course is a study of the novels and novelists of the Victorian period and the 20th century, including Charles Dickens, Charlotte, Emily and Ann Brontë, W. M. Thackeray, George Eliot, Joseph Conrad, James Joyce, and Virginia Woolf. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 357. TWENTIETH-CENTURY BRITISH LITERATURE TO WORLD WAR II. A study of fiction, drama and poetry with emphasis on examining such authors as W. B. Yeats, D. H. Lawrence, George Bernard Shaw, James Joyce, Joseph Conrad, Virginia Woolf, E. M. Forster and W. H. Auden. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 358. CONTEMPORARY LITERATURE SINCE WORLD WAR II. This course is an exploration of texts in a variety of genres including major movements, critical, social and political, from writings both in English and in translation. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 371. CRITICAL THEORY AND THE TEACHING OF LITERATURE. A required course for English majors in the Secondary English track, Critical Theory and the Teaching of Literature shows students how to relate contemporary literary criticism to the teaching of literature. The varieties of literary criticism covered include New Criticism, reader-response criticism, deconstructive criticism, psychological criticism, feminist criticism and New Historicism. The literature studied emphasizes items typically taught in secondary schools, including both canonical (e.g., Shakespeare's plays) and noncanonical (e.g., Young Adult literature and Multicultural literature) works. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 372. COMPOSITION THEORY AND THE TEACHING OF WRITING. A required course for English majors in the Secondary English track, Composition Theory and the Teaching of Writing is an introduction to rhetorical theory as it concerns the nature of writing and the teaching of writing. This course also offers practical information about and experience with modern course design and pedagogy, as well as discussion of the politics of writing instruction in contemporary schools. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 375. ADVANCED WRITING. This course is concerned with helping students develop a more sophisticated style in using persuasion, exposition and argumentation. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 376. CREATIVE WRITING: FICTION. Techniques of fiction are studied and applied to the writing of short stories, and students are encouraged to use and shape their own experience, transmitting those everyday things around them into fictional realities. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 377. CREATIVE WRITING: POETRY. Aspects of poetry, such as line length, rhythm, sound patterns and imagery, are discussed. Students will apply those techniques to their own experience and vision, developing a poetic voice or style. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 378. CREATIVE WRITING: DRAMA. Writing techniques for the modern stage are covered; students progress from idea through written text to the production of a scene or a one-act play. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 415. CHAUCER. The Canterbury Tales and other works are studied. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 419. INTERNSHIP IN PROFESSIONAL WRITING. An internship is a 120-hour, work-based and academic experience, emphasizing learning in a professional setting. Internships are supervised by both a work-site supervisor and a faculty supervisor and are designed to give the student a broad understanding of the particular writing and professional practices of the internship sites. The faculty member assigns the grade. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 425. SHAKESPEARE. This course explores in considerable depth and with special reference to the condition of Shakespeare's times and theater, some of his greatest plays, especially: a) those most often studied in secondary school and: b) his great tragedies. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 427. MILTON. An examination of the major poetry of Milton, this course focuses on Paradise Lost, Paradise Regained, Samson Agonistes and Lycidas. The prose is treated insofar as it is related to the poetry. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 430. ADAPTATION OF LITERARY MATERIALS. Adaptation of literature to the mechanical demands of television, radio, theater and film is the focus of this course. While remaining faithful to an author's intent, the student must adapt written texts to each of the following: television, theater and film. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 440. LINGUISTICS AND THE TEACHING OF ENGLISH. The purpose of this course is to help prepare English and language arts majors through an understanding of two applications of linguistics to language learning and research. In the first application, students will examine linguistic research focused on the study of schooling and the teaching and learning of language to advance an understanding of students' developing reading, writing and literary practices. In the second application, students will analyze various linguistic research methodologies to develop a sense of how they might apply one or more of them to their own teaching of English. Assignments and course readings are intended to encourage students to acquire a critical sense of pedagogical practice used in the teaching of reading and writing, as well as a critical sense of the relative merit of various research approaches to the study of language learning. Prerequisites: ENG 101 and 102. (3 crs.)
- ENG 448. PRACTICAL CRITICISM. An introduction to the theories comprising major schools in literary criticism, this course provides practice in applying these theories to literary analyses. Prerequisites: ENG 101, 102, 106, or 107 or 108. Writing intensive. (3 crs.)
- ENG 478. DIRECTED PROJECTS. Prerequisites: ENG 101 and 102. (Variable crs.)
- ENG 481. STUDIES IN OLD AND MIDDLE ENGLISH LITERATURE. An in-depth look at literature of the period, this course examines, perhaps "Beowulf," the Old English elegy, verse romances, and the lyric or medieval drama. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 484. STUDIES IN NINETEENTH-CENTURY LITERATURE. This course emphasizes the poetry of Keats, Shelley and Byron; the critical writings of Blake, Wordsworth and Coleridge; and the essays of Lamb and Hazlitt. It traces for the student the mutual evolution of literary forms and cultural, social and philosophical upheavals. It places particular emphasis on the essence of the Romantic movement: the spirit of individual liberty. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 485. STUDIES IN TWENTIETH-CENTURY ENGLISH LITERATURE. This course examines contemporary trends in literature, such as intertextuality, ethical issues, major figures (i.e., Conrad, Greene, Woolf, Orwell and Burgess), WWI poetry, drama or the novel. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 487. STUDIES IN AMERICAN LITERARY GENRES. The American short story, the nineteenth-century American novel, the twentieth-century American novel, modern American poetry, American drama and American nonfiction are covered. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 488. STUDIES IN DRAMA. This course may focus on classical drama, theater of the absurd, continental drama, film and television as drama, realism and naturalism in drama. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 489. STUDIES IN ENGLISH LITERARY GENRES. English 489 is an in-depth study of a particular genre of English literature or a comparative study of more than one genre. Genres covered may include epic poetry, lyric poetry, the short story, the 19th-century novel, the 20th-century novel, modern poetry, drama, nonfiction and film. (3 crs.)

ENG 495. CREATIVE WRITING SEMINAR. The fictional principles learned in ENG 376 are applied to the writing of a major creative work, such as a novella, and the student is given the opportunity to polish and extend writing skills previously acquired. Prerequisites: ENG 101 and 102. (3 crs.)

ENG 496. WRITING FOR PUBLICATION. Students analyze regional and national markets and refine their work for publication. They are expected to publish at least one work during the semester. Prerequisites: ENG 101 and 102 (3 crs.)

## **ENS — Environmental Studies**

ENS 101. INTRODUCTION TO ENVIRONMENTAL SCIENCE. The broad field of environmental management includes human population growth, soil, land and energy use, water and air pollution, and agencies and laws associated with the above topics. No one area is covered in depth. Rather, the student is introduced to each problem, its source, current corrective measures and possible future technology. Three lecture-hours weekly. Fall and spring. (3 crs.)

ENS 399. CONSERVATION BIOLOGY. This course will broadly cover the multidisciplinary field of conservation biology. The course will focus on the historical context of this emerging field and the deviation from traditional natural resource management. The course will explore the impact of humans on biodiversity, both in the destruction of it and in the maintenance of what is left. The role of government, nongovernment organizations and citizens will be studied. Prerequisites: BIO 115, BIO 120, BIO 125, BIO 310. Three lecture-hours weekly. Alternate spring. (3 crs.)

ENS 420. PRINCIPLES OF WILDLIFE MANAGEMENT. This course is designed to provide students with an understanding of the philosophies and concepts of scientific wildlife management. Major emphasis will be placed on wildlife management in North America, but differing perspectives from other regions of the world will be incorporated into the course. Topics to be covered will include monitoring habitats and habitat management, population exploitation and administration, economics, and socio-political topics as they relate to wildlife management. Three lecture-hours and three laboratory-hours weekly. Prerequisites: BIO 310. Fall, even years. (4 crs.)

ENS 423. WILDLIFE MANAGEMENT TECHNIQUES. This course will cover selected techniques commonly used by wildlife biologists. Techniques used to encounter mammals, birds, herptiles and fish will be covered. Important techniques covered include aging and sexing of game species, habitat measurement and evaluation, population analysis, and analysis of food habits. The lecture portion will provide an introduction to those techniques while the lab portion will provide practical use and application of selected techniques. Prerequisites: BIO 120 and BIO 310. Fall, even years. (4 crs.)

ENS 424. FISHERIES MANAGEMENT. A combination of lectures, labs and field trips will emphasize fisheries biology and management in North America, including both freshwater and marine systems. Lectures will include fisheries resources, aquatic habitats, population dynamics, laws and regulations, aquaculture, conservation, and current fisheries issues. Labs and field trips will emphasize research methods and harvest and habitat management techniques. Three lecture-hours and three laboratory-hours weekly. Prerequisites: BIO 310. Fall, odd years. (4 crs.)

ENS 435. NATURAL RESOURCE LAW AND POLICY. This course will detail the evolution of natural resource administration and policy as it relates to fisheries and wildlife resources, including the history of land acquisition and disposition by the federal government. We will study the history of current federal laws, policies and programs, and include discussions of the roles of various resource management agencies. The course will focus on natural resource administration and policies in the United States but will include aspects of international law and policy as they affect North America's resources. The course will promote critical thinking regarding the cost and benefit of U.S. natural resource policy and explore alternative conflict resolution. Three lecture-hours weekly. Spring, odd years. (3 crs.)

ENS 475. WETLANDS ECOLOGY. A coordinated lecture/laboratory approach that will emphasize wetlands within the continental United States. The course will provide a background in both historical and modern wetland issues; characteristics of freshwater, estuarine and marine wetland types, including important plants and animals of each; processes of wetland determination and delineation; regulatory framework of wetlands protection; and procedures involved in wetland restoration and conservation. Three lecture- and three laboratory-hours weekly. Prerequisites: BIO 310. Alternate fall. (4 crs.)

ENS 480. TOPICS IN FIELD BIOLOGY. A specialized off-campus residential program which emphasize ecology, behavior and the natural history of organisms in their natural environments. Students will be trained in a variety of methods used in field biology and have the opportunity to contribute to original research projects. Program focus will vary, depending on the length of the course and the site at which the course is offered. Course may be repeated as the topic/site changes. Class-hours variable, depending on program length and prerequisites will be set by individual instructors. Instructor permission required to register. Prerequisites: Junior standing, Fall, spring or summer. (1-6 crs.)

ENS 492. ANIMAL POPULATION DYNAMICS. This course is designed to provide students with an understanding of theoretical and applied aspects of animal population dynamics. The course will examine variation in population size and sex/age composition, reproduction and mortality, and quality and condition of animals in populations. Emphasis will be placed on principles and techniques used by wildlife ecologists to quantify and predict populations of vertebrate animals. The lecture portion of the course will include lecture and discussion on issues and concepts in population dynamics. The lab portion of the course will emphasize application of common techniques and models used by wildlife population ecologists. Three lecture-hours and three laboratory-hours weekly. Prerequisites: BIO 310 and MAT 215. Spring. (4 crs.)

ENS 495. DESIGN AND ANALYSIS. This class will help prepare students to design, conduct and evaluate scientific research. Class work will focus on the theoretical and applied basis of experimental design, sampling theory and sampling designs, data collection and analysis (using statistical software), and the proposal and evaluation of research studies. Three lecture-hours weekly. Prerequisites: BIO 120 or BIO 125 and MAT 215. Fall. (3 crs.)

## **FIN – Finance**

FIN 201. INTRODUCTION TO FINANCE. A survey course which covers an introduction to financial markets and institutions responsible for the flow of funds in the economy. The basic principles and concepts which assist the market participants in making sound financial decisions are discussed. Prerequisite: ECO 100 is recommended. (3 crs.)

FIN 301. FINANCIAL MANAGEMENT. The study of financial analysis, planning and control, including time value of money, risk and returns, working capital management, capital budgeting, cost of capital, and other selected subjects. Advanced techniques of financial analysis are employed. Prerequisite: MAT 181 and, ACC 200 or ACC 201. (3 crs.)

FIN 302. ADVANCED FINANCIAL MANAGEMENT. A continuation of FIN 301. An intensive study of capital budgeting, capital structure, working capital management, leasing vs. buying, distribution to shareholders, mergers, bankruptcy, multinational finance and analysis of cases relating to financial decisions of firms. Prerequisite: FIN 301. (3 crs.)

FIN 304. PERSONAL FINANCE. A guide to personal finance to best meet one's objectives and make financial decisions easier. Topics include budgets, major purchases, use of credit and bank loans, insurance, real estate and investment in securities, taxes and estate planning. (3 crs.)

FIN 305. INVESTMENTS. An introduction to financial investments. Topics include securities and securities markets, investment risks, returns and constraints, portfolio policies, and institutional investment policies. (3 crs.)

FIN 311. FINANCIAL MARKETS AND INSTITUTIONS. Description and analysis of major financial institutions and money and capital markets. Current topics in financial market and institutions. (3 crs.)

FIN 331. INTERNATIONAL FINANCIAL MANAGEMENT. A course providing the conceptual framework within which the key financial decisions of the multinational firm can be analyzed. Topics include exchange rates, foreign exchange market, currency futures and option markets, foreign exchange risk management, multinational working capital management, international banking, and foreign investment analysis. Prerequisites: ECO 201 and ECO 202 recommended. (3 crs.)

FIN 341. INSURANCE AND RISK MANAGEMENT. A survey of the nature and significance of risk and the basic ideas, problems and principles found in modern insurance and other methods of handling risk. (3 crs.)

FIN 351. REAL ESTATE FUNDAMENTALS. A basic cognitive course covering physical, legal and economic aspects of real estate. Topics include valuation, agreements of sale, title, leasing, settlements and landlord-tenant relations. (2 crs.)

FIN 405. ADVANCED INVESTMENT ANALYSIS. Systematic approach to security analysis and valuation; portfolio construction and management. Prerequisite: FIN 305 or permission of instructor. (3 crs.)

FIN 352. REAL ESTATE PRACTICE. Role of the real estate agent in listing, sales contract, financing and completion of RESPA-approved settlement sheet. The course examines the legal and ethical aspects of brokerage. (2 crs.)

FIN 492. FINANCE INTERNSHIP. On the completion of this course, the student should be able to see how the knowledge acquired in the finance courses is applied in real-world situations. It provides students with the opportunity to translate academic principles to real-world situations and to test their career interests. It will also enable students to determine what additional skills are needed to be successful in the workplace. Prerequisite: Permission of the instructor. (Repeatable; variable credits; a maximum of 12 crs. may be used toward a baccalaureate degree.)

FIN 531. BANK MANAGEMENT. Detailed analysis of operational decisions faced by bank managers in the areas of loans, investments, sources of funds and liability management. (3 crs.)

## **FIT – Fitness and Wellness**

FIT 100. INTRODUCTION TO FITNESS. This course is an introductory overview of fitness and the fitness industry. Students will be exposed to current practices within the fitness industry. Students will also gain an understanding of wellness and the wellness lifestyle. This course serves as a prerequisite for all courses within the curriculum. (3 crs.)



**FIT 300. BUSINESS ASPECTS OF FITNESS.** A comprehensive discussion of the pragmatic approach to conducting business in the fitness industry. The course focuses on key elements within the business structure, including marketing, facility management, accounting, budgeting, change management and the creation of additional profit centers. Additionally, students will identify key partners in running a successful business. (3 crs.)

**FIT 325. INTEGRATED PERSONAL FITNESS TRAINING.** A comprehensive view of personal fitness training with a focus on assessment and developing customized fitness programs. The course will orient the student to the basics of the revolutionary exercise programming strategies of the Optimum Performance Training™ model. (3 crs.)

**FIT 350. FITNESS FOR SPECIAL POPULATIONS.** An in-depth analysis of the fitness needs of individuals from special populations. Particular attention will be placed on legislative initiatives and their effect on fitness professionals and the individuals with special needs whom they serve. (3 crs.)

**FIT 400. INTEGRATED SPORT PERFORMANCE TRAINING.** A comprehensive view of sport performance training with a focus on assessment and developing customized sport training programs. The course will align sport performance training components to the revolutionary exercise programming strategies of the Optimum Performance Training™ model. (3 crs.)

**FIT 405. WELLNESS SEMINAR I.** This course examines current trends in wellness and prevention across the spectrum and throughout the lifespan. Traditional and nontraditional approaches are considered. (3 crs.)

**FIT 410. WELLNESS SEMINAR II.** This course is designed as a continuation of Wellness Seminar I. A major focus of the course will be the continued adoption and adaptation of the wellness lifestyle. Students will be required to complete a community/service learning project as a culminating activity in the course/program. (3 crs.)

**FIT 420. TRENDS AND ISSUES IN FITNESS.** An analysis of professional fitness trends as well as preventative care health issues from historical, contemporary and futuristic viewpoints with implications for professional fitness practice in the health and wellness delivery system. (3 crs.)

## **FRE – French**

French culture courses are taught in English and are intended, as indicated on the General Education curriculum, to satisfy General Education, Humanities, Multicultural Awareness, and certain Fine Arts requirements as well as those in the intended major. One culture course is offered each semester.

**FRE 101. ELEMENTARY FRENCH I.** For the student without previous knowledge of French. The development of the fundamentals of correct idiomatic French. Instruction in basic audio-lingual comprehension, sentence structure, reading, writing and speaking. Classroom instruction is supplemented by laboratory study and practice. Three class-hours each week and one hour language laboratory per week. (3 crs.)

**FRE 102. ELEMENTARY FRENCH II.** A continuation of French 101. Three class-hours each week and one language laboratory-hour per week. Prerequisite: FRE 101 or one year of high school French. (3 crs.)

**FRE 203. INTERMEDIATE FRENCH I.** French grammar and reading. A review of essential French grammar. Development of audio-lingual comprehension, reading and writing facility. Three class-hours each week; one hour language laboratory per week. Prerequisites: FRE 101 and FRE 102 or two years of high school French. (3 crs.)

**FRE 204. INTERMEDIATE FRENCH II.** Continuation of French 203. Oral-aural work continues but is accompanied by a development of reading skill through discussion of selected prose and poetry. Three class-hours and one hour language laboratory each week. Prerequisite: FRE 203 or equivalent. (3 crs.)

**FRE 311. FRENCH CONVERSATION, COMPOSITION AND PHONETICS I.** Cultural themes as a basis for idiomatic conversation and discussions. Written compositions are assigned to teach the student how to write correct French. The course also provides a systematic study of the sounds and sound patterns of the French language. Three class-hours and one hour language laboratory each week. Prerequisite: FRE 204. Fall. (3 crs.)

**FRE 312. FRENCH CONVERSATION, COMPOSITION AND PHONETICS II.** Continuation of French 311 on a more advanced level as reflected in conversation, composition and exercises in phonetic transcription. Prerequisite: FRE 311. Spring. (3 crs.)

**FRE 340. THE MIDDLE AGES AND THE RENAISSANCE (800-1600).** This course surveys the evolution of French culture from the Middle Ages to the end of the sixteenth century, from an age of analogy to one of skepticism. While it follows sociological, political, philosophical and historical developments to a certain degree, the course puts its primary emphasis on the artistic domains of literature, music, architecture and the visual arts of the period. In so doing, this course illustrates the ways in which France has been influenced by its rich cultural heritage. Alternate years. (3 crs.)

**FRE 341. THE SEVENTEENTH CENTURY AND THE CLASSICAL AGE.** This course surveys the evolution of French culture from the early seventeenth century or the Baroque (1600-1640) to the classical period (1640 to the end of the century). The course seeks to introduce the student to the history of French thought in the Splendid Century. While it follows sociological, political, philosophical and historical developments to a certain degree, its primary emphasis is on the artistic domains of literature, music, architecture and the visual arts of the period. In so doing, this course illustrates the ways in which France has been influenced by its rich cultural heritage. Alternate years. (3 crs.)

**FRE 342. THE EIGHTEENTH CENTURY AND ENLIGHTENMENT.** This course surveys the evolution of French culture throughout the Age of Enlightenment, when scientific discovery and new historical methods acted as agents of change upon the traditional foundations of belief. We will consider how these changes affected French thought, especially in the artistic domains of literature, music, architecture and the visual arts of the period. The course will introduce the student to this age of criticism and reconstruction, an age viewed as the crisis of the European mind, which gave birth to the philosophe, or philosopher, one who was not only involved with the theories but with social

reform as well. These reforms in human institutions and thought will be shown to terminate in the revolution of 1789 and the end of the Ancient Regime. Alternate years. (3 crs.)

**FRE 343. THE AGE OF FRENCH ROMANTICISM: FROM THE NAPOLEONIC EMPIRE TO THE REVOLUTION OF 1848.** This course surveys the evolution of French culture throughout the Romantic movement, which permeated the sensibility of the young in France and which reached a true flowering in the nineteenth century, particularly from 1820 to 1845. Both the precursors and the masters of this movement are considered through a study of the artistic expression of the times. Alternate years. (3 crs.)

**FRE 344. THE AGE OF FRENCH REALISM: THE SECOND EMPIRE TO THE AFTERMATH OF THE FRANCO-PRUSSIAN WAR.** This course surveys the evolution of French culture during the Age of Realism, including the Franco-Prussian War, positivism and its aftermath. This period encompasses the dictatorship of Napoleon III, a monarchy marked by material success among the middle class and by disappointment and pessimism among thinkers, writers and artists. This course considers the artistic achievements of the period within the framework of the sociological, political and historical setting. It studies certain schools of art (Realism, Impressionism and Naturalism) and seeks to illustrate how these movements of artistic expression manifested themselves in the principal works of literature, philosophy, music and the visual arts. Alternate years. (3 crs.)

**FRE 345. THE BIRTH OF THE MODERN FRENCH CULTURE IN THE ARTS: 1900-WORLD WAR II.** This course surveys the evolution of French culture from 1900, the time of the Belle Époque, or Beautiful Period, at the turn of the century, to the advent of the Second World War. While the course follows the sociological, political and historical developments of the period, it puts emphasis on the artistic ramifications of this period of conflict and rapid change. The interwar years are treated in all their artistic output, especially in interwar theater, fiction and the presence of the school of Surrealism in poetry, fiction, theater and art. Alternate years. (3 crs.)

**FRE 346. CONTEMPORARY FRENCH CULTURE IN THE ARTS SINCE WORLD WAR II.** This course surveys the evolution of French culture from the Occupation and Vichy Regime in France to the present day. It seeks to introduce the student to the literature, philosophy, music, films and visual arts of the period, which reveal the rich cultural heritage of France. As an orientation to the cultural arts, consideration will be given to the impact which important geographical, social and historical elements had upon them. Alternate years. (3 crs.)

**FRE 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS.** An in-depth grammatical analysis of the French language through intensive practice in oral exercises and written compositions. It is required of all French majors in Liberal Arts as well as those seeking a teacher-certification degree or certification in French. Prerequisite: FRE 312. Alternate fall. (3 crs.)

**FRE 421. SURVEY OF FRENCH LITERATURE I.** An introduction to French literature from the Middle Ages to 1800 through an examination of representative novels, plays, and poems of the period. Three class-hours each week. Prerequisite: FRE 401. Alternate fall. (3 crs.)

**FRE 422. SURVEY OF FRENCH LITERATURE II.** An introduction to French literature from 1800 to the present through an examination of representative novels, plays and poems of the period. Three class-hours each week. Prerequisite: FRE 421. Alternate spring. (3 crs.)

**FRE 450. FOREIGN LANGUAGE COLLOQUIUM IN FRENCH.** An advanced course in intensive spoken contemporary French required of all French majors as well as those seeking teacher certification in French. Prerequisite: FRE 422. Alternate spring. (3 crs.)

**FRE 469. STUDIES IN FRENCH LITERATURE.** Subject matter to be arranged. Designed for French majors who wish to take additional credits and/or study aboard. Prerequisite: 18 hours of French. As needed. (Variable crs.)

**MFL 479. MODERN LANGUAGES & CULTURAL FIELD STUDIES.** This course involves a study-travel program outside the United States usually in a Spanish-, French- or Arabic-speaking country. This program is preceded by a semester-length course reflecting on the cultural elements of the region as well as its people. Prerequisite: Permission of the instructor. (Variable crs.)

**MFL 481. MODERN LANGUAGE INTERNSHIP.** This course is intended to provide the Spanish-, French- or Arabic student with an opportunity to work in a professional setting to learn about areas that are not available or not practical in an academic environment. The internship will enable the student to apply Spanish-, French- or Arabic language skills in the real work place and will provide an invaluable experience which should make the student more marketable upon graduation. Prerequisite: Students should have completed 12 credits of the language and have junior standing. (Variable crs. [1-12], depending on the length of the internship and the number of hours devoted to the internship.)

## **GEO – Geography**

**GEO 100. INTRODUCTION TO GEOGRAPHY.** This course introduces students to regional differences throughout the world in terms of landforms, climates, soils and vegetation as well as population characteristics and economic activities. Representative areas, such as western Europe, Russia, Japan and Latin America, are developed. (3 crs.)

**GEO 102. GEOGRAPHIC SYSTEMS FOR ELEMENTARY EDUCATION.** The geography component focuses on basic geographic literacy, physical characteristics of places and regions, human characteristics of places and regions, and the interactions between places and people. Corequisites: ECO 102 and POS 102. (1 cr.)

**GEO 105. HUMAN GEOGRAPHY.** The course provides insights into the existing patterns and distributions of various social groups. Broad outlines of human evolution, development and demographic patterns are emphasized. (3 crs.)

**GEO 123. INTRODUCTION TO CAD/GIS.** The student will be introduced to various methods and techniques associated with computer-assisted drafting (CAD) and geographic information systems (GIS). CAD will explore the software and hardware associated with computer-assisted drafting and design and will utilize these components in creating a variety of models. GIS will present the representation of geographic data using both manual and

computer-assisted technologies. The focus will be on the collection, compilation and display of geographic data within a database. (3 crs.)

**GEO 150. INTRODUCTION TO TOURISM STUDIES.** An overview of the tourism industry is emphasized. Topics include introductory principles, measuring and forecasting demand, tourism planning, tourism marketing, tourism development, and the role of the geographer. (3 crs.)

**GEO 155. HOSPITALITY INDUSTRY AND OPERATIONS.** The course provides an introduction to the broad world of hospitality services and its relationship to the tourism industry. The course will provide an overview of the history, direction and organizational structures of the hospitality industry and its role in the global tourism industry at various geographical scales. The nature and scope of this industry and basic operational concepts will be examined. Principles of sustainable operations will be emphasized. (3 crs.)

**GEO 183. DARK TOURISM AND EXTREME TOPICS.** This course explores some of the more extreme phenomenon of the tourism industry, which is one of the world's largest and fastest growing industries. This course will focus on growing special interest markets within the tourism industry with an emphasis on more extreme topics that touch upon death, destruction and the macabre. In this course, students study the impacts of dark and extreme tourism development on the culture, society, economies and the environment at different geographical scales. (3 crs.)

**GEO 205. WORLD CITIES/GEOGRAPHY OF TOURISM.** The geography of tourism in selected cities of the world with an emphasis on form and function is covered. Topics include an analysis of resources for tourism, the organization of related land-use patterns, and developmental processes. (3 crs.)

**GEO 217. DEMOGRAPHIC ANALYSIS.** This basic course on demographic processes and trends emphasizes distribution patterns and environmental ramifications. (3 crs.)

**GEO 220. GEOGRAPHY OF NORTH AMERICA AND PENNSYLVANIA.** This course is a study of the physical and cultural environment throughout the United States and Pennsylvania particularly as it relates to spatial patterns of population, agriculture, industry, service and transportation patterns. (3 crs.)

**GEO 306. MARKETING GEOGRAPHY.** Spatial patterns associated with the location, distribution and consumption of goods and services are studied. Emphasis is placed on techniques for site selection, marketing and spatial analysis through the use of geotechnology. (3 crs.)

**GEO 325. GEOGRAPHY OF EUROPE.** This course is a study of forces that have shaped the human landscape of western Europe. National and regional disparities ranging from land relief and climate to social and economic phenomena are studied. (3 crs.)

**GEO 328. GEOGRAPHY OF LATIN AMERICA.** This course is a regional analysis of the physical and cultural environments that make the human landscape. Present Latin American society is studied through a historical perspective. (3 crs.)

**GEO 330. CONVENTION OPERATIONS FOR DESTINATION MANAGEMENT.** Through a global approach, this course examines the structure and role of conventions and destination management at various geographical scales. The course content will explore the theories and practices relevant to successful conventions and the role these play in destination management. Strategies required for successful planning, development, implementation and evaluation of conventions will be introduced. Issues will be considered from the perspectives of the service providers, host community and visitors. (3 crs.)

**GEO 340. HISTORICAL GEOGRAPHY.** This course is a study of the interrelationships of the natural and cultural environments and the historical development of the cultural landscape. Historical development of the United States is emphasized. (3 crs.)

**GEO 351. RESEARCH METHODS FOR TOURISM STUDIES.** This course will lay a foundation for senior-level course work in the tourism studies concentration. Secondary research techniques will be reviewed. Qualitative, quantitative and observational methodologies will also be examined. The focus will be practical skill development for data collection, analysis and interpretation. (3 crs.)

**GEO 352. HOTELS, RESORTS AND LODGING.** This course provides an understanding of the hotel, resorts and lodging sector of the tourism industry within a geographical context. This sector's growth and development, planning, design and operations will be reviewed. The course will also review sustainable practices, industry opportunities and future trends. (3 crs.)

**GEO 358. COMPREHENSIVE TOURISM PLANNING.** A basic understanding of the principles, practices and procedures of tourism planning at various geographical scales will be introduced. The student will apply concepts of tourism planning through experiential activities. (3 crs.)

**GEO 360. EMERGENCY MANAGEMENT.** This course examines the emergency management process as it relates to both natural and technological (human-induced) hazards. Topics covered in the course include the history of emergency management in the United States and the four phases of the disaster life-cycle model (mitigation, preparedness, response and recovery). These concepts will prepare the student for understanding how disaster events can be managed in order to reduce losses. The course will incorporate analyses of case studies to display alternative solutions to disaster problems and provide valuable lessons for facing future threats, e.g., terrorism. (3 crs.)

**GEO 420. DISASTER VULNERABILITY.** This course examines the process of conducting vulnerability assessments in analyzing both natural and technological (human-induced) hazards. Topics covered in the course include the model of place vulnerability, the use of geographic information systems (GIS) in vulnerability assessments, and feedback mechanisms which can exacerbate or mitigate against expected losses from hazard events. These concepts will prepare the student for understanding where and why disaster events occur most frequently, and it will allow them to determine effective methods for reducing future losses from these events. Specifically, the knowledge and theories

learned in this course will be used to analyze trends in disaster losses and locations, and future scenarios will be modeled to determine their potential impacts. (3 crs.)

**GEO 426. IMPACTS AND SUSTAINABILITY OF TOURISM.** This course will cover the principles of sustainability and sustainable tourism development. Material will cover economic, social, cultural and environmental impacts of tourism. Case examples will be used to illustrate the characteristics, methods of measurement, management and evaluation of sustainable tourism. (3 crs.)

**GEO 474. DEVELOPING THE MASTER PLAN.** The course examines planning as a process. Attention is focused on the elements and activities necessary to prepare and implement a comprehensive plan. The course provides an opportunity for the student to apply acquired planning skills to specific urban and regional problems. (3 crs.)

**GEO 479. INTERNSHIP.** The internship provides the student with the opportunity to apply classroom theory to realistic, professional-level situations. It is intended to give the student a concentrated practical experience in a professional organization. The concepts and experiences acquired in the classroom are honed and fine-tuned at this level to prepare students for their career undertaking. (Variable crs.)

## **GIS — Geographic Information Systems**

**GIS 303. CRIME MAPPING.** This course provides an analysis of different methods and techniques of representing spatial crime data through the use of various computer-based technologies. The students will examine crime at the national, state and local level using geotechnology. Students will also learn of some of the problems associated with spatial crime data. (3 crs.)

**GIS 311. GEOGRAPHIC INFORMATION SYSTEMS.** This course provides an analysis of different methods and techniques of representing geographic data through the use of various manual and computer-based technologies. The focus is on the processes involved in the collection, compilation and display of geographic data within a database. (3 crs.)

**GIS 350. REMOTE SENSING ENVIRONMENT.** This course covers the composition and interpretation of aerial photographs and remote sensing images. Students will learn how to interpret photos and satellite imagery for quantitative and qualitative information on natural and anthropogenic features and processes. The class requires independent and group interpretation of maps, satellite imagery, computer-processed and enhanced images. (3 crs.)

**GIS 411. GEOGRAPHIC INFORMATION SYSTEMS 2.** This course is a follow up to GIS 311: Geographic Information Systems. This course will include two lecture/discussion hours and one lab hour. In the lecture/discussion portion, students will gain a deeper knowledge of geographic information systems through knowledge of GIS programming languages and global positioning systems. In the lab portion, students will develop new graphical user interfaces for ArcView and create new GIS databases using GPS technology. (3 crs.)

**GIS 413. ENVIRONMENTAL APPLICATIONS GIS.** This course is tailored to introduce environmental issues to students within a spatial framework, using geographic information science. GIS and its impact in the natural and social sciences has grown dramatically over the years and its use has become pervasive in environmental disciplines. The course will cover the general concepts of GIS use and introduce the material in exercises to demonstrate practical applications of GIS for environmental problems. Students will have exposure to hands-on applications related to natural resource management, contaminant fate and transport, land use and remediation techniques. (3 crs.)

## **GET — General Engineering Technology**

**GET 101. INTRODUCTION TO ENGINEERING TECHNOLOGY.** This course is the first course in the engineering technology core and is intended to introduce incoming freshmen to engineering technology. It will introduce the student to the various field of engineering technology study and present an overview of a career in engineering technology. The course will focus on the fundamental principles that cross the boundaries of engineering technology curricula and will demonstrate how mathematics and physical sciences are integrated into solutions of problems. This course will also introduce the student to computer-aided drafting. (3 crs.)

## **GTY — Gerontology**

**GTY 100. INTRODUCTION TO GERONTOLOGY.** An introduction to the field of aging for majors and nonmajors. A general overview of the psychological, biological, cultural and behavioral aspects of late life. (3 crs.)

**GTY 200. AGING IN AMERICAN SOCIETY.** This course reviews the physical, social and cultural aspects of aging within the context of contemporary demographic and historical variables. Students will assess the impact of aging on the individual, the family, the workplace, the community and the U.S. society as a whole. Theories about roles and adjustments in later life are examined from a cross-cultural perspective to determine their relevance for both rural and urban settings. (3 crs.)

**GTY 300. AGING POLICIES AND SERVICES.** This course provides a review of the public policies that have the greatest influence on the lives of older persons and those that have been promulgated especially because of concern for older persons. The major policies affecting older Americans are discussed in detail. The course will also discuss the evolution of policies as an outgrowth of developments in our society and the processes by which policies are introduced, debated and established. The course will also examine the controversies, choices and decisions involved in current policy debates and examine ways in which practitioners in aging can be involved in the policy process. (3 crs.)

**GTY 305. BIOLOGY OF AGING.** Introduction to biological aspects of aging, both normal and pathological. Studied are age-related changes in the digestive, skin, musculoskeletal, endocrine and reproductive systems. (3 crs.)

**GTY 310. AGING IN THE FAMILY.** Overview of the theory/research on families in later life, including a synthesis and review of existing literature, identification of research issues, and needs and implications of this information for practitioners, researchers and family members. (3 crs.)

GTY 315. PRACTICUM IN GERONTOLOGY. Exploration of the professional skills required to work in the field of gerontology and the positions available through working in such an agency under the joint supervision of a community partner and gerontology faculty member. GTY 100, 200, 300, 305 and junior standing. (3 crs.)

GTY 320. ALTERNATIVES IN LONG-TERM CARE. Exploration of the current and emerging options for older adults needing long-term care, including institutional and community-based approaches. (3 crs.)

GTY 330. DYING, DEATH AND BEREAVEMENT. Introduction and survey of the current issues, concepts and practices of the social and psychological aspects of dying, death and bereavement. (3 crs.)

GTY 340. DIVERSITY IN AGING. This course is designed to provide an understanding of the diversity among aging individuals and subgroups in this country and in other countries around the world. The course surveys aging in this country and around the world with a view toward identifying commonalities and varieties of the aging experience; demographic features; values; kinship; economics; policies; and political, religious and educational roles. (3 crs.)

GTY 350. ETHICAL ISSUES IN AGING. This course examines the difficult and perplexing issues facing those who work in the field of gerontology or those who are involved in the care of older adults from a personal perspective. Issues such as competence, independence, informed consent, managed risk, surrogate decision making, rational suicide and patient autonomy are examined. The course also helps students to develop a personal, professional, ethical framework within which to consider legal and ethical issues in working with older adults. (3 crs.)

GTY 380. WELLNESS AND AGING. This course examines the physiological, psychological and sociological aspects of exercise and wellness in older adults. Course will prepare students to initiate, develop and conduct programs in wellness and movement for the enrichment of life in older populations. (3 crs.)

GTY 400. ADULT DEVELOPMENT AND AGING. Introduction to psychology of aging. An overview of later life cognitive processes, including intelligence, learning, memory, personality, dementia, depression and creativity. Prerequisites: GTY 100, 200, 300, 305. (3 crs.)

GTY 410. RESEARCH METHODS IN GERONTOLOGY. This course presents information and requires completion of assignments designed to develop the skills gerontologists need: 1) to formulate research questions and determine the method(s) of investigation likely to obtain the most meaningful results; 2) to identify literature relevant to one's study, read it critically and summarize the pertinent findings; and 3) to write research proposals related to aging. Emphasis is placed on developing library research skills, critically analyzing research and becoming a knowledgeable consumer of research. Prerequisites: MAT 215, GTY 100, 200, 300, 305. (3 crs.)

GTY 430. SEMINAR IN GERONTOLOGY. For advanced gerontology students to intensively examine and discuss selected aging subjects. Topics chosen by instructor; research paper/project required. Prerequisites: GTY 100, 200, 300, 305, and junior or senior standing. (3 crs.)

GTY 440. INTERNSHIP. Opportunity to apply theoretical knowledge to practice through placement in agency or institution serving older people. Internship sites include senior centers, nursing homes, adult day centers, independent- and assisted-living facilities, area agencies on aging, and others. GTY 100, 200, 300, 305 and senior standing. (6-12 crs.)

## **GCM – Graphics and Multimedia**

GCM 100. GRAPHIC COMMUNICATION PROCESSES I. This course offers the student an opportunity for experiences of practical application in the five major printing processes. It covers image design, conversion, assembly, carrier preparation, transfer and finishing techniques related to lithographic, screen, letterpress, flexographic, and gravure printing. Related areas of studies include duplication, ink chemistry, paper use and selection, and photography. Two hours of lecture and three laboratory-hours per week. (3 crs.)

GCM 101. TIME-BASED MEDIA. This course focuses on time as an element of design and communication. In design, time usually incorporates changes that can be in the form of an animation, an event or an action taken by the viewer. This is an introductory-level course for all students who would like to explore the creative use of traditional time-based media and storytelling. Students will use noncomputer-based media to view, analyze, capture and express the world around us. (3 crs.)

GCM 180. MULTIMEDIA FOUNDATIONS. This course focuses on the fundamental concepts of multimedia technology and typical components including hardware, software, peripheral devices, conventional photography/scanned images, digital photography, stock art/images, animation, and audio. The application of multimedia in business, marketing, education, entertainment and training will be explored. Practical hands-on assignments will be used to reinforce learning. Two lecture-hours and three laboratory-hours per week. (3 crs.)

GCM 211. SCREEN PRINTING TECHNIQUES. This course defines and analyzes the process of screen printing, and is an introduction to the various applications of screen printing. Student designed activities are supported by exercises that provide quality and control for the printing process. Emphasis of the course is centered on establishing repeatability of the printing process by controlling variables; digital design and imaging; single and multiple color image design, conversion and transfer; sheet-fed manual and semi-automatic presswork; flat substrate and textile printing applications of simple and complex close-register line images. Two hours of lecture and three laboratory-hours per week. Prerequisite: GCM 100. (3 crs.)

GCM 220. BLACK AND WHITE PHOTOGRAPHY. This course emphasizes techniques involved in monochromatic still photography and introduces color photography. It covers the basic aspects of picture taking, camera operation, film processing, enlarging, print processing, finishing procedures, and selecting photographic equipment and supplies. Two hours of lecture and three laboratory-hours per week. (3 crs.)

GCM 225. PRINCIPLES OF LAYOUT AND DESIGN. A presentation of design elements and principles used to produce various layouts for printing production. The individual must strive to develop harmonious relationships between these design elements and principles and various printing applications through practical activity

assignments. The fundamentals of producing mechanical layouts for newspaper, magazine, direct mail, poster, display and point-of-purchase advertising are considered. Use of computers for electronic/desktop publishing is emphasized. Production and practical application assignments are to be performed in conjunction with theory explanations as out of class activities. (3 crs.)

GCM 240. DESKTOP PUBLISHING. This course provides an in-depth study of the electronic desktop publishing systems and their concepts of architecture, operation, networking, financing and design in the publishing industry. It covers the basic aspects of graphic designing, creating page layouts, scanning of text and continuous tone photographs, connectivity, telecommunications, image setting, and encryption of data. Each student will experience hands-on activities with microcomputers utilizing high-end design, draw, paint, scanning, and integrated layout software packages. Two hours of lecture and three laboratory-hours per week. (3 crs.)

GCM 300. DIGITAL PHOTOGRAPHY. This course emphasizes techniques involved in color imaging and digital image manipulation by means of a computer. It will focus on developing the necessary skills to perform digital scanning, digital photography, and preparing images for output. Two hours of lecture and three laboratory-hours per week. (3 crs.)

GCM 302. LITHOGRAPHIC TECHNIQUES. An in-depth study of photographic process as it relates to line and halftone reproduction of graphic materials. Projects representing the various combinations of line and halftone materials as they are used in the industrial setting are produced. Besides the projects required of each student, the theoretical aspects of the optical system are investigated, as well as the areas of sensitive materials, light and related chemical reactions. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 100 and GCM 200. (3 crs.)

GCM 311. ADVANCED SCREEN PRINTING TECHNIQUES. A study of the techniques used for image transfer of line and halftone copy on substrates commonly used by the screen printer. Each student has the opportunity to identify, calibrate, and print on selected substrates. Two hours of lecture and three laboratory-hours per week. Prerequisite: GCM 211. (3 crs.)

GCM 320. DIGITAL VIDEO. This course explores digital video from the inception of an idea to the delivery of the finished video. Students will develop and use their understanding of video concepts, storytelling, camera use, video editing and exporting to create videos for the Internet, multimedia presentations and video broadcasts. Source footage comes from photos, previously shot footage or footage shot using the University's equipment or the student's camera and is edited on cross platform systems using commercial video editing software. Two lecture-hours and three laboratory-hours per week. Prerequisites: GCM 180, or permission of the instructor. (3 crs.)

GCM 330. FLEXOGRAPHY AND PACKAGE PRINTING. This course provides an in-depth study of the processes and techniques involved in the printing and converting of packaging and labeling materials. Laboratory applications include the design, preparation and flexographic printing and converting of various paper, foil and plastic substrates. Emphasis is placed on establishing repeatability of the printing process by controlling variables. Methods and techniques of quality assurance are implemented as an integral part in the production of flexographic printed products. Two hours of lecture and three laboratory-hours per week. Prerequisite: GCM 100. (3 crs.)

GCM 331. WEB PUBLISHING. This course examines the complexity of publishing on the Web and what makes an accomplished Web designer/master by examining areas such as client-server computing, intranets and the Internet, HTML scripting, and server-based support. End-user interaction utilizing Web page elements such as animations, sounds and video is accentuated. Dynamic tools such as Java/JavaScript, Active-X and Shockwave are highlighted. Two lecture-hours and three laboratory-hours per week. Corequisites/prerequisites: GCM 180, or permission of the instructor. (3 crs.)

GCM 340. COMPUTER ANIMATION. This course deals with the use of computers to create and animate three-dimensional appearing objects. Topics will include production strategies, basic modeling concepts, rendering, lighting, virtual cameras and animation. Students will learn the fundamentals in the classroom and apply them in laboratory activities. Two lecture-hours and three laboratory-hours per week. Corequisites/prerequisites: GCM 180, or by permission of the instructor. (3 crs.)

GCM 342. ESTIMATING AND COST ANALYSIS. A critical examination of the operations involved in the production of graphic materials for the purpose of determining costs of the operations to be included. The procedures necessary to assemble this information to produce estimates of typical printing matter are discussed. The identification and study of cost centers as they relate to the hour costs and ultimately to the selling price are examined. Students are required to prepare a number of cost estimates for the course. Prerequisite: GCM 311 or GCM 302. (3 crs.)

GCM 365. COLOR IMAGING. Primary emphasis in this course is placed on developing an understanding of the nature of light, the nature of color, and its relation to inks and coatings used in printing and digital imaging. Process color reproduction in traditional printing processes and color reproduction in digital printing is discussed and produced in the lab portion of the course. The use of various control devices is discussed and employed in the laboratory. Special techniques required to prepare projects, manipulate the images and produce them are also covered. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 225 and GCM 240. (3 crs.)

GCM 370. ADVANCED LITHOGRAPHIC TECHNIQUES. A continuation of GCM 302 which utilizes the negatives produced in order to complete required projects for this course. This course treats the subjects of stripping, platemaking and presswork. A critical study of imposition of various type of jobs, from simple single-color to more complex multicolor jobs. The latest techniques of platemaking as well as information on types of plates presently in use are discussed. Feeder-delivery setup, press packing methods, inking/dampening systems, control devices, rollers, blankets and other related press activities are thoroughly discussed. Also, some folding and binding techniques are included. Each student is required to do a major research paper and presentation on a particular problem or issue relating to the graphics industry. In addition, students are required to create a production environment for the completion of a class project. Prerequisite: GCM 302. (3 crs.)

GCM 380. ADVANCED FLEXOGRAPHIC TECHNIQUES. This course provides advanced study of the processes and techniques involved in the printing and converting of packaging and labeling materials. Laboratory applications include the design, preparation and flexographic printing and converting of tonal and special effects images on various substrates. Emphasis is placed on establishing repeatability of the printing process by controlling variables related to advanced flexographic reproduction. Methods and techniques of quality assurance are implemented as an integral part in the production of flexographic printed products. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 100, GCM 200 and GCM 330. (3 crs.)

GCM 390. GRAVURE PRINTING. This course is a comprehensive study of gravure printing. You will examine the various products printed by gravure, including publications, labels, package, wallcovering, vinyl flooring and wrapping paper. Industry visits to gravure printing plants that specialize in each of these products will be made. Product design for each gravure printing product will be explored. Environmental compliance in the gravure industry will be covered in depth. (3 crs.)

GCM 410. DIGITAL PORTFOLIO. This course focuses on the integration of multimedia components, including conventional photography/scanned images, digital photography, stock art/images, animation, sound and videography for the purpose of achieving effective assessment portfolios. Emphasis will be placed on the process of integrating the assessment components using various hardware platforms and software tools, and incorporating basic image manipulation. As a terminating project, the student will create and master a CD-ROM-based professional digital portfolio. Students should have a resource bank of materials suitable for inclusion in a professional digital portfolio. They must have a working knowledge of computer operating systems for this course. Two lecture-hours and three laboratory-hours per week. Prerequisite: Junior standing. (3 crs.)

GCM 411. SCREEN PRINTING PRODUCTIONS. This course is directed study relevant to the individual's career objectives based on specific screen-printing applications. The student formulates specifications, estimates and a procedural rationale for self-determined screen-printed product. Student productions are organized as a portfolio consistent with the individual career objective that has been developed through previous screen-printing course work. Four-color process screen printing with ultraviolet curing theory and practice is analyzed for application through student independent study course work. Two hours of lecture and three laboratory-hours per week. Prerequisite: GCM 311 and GCM 342. (3 crs.)

GCM 420. TECHNICAL STUDIES IN GRAPHIC COMMUNICATIONS. This course involves, but is not limited to, directed study, special projects, institutes or workshops in graphic communications technology. Subject areas are organized according to student needs and will be designed to cover theory and/or practices going beyond the scope of regular course work. Course content is planned cooperatively between the student(s) and the instructor. A course contract is prepared and will include the objectives to be achieved, the procedures to be followed, any special conditions, the expected findings, and specifications for the evaluation of activities. Prerequisites: GCM 302 and GCM 342 or permission of the instructor. (1-3 crs.)

GCM 430. FLEXOGRAPHIC PRINTING PRODUCTION. The third and final course in a series of directed studies relevant to the individual's career objectives based on specific flexographic printing applications. The student generates specifications, estimates and procedures for the production of self-directed flexographic printed products. The student productions are organized as a portfolio consistent with the individual career objective that has been developed through previous lithography course work. Process color flexographic printing, ultraviolet curing theory and practice, statistical process control, and current trends in flexographic printing are analyzed for application through student course work. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 100, GCM 200, GCM 330 and GCM 380. (3 crs.)

GCM 445. PRINTING PRODUCTION PLANNING AND CONTROL. This course focuses on the application of printing production management and operations concepts and techniques. It is concerned with long-term issues of strategic importance, such as equipment investment, plant layout and organizational structures. It emphasizes items of day-to-day administrative importance: production planning, scheduling and control, inventory control and purchasing, production cost analysis, quality control, and management. Prerequisites: GCM 200 and GCM 342. (3 crs.)

GCM 460. SUBSTRATES AND INKS. This course is a comprehensive study of all the substrates and inks used in offset lithography, screen printing, flexography, gravure and other specialty printing processes. The course covers the fundamentals of substrate and ink manufacturing, selection and testing. How substrates and ink interact and the identification and prevention of potential problems will be included in the course. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 100 and GCM 200. (3 crs.)

GCM 470. WEB OFFSET. This course is a comprehensive study of the web offset printing industry and covers both heatset and nonheatset printing. The student will study all aspects of prepress, press and postpress activities that are unique to web offset printing. The course includes the design and printing of two magazine format products to be printed on a heatset web offset press and a nonheatset web offset press. Two hours of lecture and three laboratory-hours per week. Prerequisites: GCM 365 and GCM 370. (3 crs.)

GCM 485. GRAPHICS SEMINAR. This is an all-encompassing seminar course designed to provide graduating seniors in graphic communications and Multimedia with opportunities to enhance their knowledge base in the following areas: traditional and digital print applications, estimating/cost and production analysis, pre-media applications and managerial aspects. Additionally, students will be exposed to selected visitation sites, guest lecturers from the field, and an exploration of current problems and issues relating to the Graphic Communications industry. Each student is required to do a major research paper on a particular problem or issue relating to the graphics industry. Career services workshops will also be included. Prerequisites: Senior standing. (3 crs.)

GCM 495. GRAPHIC COMMUNICATIONS INTERNSHIP. Student interns are placed with an organization that most nearly approximates employment goals. If this is not possible, students are placed in some type of graphics environment that is available at the time. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with real problems requiring real solutions in a relatively short time frame. Adviser and department chairperson approval is required before course enrollment. This is a

repeatable course and may be taken as follows: Students may earn up to 6 credits of internship. Prerequisite: Upper-level standing. Fall, spring and summer. (1-6 crs.)

### **HIN — Harrisburg Internship Program**

HIN 374. HARRISBURG INTERNSHIP ASSIGNMENT. This internship gives selected students an opportunity to work in various state government offices, including the Governor's office, the Senate and the House of Representatives. Prerequisites: 45 credits, 3.0 GPA, and permission of program director. (Variable crs.)

HIN 375. HARRISBURG INTERNSHIP. This course is completed in conjunction with HIN 374. (3 crs.)

HIN 376. PUBLIC POLICYMAKING. This seminar is completed in conjunction with HIN 374. (3 crs.)

### **HSC — Health Science**

HSC 110. HUMAN ANATOMY AND PHYSIOLOGY I. The organization, structures and functions of the human body: the development of the cell, tissues, integumentary system, digestive system, respiratory system, urinary system, reproductive system, lymphatic and cardiovascular systems. Fall. (4 crs.)

HSC 115. CURRENT HEALTH ISSUES. Current Health Issues is a course designed to convey information concerning the individual's role in establishing a healthful lifestyle as well as encouraging prevention of disease and a focus on healthful living. The basic themes from the text include personal responsibility, a commitment to prevention, practical applications of knowledge and a focus on behavioral change. (3 crs.)

HSC 120. HUMAN ANATOMY AND PHYSIOLOGY II WITH LABORATORY. The organization, structures and functions of the human body: the development and function of the skeletal system, ligament and joint structure, muscular system, and the nervous system. Prerequisite: C or better in HSC 110. Spring. (4 crs.)

HSC 275. FUNCTIONAL KINESIOLOGY. The biomechanics of motor performance. Prepares students to analyze movement in order to teach, correct or improve human performance. Prerequisite: HSC 110 and HSC 120. Fall. (3 crs.)

HSC 290. THERAPEUTIC MODALITIES WITH LABORATORY. Lectures and laboratory exercises that explain the use and theory of physical therapy modalities that are used in the sports medicine clinical setting. Prerequisite: Athletic training or physical therapist assistant major or by permission by the instructor. Spring. (4 crs.)

HSC 300. EMERGENCY MEDICAL TECHNICIAN (EMT). Prepares students to become certified as emergency medical technicians. Emphasis is placed on the care and treatment of the ill or injured in a variety of emergency situations. Prerequisite: Age 16. Fall. (4 crs.)

HSC 325. PHYSIOLOGY OF EXERCISE. The course covers the scientific theories and principles underlying strength, muscular endurance, cardiovascular endurance, flexibility, training and conditioning in human movement. Prerequisite: HSC 110 and HSC 120. Spring. (3 crs.)

### **HIS — History**

HIS 101. HISTORY OF THE U.S. TO 1877. American history from the Pilgrims to the age of modern industry: the Colonial heritage, American Revolution, the emergence of a new nation, westward expansion, Civil War and postwar Reconstruction. Fall and spring. (3 crs.)

HIS 102. HISTORY OF THE U.S. SINCE 1877. The emergence of modern America, its achievements and its problems: prosperity and depression, war and social unrest, World War I through the Vietnam era and beyond, and the computer age and its challenges. Fall and spring. (3 crs.)

HIS 104. HISTORY OF WESTERN CIVILIZATION TO 1500. Western society from its origins in the Near East to the Renaissance is covered in this course. It is intended to impart basic knowledge of historical events crucial to the development of Western civilization before 1500. Fall and spring. (3 crs.)

HIS 106. HISTORY OF WESTERN CIVILIZATION SINCE 1500. This course is a survey lecture course intended to impart a basic knowledge of historical events crucial to the development of Western civilization from the Reformation through the present day. Fall and spring. (3 crs.)

HIS 111. WORLD HISTORY TO 1500. The process and interplay of the major world cultures in their evolution: Indian, Muslim, East Asian (China, Korea, Japan), Slavic, Western European, Latin American and African. (3 crs.)

HIS 112. WORLD HISTORY SINCE 1500. Significant factors influencing change in the world's major cultural areas: industrialization and urban conflict, the democratic revolution, and the rise of charismatic leaders from Napoleon to Hitler. (3 crs.)

HIS 200. HISTORY OF PENNSYLVANIA. The history of Pennsylvania from Colonial times to the present: the changes involved in social, economic and political life are treated from internal and external points of view. (3 crs.)

HIS 240. HISTORY OF THE COLD WAR. The origins and continuance of Soviet-American rivalry since World War II. Confrontation in Europe; NATO; the Warsaw Pact; the growing nuclear arsenal; regional conflict in Africa, Latin America and Asia; the Congo, Angola, Cuba, Iran, China and Vietnam; the politics and leadership of both nations; the emergence of Russia as a global power. Spring. (3 crs.)

HIS 288. LOCAL HISTORY. An introduction to the location, evaluation and significance of local history by using the problem-solving and genealogical approach. Specific topics are analyzed in order to get to know at firsthand the importance of local and family history at the grassroots level. (3 crs.)

HIS 295. THE CRAFT OF HISTORY. This course acquaints students who are considering history as a major or minor field of study with basic historiography and historical methodology. Students receive a hands-on introduction to



historical research and writing, and learn about various schools of history to prepare them for upper-level history courses. Fall only. (3 crs.)

HIS 304. GREAT DEPRESSION AND WORLD WAR II. The stresses and strains of the 1930-1945 period of United States history using recent trends in scholarship. (3 crs.)

HIS 305. CONTEMPORARY HISTORY OF THE U.S. The unprecedented changes that have occurred in the United States since the end of World War II. (3 crs.)

HIS 308. HISTORY OF THE AMERICAN CONSTITUTION. The growth of the American constitutional system, with special emphasis on those aspects of constitutional growth that relate closely to the fundamental structure of American government and social order. (3 crs.)

HIS 309. HISTORY OF GENDER IN LATIN AMERICA. This course will examine the construction of gender in Latin America. Gender will be defined as the social and historical construction of both feminine and masculine identities. Readings will span the colonial period to the present and will explore themes such as sexuality, marriage, property, revolution, labor, feminism, human rights, homosexuality, machismo and marianism. (3 crs.)

HIS 310. CHRISTIANITY TO 1500. This course explores Christianity's role in transforming Western society from earliest times to the end of the 15th century. It explores Christianity's role in transforming society through study of the events of early Christian history (including its roots in Judaism), its belief system, the early growth of monasticism and the institutional church, the development of the medieval church, and issues of dissent and reform leading up to the Reformation. Prerequisites: HIS 104 or equivalent is recommended. (3 crs.)

HIS 311. INTRODUCTION TO PUBLIC HISTORY. This course is an overview of the methods and arenas of the public historian. Through hands-on experience in such areas as museum design, collection development, museum education, archival management, historic preservation and historical editing, the student will gain an understanding of the challenges and rewards of the public historian. (3 crs.)

HIS 312. WOMEN IN EUROPE. A study of the lives and attitudes of women living in ancient and medieval times, from classical Greece to late medieval northern Europe. Social, cultural, religious, economic and political matters will be discussed, with special consideration given to the role women played in the shaping of Western civilization. Prerequisites: HIS 104 is recommended. (3 crs.)

HIS 314. HISTORY OF SCIENCE. This course explores scientific thought and technological innovations throughout Western history, from ancient civilizations through the modern era. The course focuses on how science and technology have impacted societal change, including military innovations, political and economic revolutions, religious and philosophical thought, and labor relations. Open to students of all disciplines. Prerequisite: HIS 104 or HIS 106 are recommended. (3 crs.)

HIS 316. TWENTIETH-CENTURY U.S. FOREIGN POLICY. This course traces the political and social history of U.S. foreign affairs from the Spanish-Cuban-American war to the modern War on Terrorism. Readings consist of a mixture of primary and secondary readings. The course traces the evolution of U.S. foreign policy and attempts to analyze the causes of this evolution. (3 crs.)

HIS 317. AFRICAN-AMERICAN HISTORY TO 1877. This course explores great western African civilizations, the three continents involved in the transatlantic slave trade with special attention on the middle passage. Particular attention will be paid to African retention, African-Americans and the Colonial period and the new nation, the construction of race, the peculiar institution of slavery, free black populations, black resistance to subjugation, abolitionism, gender dynamics, blacks during the Civil War and the Reconstruction eras. The course also offers analysis of African-American literature, spirituals and other cultural manifestations. (3 crs.)

HIS 318. AFRICAN-AMERICAN HISTORY SINCE 1877. The course surveys African-Americans in the aftermath of Reconstruction and during the Nadir period, the Great Migration, black urbanization, black cultural manifestations and movements, the rise of black protests, the Civil Rights and Black Power movements, and African-American involvement in 20th-century war efforts and postindustrial America. This course also examines themes of identity, gender dynamics, leadership, pan-Africanism, nationalism, American politics and economic issues as they all pertain to African-Americans. Additionally, this course will examine the massive African-American literary canon, as well as two of the most significant cultural epochs, which include the proliferation, demise and legacy of the Harlem Renaissance, as well as the permanence of hip-hop. (3 crs.)

HIS 320. ANATOMY OF DICTATORSHIP. The basic, social, economic, psychological and political elements that make up the modern dictatorship. (3 crs.)

HIS 322. U.S. HISTORY: RELIGIOUS PERSECUTION. Religious tolerance and religious persecution have been recurring themes in U.S. history; from the first encounters with Native Americans to continuing controversies over school prayer, religion has played a major role in the development of American culture. This class will examine the diverse groups that sought to practice their religions freely in the U.S. and how they suffered forms of persecution; it will also explore the meaning of the First Amendment and claims of religious freedom. (3 crs.)

HIS 323. WORLD ENVIRONMENTAL HISTORY. Traces the impact of the environment and environmental change on major world cultures and historical events from the Stone Age to the present through the examination of select case studies; explores the impact of different modes of production; the Columbian exchange; and different cultural conceptions of civilization. (3 crs.)

HIS 325. HISTORY OF AMERICAN WOMEN. A study of women's lives in America from the Colonial era until the present, this course places special emphasis on nonelite women, whose lives have often been hidden or devalued in the annals of history. Topics explored include reform, abolition, political activism, working conditions and contemporary issues. (3 crs.)

HIS 327. CIVIL WAR AND RECONSTRUCTION. The American Civil War is the most critical event in the creation of the United States. This watershed ended forever the practice of chattel slavery that had significantly shaped the country. The South as a distinct region changed considerably due to the war in ways that reverberate to the 21st century while the North also embarked on a new course forward. The process of reuniting the country proved almost as divisive and the war itself. Reconstruction was a complex period that reveals a great deal about 19th-century America. This course examines the history of this national crisis and evaluates how it shaped the nation as a whole. (3 crs.)

HIS 329. HISTORY INTERNSHIP. Application of historical methodologies to various professional environments, under faculty supervision. Fall, spring and summer. (Variable crs.)

HIS 331. ANCIENT GREECE. This course provides an overview of the history of ancient Greece, from its earliest foundations in Minoan, through Mycenaean, the Greek Dark Age, archaic Greece, classical Greece and the Hellenistic period. Prerequisites: HIS 104 or equivalent recommended. (3 crs.)

HIS 333. HISTORY IN FILM. Film in History is a course that assesses the important political, economic and cultural roles that film and the film industry play in the world. This study of cinema includes the importance of film in shaping our attitudes toward history as well as its central place in determining the visual language of cultures. (3 crs.)

HIS 341. EARLY MIDDLE AGES. This course traces the story of civilization and culture from late antiquity to the beginnings of the High Middle Ages and the First Crusade. Prerequisites: HIS 104 is recommended. (3 crs.)

HIS 342. HIGH AND LATE MIDDLE AGES. This course will focus on the development of the civilization of medieval Europe from approximately AD 1100 to 1500, with supporting material both before and after the period. Prerequisites: HIS 104 is recommended. (3 crs.)

HIS 347. RACE AND ETHNICITY IN THE UNITED STATES. This course focuses on the changing ethnic and racial makeup of the American population from Colonial times to the 20th century. We will consider who came to America and why, how people define their own ethnicity and the ethnicity of others, how ethnicity and race relate to each other, and how cultural diversity has shaped life in the United States. (3 crs.)

HIS 348. HISTORY OF SPORT. This course offers the history of sport as a subject for scholarly study. It presents sport as a pervasive facet of our popular culture, as a social institution, as an arena of human activity, as drama, even spectacle. The course emphasizes the history of sport as a study of cultural values and value conflict, and also examines the relationship of sport to social change. It investigates, among other things, the literature of sport, the economics of sport, and the influence of modern sport on our language, politics, religion and education. (3 crs.)

HIS 350. ADOLF HITLER. The philosophical and psychological elements that led to the rise of National Socialism, and its impact upon the Western world. (3 crs.)

HIS 352. NATIVE AMERICAN HISTORY TO 1850. A survey of the history of Native Americans. The class will focus on the major tribal groups that interacted with and impacted the course of American history. We will look at various aspects of Indian life such as gender divisions, political expression and social organization. A major point of the course will be to recognize the contributions of native peoples in shaping the development of the American nation before 1850. (3 crs.)

HIS 353. NATIVE AMERICAN HISTORY FROM 1850. A survey of the history of Native Americans. The class will focus on the major tribal groups that interacted with and impacted the course of American history. We will look at various aspects of Indian life such as gender divisions, political expression and social organization. A major point of the course will be to recognize the contributions of native peoples in shaping the development of the American nation after 1850. (3 crs.)

HIS 356. COLONIAL AND REVOLUTIONARY AMERICA. The founding centuries of our nation shaped the course of the United States. The combination of native inhabitants and immigrants created a unique society which experimented with new ideas for the future. The course will explore American history from the arrival of Europeans to the closing days of a successful rebellion against Britain. (3 crs.)

HIS 366. HISTORY OF MODERN LATIN AMERICA. The emergence of modern Latin America from independence to Castro; economic and social development of the region in the 20th century; struggle for social justice among diverse cultures; conflicts within Latin American political life; military dictatorships; parliamentary democracy; guerrilla warfare; and counterterrorism. (3 crs.)

HIS 367. CONQUEST OF THE AMERICAS. This course examines the cultural, political and social organization of pre-conquest Iberia, Mesoamerica, Brazil, Andean highlands and West Africa. It explores the multiple interpretations of the conquest through the eyes of Spanish conquistadors, their Indian allies, Incas, Mexicans, Tainos, Mayas, Tupis, Guarani and West Africans, and analyzes the multiethnic institutional foundation of New Spain, Brazil and Peru which was governed as an unequal partnership between Europeans and indigenous elites. (3 crs.)

HIS 370. TOPICS IN ATLANTIC HISTORY. Atlantic studies focuses on the circum-Atlantic flow of peoples, cultures, goods and capital. It explores the interaction and interdependencies of Atlantic cultures from Africa to Europe and across the Americas and the Caribbean. Topics may include, but are not limited to, migration/immigration; slavery; trade/production/consumption; freedom; citizenship; nationality/nationalism; imperial boundaries; cultural production; self-fashioning/representation; translation; kinship/family; creolization; race, class and gender; and religion. (3 crs.)

HIS 375. PITTSBURGH HISTORY. Examines the history of the City of Pittsburgh from 1750 to the present. The course focuses on the evolution of Pittsburgh first into a quintessential industrial city, then into a pioneer renaissance city, and finally into a postindustrial, service-oriented city. Therefore, the course affords a unique urban perspective on the social, spatial and political implications of both industrialism and postindustrialism. Pittsburgh History features lectures and field trips, as well as class discussions. (3 crs.)

- HIS 379. SPECIAL PROBLEMS IN HISTORY. Topical historical studies determined by departmental faculty. (3 crs.)
- HIS 402. NINETEENTH-CENTURY AMERICA. This course focuses on major events and trends in United States in the 19th century. Major topics of study include slavery, abolitionism, the Civil War, industrialization and reform. (3 crs.)
- HIS 410. CRUSADES. This course examines the wars fought by Christians in defense of Christendom, from the confrontation between the Byzantines and Arabs in the seventh century to the siege of Vienna in 1683. Special attention is paid to expeditions to the Holy Land in the 11th, 12th and 13th centuries. Prerequisites: HIS 104 or equivalent required, HIS 341 or 342 recommended. (3 crs.)
- HIS 416. HISTORY OF BRITAIN. This course explores political, social, religious, cultural and military developments in the British Isles from the Anglo-Norman period to the modern era. Prerequisites: HIS 104 or HIS 106 are recommended. (3 crs.)
- HIS 418. BOURBON FRANCE. This course examines the Bourbon monarchy in France from its late 16th-century origins to the French Revolution. The cultural, social and political influences that shaped France and Europe from 1598 to 1789 are discussed in their historical context. (3 crs.)
- HIS 420. RENAISSANCE AND REFORMATION IN EUROPE. This course is a study of the Renaissance and the Reformation in Europe from the 14th to 16th centuries, with an emphasis on the Italian Renaissance, northern humanism, and the appearance and character of the principal branches of Protestantism. Prerequisites: HIS 104 and HIS 106 or equivalent are recommended. (3 crs.)
- HIS 422. HISTORY OF ANTEBELLUM SOUTH. The American South is a distinct region that played a major role in the history of the country. The South was wealthy, powerful and unique. The idea of chattel slavery evolved in the American South and caused the entire nation to debate the values and beliefs that they would live by. In the years leading up to the Civil War, the South came to define itself as a region with particular politics, economy, and social and racial structure. This course examines the history of that uniqueness and evaluates how it shaped the nation as a whole. (3 crs.)
- HIS 423. HISTORY OF AMERICAN WEST. The United States had a concept of “the west” or the frontier through much of its history. The region outside of civilization played a powerful role in shaping a growing nation and became a distinct region with its own politics, economy and culture. (3 crs.)
- HIS 425. TOPICS IN LATIN AMERICAN CULTURAL HISTORY. Latin American culture is an amalgamation of the cultures of its many peoples. This course examines the historical roots of Latin America’s cultural heritage by focusing on the struggle between mainstream middle- and upper-class culture and lower- and working-class countercultures. It also examines the impact that the Spanish, African, indigenous, Muslim, Jewish, German and Italian, among other communities had on mainstream culture. Finally, it looks at the impact of U.S. cultural imperialism on Latin America. (3 crs.)
- HIS 430. TOPICS IN MODERN ASIAN CULTURAL HISTORY. This course focuses on the modern Asian cultural histories of India, China and Japan. Major topics include Hinduism, Buddhism, Daoism, Legalism, Confucianism, Islam, Bushido, Shintoism, Jainism, imperialism (and Anti-Imperialism) and industrialization and their impact on Asian culture and politics. (3 crs.)
- HIS 435. HISTORY OF LAW. This course will trace the origins of Western law from the Roman Republic’s Law of the Twelve Tables to the American Articles of the Confederation. Students will gain an understanding of Roman, feudal, Canon, English common, German, French and Spanish legal traditions. (3 crs.)
- HIS 445. SOCIAL HISTORY OF THE U.S. This course is a study of the lives of ordinary Americans throughout the history of the exploration, colonization, inception and proliferation of the United States. It will mainly focus on the adjustment of American communities and social groups (encompassing dynamics of immigration, race, ethnicity, gender, class, age and region) surrounding major wartime eras in U.S. history. (3 crs.)
- HIS 491. READINGS IN HISTORY. This course presents a series of guided readings in history, with emphasis given to the significant trends in the writing of history and historical scholarship since the mid-20th century. This is a writing-intensive course. HIS 295 is recommended. (3 crs.)
- HIS 495. SEMINAR IN HISTORY. This course is a study of historians and their writings; changing interpretations of major topics in history; and historical research and writing. This course is a writing-intensive course. Prerequisites: HIS 295. (3 crs.)

## HON – Honors Program

- HON 100. HONORS AND UNIVERSITY ORIENTATION. This course provides the Honors student with a fairly comprehensive introduction to university life in general and the Honors Program in particular. Practical matters, including a comprehensive review of the Honors Program curriculum, requirements to remain in the program, advisement and registration procedures to be followed, and an elaboration and description of ancillary university services available to the student, are covered. The meaning and function of a university, the importance of the liberal/general education part of the curriculum, the relationship between the university and society and current issues affecting the academy are addressed through selected readings and discussion. Also, students will be required to establish a portfolio that will be maintained throughout the undergraduate experience. (1 cr.)
- HON 150. HONORS COMPOSITION I. Honors Composition I, a course designed specifically for first-year students in the Honors Program, is an introduction to the advanced literacy of the academy. In this course, students will develop an understanding of how diverse scholarly disciplines employ differing strategies and conventions for organizing and transmitting knowledge. (3 crs.)
- HON 187. RESEARCH METHODS. This course acquaints students with basic research methodology. Students will learn how to find information, and evaluate and use it effectively. Students receive a hands-on introduction to research

and writing and learn about various research approaches, preparing them for upper level courses. Prerequisite: Honors student or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 201. QUANTITATIVE PROBLEM SOLVING.** This course will provide the student with an application-oriented, investigative quantitative problem-solving curriculum. Drawing from diverse disciplines in the fields of mathematics, engineering, the physical and life sciences, business, finance, computer science, and/or the social sciences, students will use technology and cooperative group work to solve real-life problems and gain a greater understanding and appreciation for quantitative analysis. This course is repeatable with the permission of the instructor. Prerequisites: Student must pass parts A and B of the Math Placement Exam or have an SAT Math Score of 540 or higher or have successfully taken College Algebra. In addition, this course is open to Honors student or requires the permission of the director of Honors and the instructor of record. (3 crs.)

**HON 250. HONORS COMPOSITION II.** Honors Composition II, a course designed specifically for first-year students in the Honors Program, is a companion and follow-up course to Honors Composition I. In Honors Composition II, students will investigate an academic research question on a topic and in a field of their choosing and produce a research paper addressing this question. Research results will be presented before a panel of interested peers and faculty. Prerequisite: HON 150 or equivalent. (3 crs.)

**HON 265. GLOBAL TRANSITIONS TO 1300.** This transdisciplinary course rooted in the history of humankind is the first in a two-semester sophomore sequence on the origin, nature, accomplishments, and failures of the diverse complex societies of this planet. This panoramic investigation focuses on two major themes: 1) human interactions with the natural world, and 2) the ways that human societies have changed, grown apart from one another, reestablished contact, and influenced one another. This course covers the dawn of humankind to approximately 1300 C.E. Global Transitions to 1300 is a standalone course and need not be taken in conjunction with Global Transitions since 1300. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 270. GLOBAL TRANSITIONS SINCE 1300.** This transdisciplinary course rooted in the history of humankind is the second in a two-semester sophomore sequence on the origin, nature, accomplishments, and failures of the diverse complex societies of this planet. This panoramic investigation focuses on two major themes: 1) human interactions with the natural world, and 2) the ways that human societies have changed, grown apart from one another, reestablished contact, and influenced one another. This course covers events from approximately 1300 C.E. to the present. Global Transitions since 1300 is a standalone course and need not be taken in conjunction with Global Transitions to 1300. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 320. TOPICS IN SELF AND SOCIETY.** This course is an interdisciplinary examination of the relationship between the self and society with the specific topic of each offering determined by the instructor. The selected topic may be explored through a combination of any of, but not limited to, the following approaches: history; political science; sociology; psychology; anthropology; economics; linguistics; archaeology; communications; ethnic, race, and gender studies; law; social work; and urban and rural studies. This course is repeatable with the permission of the instructor. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 325. TOPICS IN EDUCATION.** This course provides students with an examination of issues relating to varying approaches to and impacts of education with a specific topic chosen by the instructor. The selected topic may be explored through a combination of any of the following approaches: use of multiple instructional strategies, varied methodologies, and pedagogy; the history and/or philosophy of education; epistemology; and educational anthropology. This course is repeatable with the permission of the instructor. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 330. TOPICS IN CULTURE AND SOCIETY.** Culture is not a new idea, and its meaning is a subject of debate. This course employs culture (and its political uses) as a lens through which to examine topics and texts in a range of disciplines from the social sciences, to media studies, to the humanities. In the process, this course examines some of the most pressing issues of today and the past. This course is repeatable with the permission of the instructor. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 335. TOPICS IN SCIENCE AND TECHNOLOGY.** This course is an interdisciplinary foray into the hard sciences. It does not presume a prior extensive knowledge of chemistry, biology, physics, mathematics, the environmental sciences, applications of technology and/or the philosophy or history of science. The course defines science and technology, their terminology and method of inquiry, the philosophical ideas underlying scientific inquiry, and how humans value them. Various topics, especially from the physical sciences, may be examined with an emphasis on the specific ways scientific inquiry tries to understand our experience, whether it reflects universal rationality or particular cultural concerns, whether it offers understanding of nature or only control of (some) natural processes, and what impacts – both positive and negative – the application of technology has. This course is repeatable with the permission of the instructor. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 340. TOPICS IN ARTS AND HUMANITIES.** Each class will focus on a specific topic selected by the instructor. The selected topic may be explored through a combination of any of, but not limited to, the following mediums: literature, the fine arts, creative writing, photography, the graphic arts, music, theatre, and film. This course is repeatable with the permission of the instructor. Prerequisite: HON 250 or permission of the director of Honors and the instructor of record. (3 crs.)

**HON 450. HONORS STUDY TOUR.** Each class will be closely linked to a short-term study tour, either in the United States or abroad, and focus on a specific topic selected by the instructor. The purpose of this course is to provide students with experiential hands-on learning. In addition, this course will expose students to diverse academic and socio-cultural experiences, better preparing them for the community within which they will play a future role. This course is repeatable with the permission of the instructor. Prerequisite: Permission of the director of Honors and the instructor of record. (3 crs.)

**HON 499. HONORS THESIS.** The senior Honors project serves as the capstone of the University Honors Program. Under the supervision of a faculty adviser of the student's choice, the Honors student seeks to make a substantive

contribution to the discipline. Considerable latitude in the form of the contribution is permitted. Empirical and historical research as well as creative products are all appropriate. A reader/reviewer is assigned to independently pass judgment on the student's scholastic effort. An oral defense, demonstration, or display of the completed honors project is required. (3 crs.)

## **ITE – Industrial Technology**

**ITE 115. INTERPRETING AND SKETCHING OF TECHNICAL DRAWINGS.** This course is designed for students who need skills in reading and interpreting technical drawings as well as skills in technical sketching. In addition, this course is designed to prepare students for advanced technical drawing and CAD courses. Throughout the course, emphasis is placed on the understanding and use of geometric constructions, sketching and shape description, orthographic multiview projection, sectional views, auxiliary and other ancillary views, the interpretation of various types of drawings from specialized fields of drafting, and inch, decimal and metric measuring/dimensioning methods. Two lecture-hours and three lab-hours per week. Fall and spring. (3 crs.)

**ITE 123. INTRODUCTION TO CAD/GIS.** The student will be introduced to various methods and techniques associated with computer-assisted drafting (CAD) and geographic information systems (GIS). Students will use CAD and GIS software and hardware to create and explore a variety of models. Specifically, students will use GIS components to represent geographic data using both manual and computer-assisted technologies. The focus will be on the collection, compilation and display of geographic data within a database. Fall and spring. (3 crs.)

**ITE 130. INTRODUCTORY CIRCUIT ANALYSIS.** This course is an introduction to DC and AC circuit theory and analysis. The theory includes electrical measurement systems, Ohm's Law, Kirchoff's Laws, circuit theorems and component characteristics. Laboratory work provides experiences with electrical components, schematics, electrical tools, and basic electrical and electronic instrumentation. Two lecture-hours and three laboratory-hours per week. Prerequisite: MAT 181. Fall. (3 crs.)

**ITE 135. DIGITAL ELECTRONICS.** An introduction to the theory and application of logic gates, Boolean algebra, combinational logic, sequential logic, shift registers, counters and arithmetic circuits. Laboratory experiments provide experiences with digital integrated circuits, circuit behavior and digital troubleshooting techniques. Laboratory exercises reinforce the theoretical concepts by providing hands-on experience with digital integrated circuits and digital troubleshooting equipment. (3 crs.)

**ITE 165. MACHINE PROCESSING I.** This introduction to basic foundry (metal casting) and machine metalworking includes sand moldmaking and gating, layout, tool geometry, lathe work, milling, shaping, drilling, and bench work. Six laboratory-hours per week. Fall. (3 crs.)

**ITE 181. MATERIALS TECHNOLOGY I.** A study of the theory and application of materials and materials testing used in a wide variety of industrial applications, this course covers the chemical, physical, mechanical and dimensional properties of metallic materials, including ceramics. Sufficient background in general chemistry is included to provide a proper foundation. Two lecture-hours and three laboratory-hours per week. Spring. (3 crs.)

**ITE 210. TECHNICAL DRAWING II.** This course provides experiences in problem-solving with reference to technical working drawings. Special emphasis is placed on American National Standards Institute practices, shop processes, conventional representation, standardization of machine parts and fasteners, preparation of tracings and the reproduction of industrial working drawings, and surface development. Two lecture-hours and three laboratory-hours per week. Prerequisite: ITE 115. (3 crs.)

**ITE 215. COMPUTER-AIDED DRAFTING (CAD) I.** This course is an introduction to 2-D design and drafting using CAD. Students will create and manipulate basic geometric objects in order to create 2-D models. Experiences dealing with dimensioning, layers and isometric drawing will also be incorporated. AutoCAD software will be used to teach this course. Two lecture-hours and three laboratory-hours per week. Prerequisite: ITE 115. Spring. (3 crs.)

**ITE 218. DESCRIPTIVE GEOMETRY AND SURFACE DEVELOPMENT.** This course will investigate the theory of projection to the fullest extent with emphasis on the manipulation of points, lines and planes in space. The practical application of this theory will be shown in surface development problems. Two lecture-hours and three laboratory-hours per week. Prerequisite: ITE 115. (3 crs.)

**ITE 223. INTERMEDIATE CAD/GIS.** The student will be introduced to advanced methods and techniques associated with computer-assisted drafting (CAD) and geographic information systems (GIS). The GIS portion will focus on the collection, compilation and display of geographic data within remote sensing software and an advanced geographic information system software package. Students will create their geotechnology application project using geographic information systems and remote sensing. The CAD portion will focus on the creation and manipulation of geographic maps and surveys and the incorporation of geographic data in various applications using a CAD software package. Prerequisite: GEO/ITE 123. Fall, spring and summer. (3 crs.)

**ITE 236. NUMERICAL CONTROL PROGRAMMING I.** An introduction to the procedures for manually programming numerically controlled equipment, this course requires students to write programs following a machine format detail using Cartesian coordinates for motion command and incorporating preparatory and miscellaneous commands necessary to manufacture parts on a machining and turning center. Six laboratory-hours per week. Prerequisite: ITE 115, ITE 165 and MAT 191. Spring. (3 crs.)

**ITE 250. INTRODUCTION TO AUTOMATION.** This course provides a variety of introductory experiences in industrial automation. Instruction will include theoretical applications as well as practical, hands-on laboratory applications in robotics, automatic guided vehicles (AGVs), computer-aided drafting (CAD), machine vision, automatic identification and programmable logic controllers (PLCs). Students learn what automation is, its advantages and disadvantages, and how it is applied. Two lecture-hours and three laboratory-hours per week. Fall and spring. (3 crs.)

ITE 301. SAFETY SUPERVISION. This course focuses on the specialized study of the roles and responsibilities of the first-line safety supervisor, specifically: linkages between management and the workforce, fundamentals of communication and human relations, loss control, quality job training, development of good safety attitudes, detecting hazardous conditions and unsafe work practices, safety inspections, and accidents investigations. Also included are specialized issues involving state and federal safety and environmental protection laws, the Hazard Communication Standard, ergonomics, and industrial hygiene. Spring. (3 crs.)

ITE 305. OSHA GENERAL INDUSTRIAL SAFETY. The purpose of the course is to provide instruction to entry-level workers and students on general safety and health. The course will be offered either as a traditional in-class or an online teaching environment. Students enrolled in the traditional class/course (face-to-face) are eligible for an OSHA 30-hour General Industry Outreach Training card. Those enrolled in the online version of the course are not eligible. This course emphasizes hazard identification, avoidance and control. Topics covered include the following: introduction to OSHA, the OSHA Act/General Duty clause, inspections, citations and penalties, record-keeping, walking and working surfaces, means of egress and fire protection, electrical hazards, personal protective equipment, respiratory protection, hearing protection, machine guarding, hazard communication, chemical safety, lockout/tagout, confined space hazards, welding, brazing and cutting hazards, asbestos awareness, hazardous materials, industrial hygiene, and ergonomics. (3 crs.)

ITE 311. ERGONOMICS. This course introduces techniques and procedures for developing and applying the principles of human factors and ergonomics to system design and the systematic analysis, identification and evaluation of human-machine systems. Current advances in practical biomechanics and ergonomics in industry in combating musculoskeletal injury and illness will be discussed. Fall. (3 crs.)

ITE 315. CAD IN 3 DIMENSIONS. This course is an extension of Computer-Aided Design into three-dimensional representations. Unlike traditional CAD that focuses on wire-frame and orthographic/isometric drawings, this course focuses on solid models of various components and assemblies. The concepts of rendering, animating and properties analysis are introduced. Prerequisite: ITE 215. Fall. (3 crs.)

ITE 320. ARCHITECTURAL DRAFTING AND DESIGN. Experience is provided in basic residential and commercial design. The fundamental sequences in designing and drawing are stressed as the student completes all architectural drawings necessary for the construction of a residence. Elements of the course include architectural styles, area planning, structural detailing, pictorial rendering, building specifications and cost analysis. Two lecture-hours and three laboratory-hours per week. Prerequisite: ITE 215. Spring. (3 crs.)

ITE 325. STATICS AND STRENGTH OF MATERIALS. The study of statics and strength of materials focuses on providing the pragmatic technologist with a better understanding of the fundamentals of mechanics. The statics portion of the course is concerned with parts (bodies) of machines and structures, while the strength portion covers the ability of these individual parts to resist applied loads. Then the technologist will be able to determine the dimensions to ensure sufficient strength of the various industrial materials and manufactured components. Two lecture-hours and three laboratory-hours per week. Prerequisites: ITE 181 and MAT 191. Spring. (3 crs.)

ITE 341. QUALITY CONTROL. An introduction to the methods used in analyzing quality control, this course's topics include a study of the fundamentals of statistics and probability, the construction and use of control and attribute charts, the definition and use of acceptance criteria, and the use of computers in modern quality control operations. An overview of the role of the quality control department of a manufacturing facility will be presented. Summer. (3 crs.)

ITE 342. QUALITY PLANNING AND ANALYSIS. This course builds on the techniques learned in Quality Control and applies those techniques to an industrial organization in a practical way. The student will learn the basics of the six sigma approach to quality and the use of quality functional deployment to identify customer needs. Students will study how a quality plan can be developed and implemented. The course will apply quality to all aspects of the organization, including personnel, shop floor operations, the supply chain, and products and services. Prerequisite: ITE 341. Every other fall. (3 crs.)

ITE 366. CAM I (COMPUTER-AIDED MANUFACTURING – MASTERCAM). An introductory course in computer-assisted manufacturing using Mastercam software, this upper-level CNC programming course relates to manual programming techniques developed in Numerical Control Programming I. This course requires the use of a graphics-based language (Mastercam) to create basic geometric elements. Geometric elements are used to create tool-cutter paths necessary to establish machining coordinates for both CNC machining (mill) and turning (lathe) centers. Two lecture-hours and three laboratory-hours per week. Prerequisites: ITE 165 and ITE 236. Every other fall. (3 crs.)

ITE 375. PRINCIPLES OF PRODUCTION. An introduction to the methods used in analyzing the production flow from raw material to the finished product, this course covers topics such as the major manufacturing processes, materials handling, plant layout, operations analysis, industrial engineering, inventory control and shipping. An overview of the role of production management as it relates to the various areas of the industrial environment will be presented. Fall. (3 crs.)

ITE 376. TECHNICAL SUPERVISION. This course builds upon the information presented in the Principles of Production course and brings the human factor into operations. The student will learn the basics of the supervision of technical operations with a focus on the shop floor. This course will include the basis for motivating employees and will identify some of the special problems associated with technical production and manufacturing. Spring. (3 crs.)

ITE 385. INDUSTRIAL COST ESTIMATING. An introduction to the methods used to cost and budget a production organization, this course covers some accounting basics, cost accounting, the time value of money and cost estimating as related to industrial operations. Spring. (3 crs.)

ITE 415. GEOMETRIC DIMENSIONING AND TOLERANCING. Geometric dimensioning and tolerancing is a standard procedure to describe the information contained on a technical drawing. Use of standards permit a consistent interpretation of the information by all who use the technical drawing and insures that the intentions of the creator of the drawing will be understood by the users of the drawing. Students will learn the fundamentals

of geometric dimensioning and tolerancing using the ASME Y14.5M drawing standard and the application of the standard to the creation of technical drawings for manufacturing and archival purposes. Two lecture-hours and three lab-hours per week. Prerequisite: ITE 215. (3 crs.)

ITE 416. INTRODUCTION TO FINITE ELEMENT ANALYSIS. This course will use a PC-based CAD program and finite element software program to introduce the concepts of mathematical modeling and engineering analysis. The student will create a solid model of a component and transform that model into a finite element model. The students will then apply the appropriate boundary condition to the model and find the solution to the problem. The student will also be introduced to the concepts of bottom-up and top-down solid modeling and will perform simple structural analyses using the generated finite element model. Two lecture-hours and three lab-hours per week. Prerequisite: ITE 315 or equivalent solid model experience. (3 crs.)

ITE 417. PARAMETRIC DESIGN USING INVENTOR. This course presents the advanced features of solid modeling where dimensions in a component and an assembly are replaced with parameters. This permits the creation of a single component/assembly model that may be used for multiple items in a family by redefining the parameters of the component/assembly. Parameters may also be used to define an item for analysis or to test a particular concept with particular dimensions to insure that the product is safe and useful. Students will learn the procedure for transforming a solid model into a parametric model and the procedures for changing and maintaining the parameters for an instance of an item. Two lecture-hours and three lab-hours per week. Prerequisite: ITE 315 or equivalent. (3 crs.)

ITE 420. PRODUCTION ANALYSIS. This course is a continuation of the principles of production with an emphasis on the calculations associated with production management. Topics include linear programming, scheduling and project management as with PERT, simulation, and inventory control. Use is made of personal computers for the calculations involved. Prerequisite: ITE 375. Spring. (3 crs.)

ITE 460. PRINCIPLES OF MANUFACTURING. An introduction to the methods used in manufacturing processes, this course includes a study of the manufacturing ability, fabricability and marketability of manufactured products. Problems encountered by production managers in changing raw materials into a consumable product are discussed. The use of personal computers for the solution of manufacturing problems is included. Prerequisites: ITE 375 and ITE 385. Alternate fall. (3 crs.)

ITE 461. SUPPLY CHAIN FUNDAMENTALS. A key item in the management of a manufacturing operation is the making of intelligent decisions. The manufacturing planning and inventory control systems provide the information to efficiently manage the flow of materials, effectively utilize people and equipment, coordinate internal activities with those of suppliers, and communicate with customers about market requirements. This course will provide an overview of the basic principles of production and inventory control, including MRP, JIT, master scheduling, capacity planning, demand management, and the integration of these basic principles. Prerequisite: ITE 375. Fall. (3 crs.)

ITE 462. INVENTORY, SCHEDULING AND PLANNING. This course will be the second course taken by students in the general area of production and inventory control. Focus of this course is on the various techniques for material and capacity scheduling. Included will be detailed descriptions of material requirements planning (MRP), capacity requirements planning (CRP), inventory management practices, and procurement and supplier planning. Topics include recognizing techniques and practices of inventory management, the mechanics of the detailed material planning process, the planning operations to support the priority plan, and the planning procurement and external sources of supply. Prerequisite: ITE 461. Every other spring. (3 crs.)

ITE 471. PROJECT MANAGEMENT. Operations and projects differ in that operations are ongoing while projects are temporary. A project, by its very nature, is also unique and requires particular knowledge of how the components combine to form an integrated whole. This course will introduce the student to the field of project management and will present an overview of the body of knowledge necessary for successful project management. The course will focus on the fundamental principles that cross the boundaries of projects and will demonstrate how project management techniques can be applied to a wide variety of disciplines. This course will also introduce the student to computer methods for solving project management problems. Prerequisite: ITE 375. Fall. (3 crs.)

ITE 475. COMPUTER-INTEGRATED MANUFACTURING. Computer-integrated manufacturing is the expansion of computers from the shop floor into the other aspects of the manufacturing enterprise. All of the data necessary to control the shop process may not be available on the shop floor. Such areas as accounting, inventory, shipping and purchasing have data that can influence what happens on the production floor. Also, the general concepts of production and inventory control must be considered. This course will bring together all of the individual parts of the organization to show how they can impact what is manufactured and how it is manufactured. Two lecture-hours and three laboratory-hours per week. Prerequisites: ITE 420, ITE 460 and ITE 461. Every other spring. (3 crs.)

ITE 476. LEAN ENTERPRISE. Production systems consist of more than the machines that produce the consumer products. Other parts of the business operation contribute to the production and must be included in any discussion. (3 crs.)

ITE 481. CONCEPTS AND ISSUES IN INDUSTRIAL TECHNOLOGY. This is a multidiscipline course that combines the various elements in industrial technology, giving the student the opportunity to study problems typically encountered by an industrial technologist. The exact content of the course will vary depending upon the background and experience of the instructor, but it is intended to include problem solving and role-playing in a wide variety of industrial settings. Industrial consultants will also be used to expose the student to modern industry. Two lecture-hours and three laboratory-hours per week. Prerequisite: Senior standing. Spring. (3 crs.)

ITE 495. MANUFACTURING TECHNOLOGY INTERNSHIP. Student interns are placed with an industrial organization that most nearly approximates their goals for employment. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with practical problems requiring real solutions in a relatively short time frame. Adviser and department chairperson approval is required before course enrollment. This is a repeatable course, and students may take up to 6 credits. The extra credit may be

used as a free elective or for a credit deficiency due to other program changes. Prerequisite: Upper-level standing. Fall, spring and summer. (1-6 crs.)

## **JUS — Justice Studies**

**JUS 101. INTRODUCTION TO JUSTICE STUDIES.** The course covers the nature, scope and impact of crime in the United States; independent and interdependent operations and procedures of police, courts and corrections; and introductory theories of crime and delinquency. The course introduces the justice model in a systematic way whereby students delve into the numerous components of the justice system, including law enforcement, legal and judicial process and correctional operations. Career opportunities will be fully covered throughout the course. (3 crs.)

**JUS 102. INTRODUCTION TO LAW ENFORCEMENT.** An introduction to the law enforcement system in America, which is the gateway to the criminal justice process. This course covers topics such as the historical foundations of police processes, occupational roles and tasks of law enforcement, and the nature and designs of typical, as well as innovative, police systems. Perennial problems of policing, particularly as it relates to community interaction, are also essential components of the course. (3 crs.)

**JUS 103. CORRECTIONAL SYSTEMS.** Course examines the management, structure and organizational design of correctional institutions. Correctional planning, construction, program evaluation and community interaction will be considered, and improvement strategies for correctional operations will be debated and critiqued. The course provides a broad overview of the correctional system which incarcerates and confines, treats and reclaims criminal personalities, and protects and serves the state and the community by removing threats to the social order. (3 crs.)

**JUS 104. INTRODUCTION TO SECURITY.** A basic overview of private-sector justice is the course's chief aim. Types of security operations and functions comprise much of the course coverage, including perimeter and physical security, intelligence gathering, retail and industrial security, terrorism and executive protection, as well as security in select business and industrial centers. Careers, regulation and licensure, and the debate on professionalization are other areas of major intellectual concern. (3 crs.)

**JUS 105. INTRODUCTION TO FORENSIC SCIENCE.** Forensic science is the use of science in a court of law and encompasses various scientific disciplines. This course is an introduction to the field of forensic science. This course is designed to expose students to various methodologies and applications used in the forensic context, which involves the collection, examination, evaluation and interpretation of evidence. Topics discussed include crime scene investigation, collection and categorization of physical evidence, the physical properties of glass and soil, instrumental analysis, hair, fiber and plant evidence, forensic serology, arson evidence, DNA evidence, fingerprints, tool and firearm marks, and document and voice analysis. (3 crs.)

**JUS 201. CRIMINAL INVESTIGATION.** This course is a comprehensive examination of civil and criminal investigations in both public and private modes, including most major felony processes and relevant civil actions. Focus is on the fundamentals of the investigative process and the range of skills necessary for successful performance and management of investigations, including evidence gathering and analysis, witness assessment, field techniques, and linkage between investigative and prosecutorial agencies. (3 crs.)

**JUS 205. PRINCIPLES OF HOMELAND SECURITY.** Students will gain an understanding of homeland security by analyzing the various security principles and policies that establish a foundation upon which to organize U.S. security efforts as a nation. Students will study how the national strategy aligns and focuses homeland security functions within critical areas such as: (1) intelligence and warning, border and transportation security, domestic terrorism; (2) protecting critical infrastructure and defending against catastrophic terrorism; and (3) emergency preparedness and consequence management. The first area focuses primarily on preventing terrorist attacks, the second area on reducing the nation's vulnerabilities, and the third on minimizing the damage and recovery from the aftermath of terrorist attacks. (3 crs.)

**JUS 211. ORGANIZED CRIME.** This course is a complete examination of the dynamic referred to as organized crime, commencing with its historical underpinnings. Specific crimes, such as racketeering, extortion, bribery, official corruption, graft, drugs, prostitution and other illicit trafficking, will be analyzed. Investigative techniques and prosecutorial strategies that relate to the identification and elimination of organized crime are a major component of the course content. (3 crs.)

**JUS 215. VICTIMOLOGY.** This course will examine issues surrounding the central character in a criminal act – the victim. Contents are designed to develop an understanding of what it means to be victimized, including the physical, psychological and economic impact of crime upon victims, their families and society in general. Special consideration will be given to specific victim populations (i.e., survivors of homicides, sexual assault and family violence), secondary victimization by the criminal system, victim assistance programs, and future trends in this field. A full review of how the American justice system has responded to the needs of victims is part of the course content and includes a look at victim testimony at sentencing and parole and probation hearings, victim notification, Meghan's law, victim advisory and protection services, and other means by which the judicial system assures victim participation during the adjudicative phase. (3 crs.)

**JUS 305. INTERNATIONAL CRIMINAL JUSTICE.** This course compares and contrasts the criminal justice system of the United States with the systems of other countries on a substantive and procedural basis. It provides a thorough examination of other cultural models of law and justice so that differences in justice processing and definition become apparent. Emphasis is placed on international policing, international crimes and international courts. (3 crs.)

**JUS 309. WHITE-COLLAR CRIME.** This course considers crimes committed by corporations as well as white-collar criminals: how such crimes are defined; who commits or is victimized by them; which moral, ethical, legal and social contexts promote them; and how society responds. Procedural and policy considerations in the investigation and enforcement of relevant statutes will also be covered, including the concept of legal privilege, the role of the grand jury and other pretrial processes, evidentiary questions, litigation strategies, and potential sanctions and other punishments. (3 crs.)



JUS 331. JUVENILE JUSTICE SYSTEM. This course covers the juvenile justice system, with special emphasis on the way it procedurally differs from adult offender adjudication. The parts of the juvenile justice system, hearings, due process standards and constitutional mandates are fully reviewed. Status offenders and other youth classifications are considered together with a historical summary of juvenile court philosophy. New trends in the procedural disposition of juveniles, especially transfer to adult jurisdiction, types of punishment, suitability of the death penalty, are discussed. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

JUS 335. CORPORATE SECURITY LAW. A focused examination familiarizes students with the origins and development of private security, with an emphasis on defining security's role in the administration of justice, its historical underpinnings, types of security services in the American marketplace, and the legal aspects of private-sector justice. Further considerations are regulation, licensing, the civil and criminal liability of security personnel, and the ongoing constitutional debate that surrounds private security enforcement. Exactly how private-sector justice operatives are legally liable for their conduct, as contrasted with the public justice official, is a major feature of the course design. (3 crs.)

JUS 345. PROBATION AND PAROLE. This course examines the theory and practices of probation and parole with juvenile and adult offenders, including release philosophy, bail and petition, hearings on grant, revocation or denial, alternative community-based corrections, and legal issues that emerge in award revocation or imposition of probation and parole. (3 crs.)

JUS 361. JUDICIAL ADMINISTRATION. An examination of the American judicial system, highlighting state, local and federal tribunals, including an assessment of their hierarchy, subject matter jurisdiction and administration. This course will also review judicial reasoning, judicial process and the chief personnel responsible for judicial operations. More particularly, the course will expose the various phases inherent in civil and criminal litigation, including the concepts of jurisdiction, venue, parties and the pleadings that guide advocacy. Typical case calendars and dockets will be examined throughout the course so that students may acquire a complete understanding of the litigation process. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

JUS 375. CRIMINAL LAW. An introduction to substantive criminal law that reviews the social, philosophical and legal foundations of criminal codification. The course also covers the historical development of criminal law in the United States. Other subject matter includes parties to crimes, including principals/accessories, criminal capacity, criminal elements (e.g., *mens rea* and *actus reus*), and the specific crimes against person, property and public order. Lastly, the course captures criminal law from the defendant's perspective by reviewing the accused's mental states, potential defenses and uses of mitigation. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

JUS 376. CRIMINAL PROCEDURE. This procedural law course includes a review of the law of arrests, search and seizure; the making of bail; adjudication; pretrial and posttrial activities; and the nature of plea bargaining. Substantial emphasis is given to the constitutional protections afforded through the Bill of Rights, particularly the 1st, 4th, 5th, 6th, 8th and 14th. The course deals extensively with case law applications of these principles and the role of judge and jurist in the crafting of criminal process standards. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

JUS 380. CRIME SCENE IMAGING. This course is designed to expose students to the crime scene imaging process while learning traditional film, video and digital imaging techniques. Techniques and methods of crime scene imaging focus on practical exercises as well as general viewpoints of crime scene documentation. Topics include the fundamentals of photographing scenes from general to specific utilizing the overall, middle range and close-up "three-step" method. Crime scene imaging techniques, both basic and advanced, will be discussed and practiced while photographing mock crime scenes. The advanced technique of crime scene imaging includes the use of digital cameras; the digital darkroom; crime scene panorama; creation of court charts; and the enhancement and analysis of latent prints, footwear, tire impressions, questioned documents, security video image enhancement and restoration. Prerequisites: JUS 105 and JUS 101 or permission of the instructor. (3 crs.)

JUS 394. PROBLEMS IN POLICING. This course involves discussion and study of specific problems of law enforcement and policing in contemporary American society. It emphasizes the development, nature and function of law enforcement as it relates to public criminal justice rather than private sector justice. Topical coverage consists of ethics, corruption, deadly force and civil liabilities, and other dilemmas commonly faced in the modern police system. (3 crs.)

JUS 395. THE DEATH PENALTY. An examination of death penalty policies in the American justice system from a legal, ethical and jurisprudential perspective, this course includes analysis of case and statutory law, the principles of due process, and appellate rights. Prerequisite: JUS 375 or permission of the instructor. (3 crs.)

JUS 397. LAW AND EVIDENCE. This course is a comprehensive review of evidentiary principles, both common law and statutory, and how evidentiary standards affect and govern both the civil and criminal process. Topical coverage includes real and physical evidence, demonstrative substitution, hearsay and firsthand evidence, witness scope and qualification, as well as privilege principles. Both federal and state rules will be interpreted. Students will be required to advocate cases utilizing these evidentiary principles in a mock court environment and to research an area of emerging evidence law. Prerequisite: JUS 101 or by permission of the instructor. (3 crs.)

JUS 399. SELECTED TOPICS IN LAW AND JUSTICE. This course is a focused examination of an emerging and dynamic problem or issue in the study and practice of criminal justice. Special subject matter not ordinarily covered in the existing curricula can be presented by interested faculty. Examples include, but are not limited to, alternative punishment schemes, euthanasia and mercy killing, civil disobedience and the rule of law, minorities in the justice system, affirmative action policy, police use of force, and women in criminal justice. (3 crs.)

JUS 400. FOREIGN STUDY IN LAW AND JUSTICE. A semester, summer or special visit to a foreign nation or international venue to study different justice and legal systems. This course typically involves law, law enforcement, criminal intelligence, courts and judicial process, and corrections. Instruction relates to the study of law and justice and affords a comparative view of foreign and international models. The experience consists not only of study, but

also visits to justice agencies, research, travel to historical and cultural locations, and social activities. Credits will vary according to course offerings, time and length of experience. (Variable crs. to a maximum of 12 crs.)

**JUS 425. ADVANCED CRIMINAL LAW AND INVESTIGATION.** This is an advanced course in criminal investigation. The student will learn tactical and strategic criminal investigation techniques focusing on serious crimes such as murder, sexual assault and international crimes. Students will receive an update on substantive as well as procedural criminal law, and they will be able to critically analyze and strategically use circumstantial evidence in cases such as complex conspiracy trials and vice, narcotics and racketeering investigations. The student will also be exposed to new legal concepts in relation to the utilization of advanced electronic surveillance equipment, such as listening devices, electronic monitors and transmitters. Prerequisites: JUS 201, JUS 375 and JUS 376 or by permission of the instructor. (3 crs.)

**JUS 429. TERRORISM.** This course examines current terrorism, its origins and ideological bases, with particular attention to its relation to political institutions and the criminal justice process. Specific attention is given methods and means of the terrorist, motivations and modus operandi trends and predictability, and law enforcement's multifaceted reactions to its many devious forms. Legislative efforts to curb the scourge of terrorism are also highlighted. (3 crs.)

**JUS 430. CRIMINAL INTELLIGENCE ANALYSIS.** This course will focus on the intelligence function and its use in crime analysis. It will introduce students to analytical techniques and solutions to everyday law enforcement crime analysis problems. Special attention will be given to understanding crime patterns and trends. Cases related to terrorism, organized crimes, white-collar crimes and street crimes will be analyzed and discussed. Intelligence methods of data collection and analysis will be explored and applied to crime analysis. (3 crs.)

**JUS 455. LEGAL TRADITIONS.** This course encompasses a complete examination of the law, its origins, roots and underpinnings in a jurisprudential context. Coverage includes a focused examination of classical, medieval and contemporary legal thinkers. Problems of personal privacy, sexual freedom, proactive control, the imposition of penalties and notions of good will be considered. Course participants will consider these questions: What is law? Is law related to religion and morality? What are the foundations of law in Western culture? Can law, ethics and morality be differentiated? How can a legal system be just? Can law shape morality or does morality shape law? How does Western legal tradition resolve ethical questions, such as abortion, suicide, euthanasia and the death penalty? Is there a unified vision of law that consists of the good, of virtue and the idea of justice? Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

**JUS 459. BEHAVIORAL ANALYSIS OF VIOLENT CRIME.** An upper-level, interdisciplinary course that examines violent crime in accordance with the specific aspects of behavioral analysis and law, specific course content will examine typologies of crime, organized/disorganized offenders and behaviorally based crime scene characteristics (including crime scene staging). A particular emphasis will be on the psychopathology of crime, pedophilia, serial killers, human sacrifice rituals and victimology, and how these factors affect or are affected by criminal motivation, modus operandi and signature aspects of violent crime. Prerequisites: JUS 101 or permission of the instructor. (3 crs.)

**JUS 460. SEX CRIMES AND PREDATORS.** This course will examine the specific etiologies, phases and methods associated with defined sexual crimes. In addition to the dissection of the sexual crime scenes, various sex offender profiles will be examined with respect to crimes of rape, pedophilia and other sexual paraphilias. Students will critically examine the modus operandi, ritual, fantasy and signature aspects of various sexual offenders as well as be able to differentiate between trophies and souvenirs left and/or taken with respect to the crime scene. Victim analysis and offender treatment programs will also be discussed. Prerequisites: JUS 101, JUS 105 and JUS 375 or by permission of the instructor. (3 crs.)

**JUS 466. LEADERSHIP AND ETHICS IN JUSTICE STUDIES.** This course introduces the individual principles and theories of effective leadership and ethics specific to criminal justice and professional security organizations. This is a special type of leadership and ethics designed specifically for the professional working in a dynamic and hostile environment. It is common for public service professionals in the first responder, law enforcement, corrections, security or any professional field in the justice arena to unexpectedly be placed in a temporary or permanent leadership position, or be promoted to a supervisory position, with little or no leadership and ethics education or additional preparation. A critical part of the leadership and ethics course is the analysis and evaluation of ethics and value-based leadership and the definition of leadership and its key components. Theories of leadership and leadership styles will be examined. The leadership framework will be discussed: what a leader must be, which includes values, ethics and attributes such as loyalty, duty, respect, selflessness, honor, integrity, personal courage, and mental, physical and emotional attributes; what a leader must know, which includes skills such as interpersonal, conceptual, technical and tactical; and what a leader must do, which includes a leader's influencing, operating and improving actions in a dynamic environment. The challenge of initially taking charge of an organization will also be emphasized. The class will include situational critical-thinking exercises and conclude with an in-class capstone exercise. Prerequisite: JUS 101. Seniors only. (3 crs.)

**JUS 470. CRIMES AGAINST CHILDREN.** This is a course that examines criminal activity targeted against children. The course will focus on the physical and sexual abuse, neglect, kidnapping, and sexual exploitation of children. Students will explore methods of identifying victims, investigating offenders and court presentation of criminal cases. Special attention is focused on the dynamics of the relationship between victims and offenders and how that is a factor in the investigation and prosecution of criminal acts. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

**JUS 485. FORENSIC LAW.** An interdisciplinary course covering law, criminal justice, and science and technological issues in the evidentiary arena. Coverage in the course provides a broad assessment of expert witnesses, microanalysis, pathological evidence, admissibility and investigatory practice, ballistics, fingerprints, VASCAR/radar, and photographic techniques. Contrasted with criminalistics, subject matter of this course is primarily evidentiary. More particularly, the course will delve into the rules of evidence, which guide the admissibility of forensic evidence in a court of law. Examination includes threshold tests for reliability and admissibility, qualification of witnesses competent to testify, scientific rigor required for admission, and case law determinations on the use and abuse of scientific evidence. Prerequisite: JUS 101 or permission of the instructor. (3 crs.)

JUS 487. COMPUTER FORENSICS. This course is designed to expose students to legal and technical aspects of computer forensics. The methods of the collection, preservation, analysis and presentation of digital evidence will be presented to properly conduct a computer forensics investigation. The focus of this course will be on how law enforcement obtains electronic evidence, maintaining the evidentiary chain, as well as the legal aspects of the search and seizures of computers and related materials. Prerequisite: JUS 105 or permission of the instructor. (3 crs.)

JUS 490. FORENSIC ACCOUNTING. An advanced review of strategies and tactics essential to the fraud examination process. Course presentation assumes basic accounting knowledge and guides the student into specialized applied settings indicative of forensic accounting. Coverage includes financial statement analysis, interpretation and scrutiny of financial records and documentation, trace techniques, reporting irregularities, fraud examination approaches, and legal rules and statutory construction pertinent to accounting practices. Students will prepare a series of field exercises in common fraud cases, such as bankruptcy, insurance, employee/employer reporting, covert examinations, trading practices and money-laundering schemes. (3 crs.)

JUS 494. SEMINAR IN JUSTICE STUDIES. This is the capstone course for justice studies students. It will focus on the integration of information learned from different courses with special focus on criminal law and legal issues, theories of crime, juvenile delinquency, law enforcement, corrections, ethics, forensic science, and research methods. This course will be offered to justice studies students in their final semester in which they receive their degrees. All students in this course must take the Criminal Justice ETS exam and the exit survey. Final semester graduating seniors only or special permission from the instructor. (3 crs.)

JUS 495. RESEARCH METHODS IN JUSTICE STUDIES. This course serves as an introduction to the basic research methods in the field of criminology and criminal justice. Qualitative and quantitative methods are explained in this course. In addition, ethical issues are focused on in this course. (3 crs.)

JUS 496. CRIMINOLOGICAL THEORIES. This course focuses on the study of crimes, criminals, causes of criminal behavior and victimization issues. Students explore how the classical, psychological, sociological, economic, biological and political theories of crime explain criminal behavior, and the impact of these theories on the work of the criminal justice system. Prerequisites: JUS 101, JUS 103 and JUS 375 or permission of the instructor. Seniors only. (3 crs.)

JUS 498. JUSTICE STUDIES INTERNSHIP. An on-site, experiential learning experience where students work at a variety of justice agencies for academic credit is the central aim of the internship program. Intern locations have included government agencies, police departments, prisons, federal and state law enforcement, private security firms, judicial clerkships, legal offices, and legal research concerns. Interns must complete a self-evaluation, perform a series of exercises and assignments, author a log diary and a paper outlining the internship experience, work 45 hours per internship credit, and present an acceptable recommendation from the internship supervisor upon completion of the experience. Attendance at internship seminars for the department is required. (Variable crs.)

JUS 499. INDEPENDENT STUDY IN LAW AND JUSTICE. This course is independent in design, allowing students to act and engage in mature thought and academic review of topics of interest. The course requires a scholarly yet practical completion of a large research project in conjunction with a faculty mentor. Projects must be approved in advance of registration and must be concerned with significant intellectual subject matter that involves the administration of law and justice. (3 crs.)

## **LEA — Leadership Studies**

LEA 100. INTRODUCTION TO LEADERSHIP STUDIES: LEADERSHIP AND POWER. This course is required for the leadership studies minor. It is an introduction into the definition of leadership and the ways in which leadership can exert itself. In addition to exploring examples of leadership in a wide variety of settings, students will engage in interactive exercises aimed at developing and understanding their personal leadership styles. Fall. (3 crs.)

LEA 397. LEADERSHIP STUDIES INTERNSHIP. The internship offers opportunities for practical professional work and field experiences in various off-campus settings. Internships are to be jointly administered by an on-site supervisor and a leadership studies-approved faculty member. (6 crs.)

LEA 400. CAPSTONE: SEMINAR IN LEADERSHIP. The seminar involves the use of case studies assigned for group discussion, analysis and resolution. Class sessions involve the application of interactive exercises, using simulations, role-playing and decision-making scenarios. Guest speakers drawn from a variety of disciplines will be used as additional resources. (3 crs.)

## **LAW — B.S. in Science and Technology: Legal Studies Option**

LAW 300. THE PARALEGAL PROFESSION. This course introduces the student to the role of the legal professional with special emphasis on paralegals and legal assistants. Course stresses professionalism, law office administration and client conferencing skills, telephone techniques in a legal setting, law office ethics, confidentiality and legal office accounting skills. Emphasizes the application of skills required in the law office and develops skills in legal billing, specialized legal software, banking and filing procedures, tax matters, processing insurance and investments. Students prepare a legal portfolio. (3 crs.)

LAW 310. LEGAL RESEARCH AND WRITING. This course is designed to teach students to use a law library, perform legal research, analyze legal problems and write a legal memorandum. Students are taught to locate and use both primary, secondary and CALR legal research sources to solve legal problems, including federal and state cases, digests, statutes, regulations, treatises, encyclopedias, law reviews, citators and practice works. (3 crs.)

LAW 320. LITIGATION AND TRIAL EVIDENCE. This course will teach students the principles of civil litigation in federal and state courts. Students will learn causes of action and defenses and will be introduced to rules of procedure and discovery, along with ethical responsibilities. Pretrial practice, including discovery, pretrial motions and trial preparations, will be covered, together with the basics of a civil trial, post-trial motions and appeals. The principles learned will be applied to practical exercises. (3 crs.)

**LAW 330. CRIMINAL LAW FOR PARALEGALS.** An introduction to substantive criminal law, which includes a review of the social, philosophical and legal foundations of criminal codification, encompasses the course. In addition, the course covers the historical development of criminal law in the United States. Other subject matter includes parties to crimes including principals/accessories, criminal capacity, criminal elements, e.g. mens rea and actus reus, and the specific crimes against person, property and public order. The course captures criminal law from the defendant's perspective by reviewing the accused's mental states, potential defenses and uses of mitigation. More narrowly, the student will learn to prepare pleadings and other relevant documentation in the defense and prosecution of criminal cases. (3 crs.)

**LAW 340. FAMILY LAW.** The purpose of this course is to give legal assistants a better understanding of domestic relations law and to show students how those laws governing family situations are applied. The content of the course covers such areas as formation of the marital relationship, dissolution, child custody and support, adoption, abortion, paternity, domestic violence, child neglect, and surrogacy. Participants will also draft pleadings and documents relevant to family practice. (3 crs.)

**LAW 350. REAL ESTATE LAW.** This course is an introduction to real estate law. Topics of study include property rights, principles of land ownership, sale, financing and conveyance, contracts, liens, mortgage financing, mortgages or deeds of trust, deeds, recording, settlement concepts, condominiums and cooperatives, leasing, and other property concepts. The student will develop familiarity with real estate practice, procedure and forms. The student will be given assigned problems and instructed in the step-by-step processing of a real estate transaction from beginning through closing and post closing procedure. (3 crs.)

**LAW 360. LAW BUSINESS AND THE WORKPLACE.** This course is a survey of the basic principles of corporate law including their creation and operation as well as a review of partnerships and proprietorships as business entities. Student will be required to prepare the documents necessary for incorporation, amendment, by-laws, and the recording of director's meetings and minutes, dissolutions and liquidations. This course will cover the formation, operation and dissolution of various kinds of business organizations including sole proprietorships, corporations, partnerships, the law of agency and employment agreements. Employee compensation agreements will also be reviewed. (3 crs.)

**LAW 370. ADMINISTRATIVE LAW.** This course presents basic concepts of administrative law and procedure in federal and state agencies, with emphasis on the paralegal's role in the administrative process. Paralegal students will learn both formal and informal advocacy techniques, including representing clients before administrative bodies. Substantive topics will include administrative delegation of power, rule making, agency discretionary powers, remedies and judicial review. Procedural topics include agency operation, adjudication, hearing preparation, and administrative and judicial appeals. (3 crs.)

**LAW 380. ESTATES AND TRUSTS.** This course will introduce students to the concepts and forms necessary for estate planning and its administration as well as the drafting of wills, trusts and other relevant documentation. This course will introduce students to an overview of postmortem estate administration under either testate or intestate provisions. The process of administering a decedent's estate, from collection to valuation, to the appointment of a fiduciary, to the filing of final account and distribution of assets, will be examined. (3 crs.)

**LAW 390. BANKRUPTCY.** The main focus of this course will be on bankruptcy law and procedure. It will cover commencement of a case, preparing of schedules, operating and liquidating procedures, adversary matters and litigation in bankruptcy court, debtors' and creditors' rights and obligations, technical terminology, and practical hints for paralegals. Forms utilized in bankruptcy court will be stressed as well as proceedings under Chapter 7, Chapter 13 and, to a lesser extent, Chapter 11. Also proceedings under Chapters 9 and 12 will be reviewed. Additionally, the rights of creditors will be explored. This includes secured transactions, consensual and nonconsensual liens, UCC transactions, and the unique position of real estate. An introduction to garnishments and other judicial attachments of property will be taught. (3 crs.)

**LAW 400. CONSTITUTIONAL LAW FOR PARALEGALS.** This course is designed to give an overview of the interpretation of the constitutional articles and amendments. The student will explore the three branches of the federal government and the interpretation of the articles that created them and control their functioning. The course will also examine the individual's rights in society, the changes in society that impact individual rights, and the Supreme Court decisions interpreting individual rights. In addition, students will analyze and assess fact patterns, investigate claims and arguments, prepare pleadings and other legal documents as well as conduct sophisticated legal research in matters of constitutional law. (3 crs.)

**LAW 410. LAW AND ETHICS.** An inquiry into the interplay of law, morality and ethical reasoning and Western legal tradition is the chief thrust of this course. The course exposes the traditions and foundations of the American legal system with special emphasis on its jurisprudential foundations. Questions of right, justice, equity, law as moral command and order, natural law reasoning, and the dignity of the human person are central to the instruction. This course will introduce students to the types of ethical dilemmas that they will face in the workforce; generally to the ethical rules developed by the American Bar Association, and specifically, to the rules adopted by this jurisdiction for the regulation of attorney and paralegal conduct and the model codes of paralegal associations; and to methods for researching the answers to ethical dilemmas. (3 crs.)

**LAW 420. LAW AND CONFLICT RESOLUTION.** This course provides students with an in-depth understanding of alternate forms of dispute resolution outside courtroom litigation. These alternate forms include mediation, negotiation and arbitration. It incorporates a community service experience in mediation allowing students a unique opportunity to apply theories, concepts and skills learned in the classroom to practical experiences in serving others in the community. The course provides students with a thorough and complete approach to understanding the psychological dimensions to conflict diagnosis. It also provides guidelines to evaluate and develop strategies and tactics to address interpersonal conflict. It also provides a comprehensive survey of all ADR processes. (3 crs.)

**LAW 430. ELDER LAW.** This course concentrates on the legal problems associated with the elderly and issues of aging. It introduces students to the unique client needs of the elder client and their families. This course introduces

substantive legal theories in modern elder law, including introduction to government programs, such as Medicare, Medicaid and Social Security for old age retirement assistance; advanced planning for retirement; elder abuse and protective services legislation; and nursing home rights legislation. Topics include health care funding; health care decision-making; long-term care; end-of-life decisions; elder abuse and neglect, both institutional and noninstitutional; and guardianship. (3 crs.)

**LAW 440. IMMIGRATION LAW.** This course provides students with a theoretical and practical understanding of the process and procedures relating to immigration law. It also provides proper methodology for client interviews and client files, as well as an introduction to preparation of petitions and agencies that are part of immigration law. Students will have practice in completing standard immigration forms, researching immigration law, accessing government and other websites for immigration related materials, and reviewing current issues in immigration law. Students will be able to assess each visa category, determining the type of filing required by client circumstance. Students will analyze hypothetical situations, allowing students to scrutinize actual problems and issues that arise when processing a case. United States immigration statutes, rules and regulations, and precedent and administrative policies relevant to immigration law are fully covered. (3 crs.)

**LAW 450. LABOR AND EMPLOYMENT LAW.** Concepts of labor and employment law and their respective applications are the central themes of the course. The course spends considerable time identifying applicable federal labor and employment laws, distinguishing between exempt and nonexempt employees, and differentiating between public and private sector employees. The course continues by analyzing labor organization, unfair labor practices, collective bargaining, picketing and strikes, the rights of union members, and public sector labor relations. Additionally, the duties and responsibilities of government and business executives and human resource managers are analyzed, and the administration and enforcement roles of various federal (and state) commissions and departments are discussed. (3 crs.)

**LAW 499. INTERNSHIP.** This course provides the student with an opportunity to gain practical work experience under the supervision of an attorney or experienced paralegal in day-to-day, on-site office work. The student must complete 300-600 hours of work at the internship site, which may be a private or public law office, corporate or government legal department, or other appropriate law-related setting. In addition to on-site work, the student will attend internship seminar sessions or meet with the internship instructor/director during the internship period. (3 crs.)

## **MGT – Management**

**MGT 271. COMPUTER APPLICATIONS IN BUSINESS I.** An introduction to the basic tools and techniques of software used to solve business problems. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.)

**MGT 273. COMPUTER APPLICATIONS IN BUSINESS II.** A continuation of Computer Applications in Business I with an emphasis on more advanced topics and problem solving. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.)

**MGT 300. PRINCIPLES OF MANAGEMENT.** This course provides background and insight into the human factors involved in the day-to-day and long-term operations of an organization. It is built on the four management functions necessary for success in any type (profit or nonprofit) organization. The course focuses on major issues that affect today's managers, such as global environment, corporate social responsibilities and ethics, organizational culture, employee empowerment, and employee diversity. Although the course concentrates on human interaction within organizations, it also explores an organization's influence on the social, political, legal, economic, technical, cultural and global external environments, and how those external environments, in turn, affect the operations of the organization. (3 crs.)

**MGT 301. ORGANIZATIONAL BEHAVIOR.** A study of the theory, research and practice of individual and group behavior in organizations to better understand and manage people at work. The course focuses on describing, understanding and explaining individual and group behavior in organizations with emphasis given to managing or influencing that behavior to increase organizational effectiveness. (3 crs.)

**MGT 303. ENTREPRENEURSHIP I: SMALL-BUSINESS FUNDAMENTALS.** A management course designed to address the steps of the entrepreneurial process. A study of the development of a new business venture by an individual entrepreneur rather than the management of ongoing enterprises. Describes the processes used to evaluate opportunities, identify possible choices and do all things necessary to establish an organization. (3 crs.)

**MGT 305. ENTREPRENEURSHIP II: SMALL-BUSINESS MANAGEMENT.** A management course designed to describe how to integrate all business functions of an ongoing enterprise at the small-business level. The course focuses on financing the organization, product identification, required services and preparing a business plan on different aspects of the organization, such as retailing operations, service business or manufacturing operations. This plan should be appropriate to the objectives and resources of the individual entrepreneur. (3 crs.)

**MGT 311. ORGANIZATION THEORY AND DESIGN.** A comprehensive macro-view approach to the study of organizations and their functioning. Topics covered include environment and open systems, technology, size and life cycle, organizational control, culture and ethics, information processing, decision-making processes, power and politics, and organizational innovation and change. Emphasis is placed on how external and internal factors influence the structure and design of the organization. (3 crs.)

**MGT 315. ORGANIZATION DEVELOPMENT AND CHANGE.** This course is about planned organization change and is designed to introduce the student to the field of organization development, its definition, goals, precedents, emergence, approaches and current status. (3 crs.)

**MGT 352. HUMAN RESOURCE MANAGEMENT.** Decision making and analyses of major management problems that arise in manpower planning, recruitment, selection, development, compensation and appraisal of employees in various organizations. (3 crs.)

**MGT 353. COMPENSATION MANAGEMENT.** An examination of the general structure of an organization and the rewards employees seek in exchange for the efforts and contributions they provide. Topics to be offered include people and word rewards, a motivating work environment, government and market influences, job contract analysis, developing pay structures, pay for performance, employee benefits, and administration of the compensation plan. (3 crs.)

**MGT 362. LABOR RELATIONS.** This course provides background and insight into the many areas and processes of labor relations. Students analyze and evaluate the role and effectiveness of labor organizations in today's society. Students compare and evaluate the impacts and effects of labor organizations on both (unionized and nonunionized) organizations and employees. Although focused on current United States labor relations practices, global labor relations are also discussed. The course offers students the opportunity to explore labor organizations' influence on social, political, legal, economic, technical, cultural and global environments. Prerequisite: MGT 300 or permission of instructor. (3 crs.)

**MGT 371. MANAGEMENT INFORMATION SYSTEMS.** This course provides background and insight into the information systems that business professionals and other organizations rely on. It concentrates on computer-based information systems that use various information technologies. This course illustrates how the field of information systems encompasses many complex technologies, abstract behavioral concepts and specialized applications in countless business areas, such as marketing, human resource management, finance, accounting and operations. (3 crs.)

**MGT 373. COMPUTER-BASED MANAGEMENT INFORMATION SYSTEMS.** This course provides background and insight into the technical foundations of database management for business professionals. It concentrates on information technology systems that support managerial decision making. This course illustrates how the field of information technology systems supports customer relationship management and supply chain management. It demonstrates how information systems are developed and applied in solving various business dilemmas. The course stresses the importance of properly managing information technology, locally and globally, to obtain and maintain a competitive advantage in the business world. (3 crs.)

**MGT 375. INFORMATION TECHNOLOGY ETHICS.** The course provides background and insight into the ethical challenges posed by rapidly changing information technology. Students will examine and analyze the issues and controversies that comprise the field of cyberethics and cybertechnology. This course illustrates the broad coverage of cyberethics since it covers not only the professional, business aspects of information technology ethics, but also the individual, personal aspects of information technology ethics. (3 crs.)

**MGT 376. CYBERLAW & E-PRIVACY ISSUES FOR BUSINESS.** This course provides a thorough review for business managers of the legal issues relevant to digital retention of data, cybersecurity and privacy. Students will learn the appropriate managerial tactics to help comply with most major privacy and cyber-related regulations. Prerequisite: MGT 300 or permission of instructor. (3 crs.)

**MGT 377. E-BUSINESS MANAGEMENT.** The course provides background and insight into the issues and challenges for managers working in an e-business organization. Students will examine and analyze the various tactical and strategic issues encountered by e-business managers. This course covers not only managerial aspects of electronic businesses but also managerial aspects of other electronic organizations. (3 crs.)

**MGT 402. STRATEGIC MANAGEMENT.** A capstone course for all business majors requiring students to integrate and apply multidisciplinary knowledge and skills in formulating, implementing and evaluating organizational strategies. Case analysis method predominates. Prerequisite: Upper-level standing. (3 crs.)

**MGT 431. INTERNATIONAL BUSINESS MANAGEMENT.** The concepts, problems and policies of international business enterprises for managers. Prerequisite: Junior-level standing. (3 crs.)

**MGT 452. HUMAN RESOURCE STRATEGY AND PLANNING.** This course examines organizational human resources management from a strategic perspective. The key focus is on exploring HR planning and strategy concepts, developing an understanding of the related analytical tools, and determining how these concepts and tools can be used to enhance an organization's competitive position. (3 crs.)

**MGT 492. MANAGEMENT INTERNSHIP.** On the completion of the course, the student should be able to see how the knowledge acquired in the management courses is applied in real-world situations. It provides students with an opportunity to translate academic principles to real-world situations and to test their career interests. It will also enable students to determine what additional skills are needed to be successful in the workplace. (Repeatable; variable crs.; a maximum of 12 crs. may be used toward the completion of a baccalaureate degree.)

## **MKT – Marketing**

**MKT 300. PRINCIPLES OF MARKETING.** This course serves as an introduction to the marketing discipline. Foundational topics include identification of target markets, understanding of population demographics and psychographics, the four Ps (product, price, place, promotion) of marketing, social responsibility, marketing segmentation, environmental factors affecting marketing efforts, consumer behavior, marketing research, advertising, promotion, and personal selling. Careers in marketing are also covered. (3 crs.)

**MKT 311. E-MARKETING.** This course presents a strategic framework for developing marketing strategies on the Internet. It extends the marketing mix framework to e-commerce using current theories and applications in online product, online pricing, Web-based marketing communication and distribution strategies. Other topics include marketing research on the Internet, electronic retailing, Internet-based customer relationship management and legal-ethical dimensions of e-marketing. Prerequisite: MKT 300. (3 crs.)

**MKT 320. PRINCIPLES OF SELLING.** This course serves as an introduction to the world of the professional sales representative. The focus of the course is on the development and execution of a professional sales presentation. Topics covered include professional self presentation; the approach; features, advantages and benefits of the product; the marketing plan; the business proposition; handling buyer objections, and closing the sales presentation. (3 crs.)

**MKT 321. SALES MANAGEMENT.** This course serves to present the theories and concepts relevant for the management of a professional remote sales force. Topics covered include sales program planning; account prospecting; sales force organization; recruiting and selecting sales personnel; sales training, leadership, motivation, compensation and evaluation of the sales force. Prerequisite: MKT 320 and MGT 300. (3 crs.)

**MKT 331. RETAILING.** This course serves as an overview of the retail marketing environment. Topics include strategic retail marketing, situational analysis, retail institutions by strategy mix, nonstore-based retailing, trading area analysis, retail organization and the human resources function, development of merchandise plans and pricing, assortment planning, visual and image merchandising, and retail promotional strategy. Prerequisite: MKT 300. (3 crs.)

**MKT 341. MARKETING FOR NONPROFIT ORGANIZATIONS.** A marketing course designed for both business majors and nonmajors that differentiates between for-profit and not-for-profit organizations, investigates the competitive environment facing nonprofits (e.g., hospitals, churches, charities, colleges, performing arts groups), and applies research techniques and marketing tools (product policy, distribution and delivery systems, monetary pricing, and communication strategies) to the nonprofit entity. Prerequisite: MKT 300. (3 crs.)

**MKT 351. ADVERTISING MANAGEMENT.** This course serves to present the theories and concepts involved in the understanding of the advertising mix: advertising, public relations, sales promotion and professional selling. Topics include integrated marketing communication, branding, promotional opportunity analysis, theoretical frameworks, types of appeals, executional frameworks, media selection, trade and consumer promotions, sponsorship programs, and the evaluation of the integrated marketing communication program. Prerequisite: MKT 300. (3 crs.)

**MKT 361. ENTREPRENEURIAL MARKETING.** The course provides an understanding of the basic concepts and processes used in developing an integrated marketing communications (IMC) campaign targeted to the small business startup or owner. Topics covered include developing a promotional opportunity analysis, understanding and using the advertising mix, establishing media selection techniques, selecting promotional strategies, and evaluating the IMC efforts. Prerequisites: MGT 303, MGT 305, and MKT 300. (3 crs.)

**MKT 371. CUSTOMER RELATIONSHIP MANAGEMENT.** This course presents information needed to build effective customer relationships and retention. Introduced are basic theories and terminology of customer relationship management. Key customer relationship management principles are covered, including customer segmentation and the measurement and contributors of customer satisfaction. Highlighted are strategies designed to support the objectives of the organization by aligning people, processes and technologies. Prerequisite: MKT 300, MGT 300 or CIS 110. (3 crs.)

**MKT 401. MARKETING MANAGEMENT.** Description and analysis of the nature, strategies and techniques of marketing management. Prerequisite: MKT 300, and at least 6 more credits in marketing. (3 crs.)

**MKT 421. CONSUMER BEHAVIOR.** This course integrates the disciplines of psychology, anthropology, economics and sociology with marketing to explain, understand and predict consumer decisions. This is achieved by exploring both the theoretical and practical implications of: (1) individual behavior variables such as motivation, learning, perception, personality and attitudes; (2) group influences such as family, culture, social class and reference group behavior; and (3) consumer decision processes such as cognitive dissonance, brand loyalty, new product adoption and risk reduction. Prerequisite: MKT 300. (3 crs.)

**MKT 431. MARKETING RESEARCH.** Description of behavioral and statistical tools for designing and implementing research projects. Prerequisites: MKT 300, MAT 225. (3 crs.)

**MKT 452. BUSINESS MARKETING.** The characteristics of business-to-business marketing are explored and developed, focusing on environment, pricing, planning, distribution, evaluation and strategy development for marketing business and industrial products to the professional user or buyer. Prerequisite: MKT 300. (3 crs.)

**MKT 461. INTERNATIONAL MARKETING.** On the completion of this course, the student should be able to analyze, integrate and explain a variety of environmental forces that differentiate domestic from international marketing designs. Prerequisite: MKT 300. (3 crs.)

**MKT 492. MARKETING INTERNSHIP.** On the completion of the course, students should be able to see how the knowledge acquired in the marketing courses is applied in real-world situations. It provides students with an opportunity to translate academic principles to real-world situations and to test their career interests. It will also enable students to determine what additional skills are needed to be successful in the workplace. Prerequisite: Permission of instructor. (Repeatable; variable crs.; a maximum of 12 credits may be used toward the completion of a bachelor's degree.)

**MKT 501. INTERNATIONAL BUSINESS MARKETING.** Upon completion of the course, the student will be able to evaluate and make recommendations and decisions concerning the strategy and tactics of real-life targeting and marketing mix development for both global and country-specific markets. Prerequisite: MKT 300. (3 crs.)

## **MAT and DMA – Mathematics**

**DMA 092. INTRODUCTORY ALGEBRA.** Designed to aid the student in the transition from arithmetic to algebra, this course can be used to satisfy the prerequisite for elementary topics in Math I and II (MAT 120 and 130), College Algebra (MAT 181) and Statistics (MAT 215 and 225). Topics will include operations on integers and polynomials, factoring and linear equations, and radicals. This course may not be used as a natural science elective. This course does not earn credit toward graduation. Prerequisite: Must pass Part A of the University math placement test (11 or higher) or SAT-Math 440 or higher. (3 crs.)

**MAT 100. FUNDAMENTALS OF MATHEMATICS.** This course was designed to enhance the student's knowledge, understanding and appreciation of mathematics. Topics are selected from among a variety of areas and fields in mathematics: problem solving, set theory, logic, numeration systems, elementary number theory, statistics, geometry and probability. The student will examine the language, notation and applications relative to each area in

mathematics. Prerequisite: Must pass Part A of the University math placement test (11 or higher) or SAT- Math 440 or higher. (3 crs.)

**MAT 110. APPLICATIONS OF MATH.** This course will provide the student with an application-oriented mathematics curriculum. Students will use cooperative learning to solve real-world problems using technology and multimedia resources. The course will be taught from a student discovery and investigative standpoint incorporating the use of the National Council of Teachers of Mathematics Principles and Standards for School Mathematics. The topics covered include statistics, circuits, probability, linear programming and dynamic programming. Prerequisite: Must pass Part A of the University math placement test (11 or higher) or SAT- Math 440 or higher. (3 crs.)

**MAT 120. ELEMENTARY TOPICS IN MATHEMATICS I.** This is the first course of a sequence of two mathematics content courses specifically designed for Pre-K to Grade 8 teacher education candidates by providing an overview of fundamental mathematical concepts. The content covered includes basic algebraic work with equations and inequalities in one unknown, systems of equations, problem-solving, sets, concepts of logic, binary operations, systems of numeration, number theory, rational numbers, real numbers, measurement, and use of calculators and computers. Prerequisite: DMA 092 for education majors; pass Part A of the University math placement test for nonmajors (11 or higher). (3 crs.)

**MAT 130. ELEMENTARY TOPICS IN MATHEMATICS II.** This is the second course of a sequence of two mathematics content courses specifically designed for Pre-K to Grade 8 teacher education candidates by providing an overview of fundamental mathematical concepts. The content covered includes metric and nonmetric geometry, coordinate geometry, introduction of statistics and probability, problem-solving, and computer use. Prerequisite: DMA 092 for education majors; pass Part A of the University math placement test for nonmajors (11 or higher). (3 crs.)

**MAT 181. COLLEGE ALGEBRA.** Fundamental operations; factoring and fractions; exponents and radicals; functions and graphs; equations and inequalities; properties of graphs; systems of linear equations; synthetic division; and rational zeros of polynomials. Prerequisite: DMA 092 or pass Part B of the University math placement test (12 or higher) or SAT-Math 520 or higher. (3 crs.)

**MAT 191. COLLEGE TRIGONOMETRY.** A thorough development of trigonometry. This course includes both circular and right-triangle geometry, evaluation of trigonometric functions, graphing trigonometric and inverse trigonometric functions, analyses of trigonometric graphs, verifying trigonometric identities, solutions of trigonometric equations, and applications of trigonometry. Prerequisite: MAT 181 or pass Part C of the University mathematics placement test (10 or higher) or SAT-math 580 or higher. (3 crs.)

**MAT 195. DISCRETE MATHEMATICAL STRUCTURES FOR COMPUTER SCIENCE.** An introduction to the theories and structures of mathematics that are relevant in computer science. Topics include set theory, formal logic, mathematical induction, Boolean algebra, number theory, matrix algebra, combinatorics, probability, algorithmic analysis, complexity and graph theory. Prerequisite: MAT 181, pass Part C of the University mathematics placement test (10 or higher), or SAT-Math 580 or higher. (3 crs.)

**MAT 199. PRE-CALCULUS.** An overview of the essential concepts and techniques of algebra and trigonometry required for the study of calculus. Topics include slope; lines; equations; analyses of graphs and graphing; logarithms; trigonometric identities; and algebraic, exponential, logarithmic and trigonometric functions. Functions, their graphs and related applications are emphasized. Prerequisites: MAT 181 or SAT-Math 640 or higher. (3 crs.)

**MAT 215. STATISTICS.** For nonmajors; not counted toward a mathematics major. Frequency distribution, percentiles, measures of central tendency and variability, normal distribution and curve, populations, samples, sampling distribution of means, sampling distribution of proportions, null and alternative hypotheses, type I and type II errors, hypothesis testing tests of means, confidence intervals, decision procedures, correlation, chi-square, simple analysis of variance, and design of experiments. Appropriate technology will be used. Prerequisite: DMA 092 or pass Part A of the University math placement test (11 or higher). (3 crs.)

**MAT 225. BUSINESS STATISTICS.** Statistical techniques relevant to business applications. Primary emphasis is placed upon identification of appropriate statistical methods to use, proper interpretation and appropriate presentation of results. Topics include descriptive statistics, probability concepts, the normal probability distribution, estimation techniques, tests of hypotheses, simple and multiple linear regression. Statistical software is used to implement many of the statistical methods. Prerequisite: MAT 181 or pass Part C of the University math placement test (10 or higher). (3 crs.)

**MAT 272. DISCRETE MATHEMATICS.** Introduction to theories and methods of mathematics relative to computer science but taught from a mathematics perspective. Topics include logic, set theory, elementary number theory, methods of proofs and proof writing (direct, indirect and math induction), combinatorics, probability, relations and functions, and graph theory. Prerequisite: MAT 181, pass Part C of the University mathematics placement test (10 or higher), or SAT-math 580 or higher. (3 crs.)

**MAT 273. BASIC CALCULUS.** The techniques of differentiation and integration are covered without the theory of limits and continuity. Applications in business and biological science are considered. Prerequisite: MAT 181 or MAT 199. (3 crs.)

**MAT 281. CALCULUS I.** Functions; inverse functions; logarithmic functions; exponential functions; trigonometric functions; limits and continuity; the derivative; applications of the derivative. Prerequisite: MAT 181 and MAT 191 or MAT 199. (3 crs.)

**MAT 282. CALCULUS II.** Introduction to integration; fundamental theorem of integral calculus; applications of the integration; integration techniques, L'Hopital's rule, improper integrals, hyperbolic functions. Prerequisite: MAT 281. (3 crs.)

**MAT 290. TECHNOLOGY FOR MATHEMATICS.** This course, designed for both mathematics and science majors and for prospective and practicing educators, details the use of technological tools in the study of mathematics and



explores the effective and appropriate use of technology in the teaching, learning and application of mathematics. The course is composed of three components: using graphing calculators; using calculator-based laboratories; using mathematical software. The course will be taught from a laboratory-based perspective. Prerequisite: MAT 281. (3 crs.)

**MAT 303. GEOMETRY.** This course is an analysis of axiomatic systems, axiomatic development of elementary Euclidean geometry and non-Euclidean geometry. Prerequisites: MAT 272. (3 crs.)

**MAT 304. HISTORY OF MATHEMATICS.** This course is a historical summary of the development of mathematics. Emphasis is placed on relating mathematics to the development of world culture and its relationship with all aspects of our culture. The lives and discoveries of many mathematicians are discussed. Methods of incorporating the history of mathematics into high school mathematics courses are a major focus of the course. This is a writing-intensive course. Prerequisites: MAT 303 and MAT 282. (3 crs.)

**MAT 305. THEORY OF EQUATIONS.** This course deals with the development of the theory involved in solving algebraic equations. It includes complex numbers as an algebraic system, polynomials in one variable, cubic and biquadratic equations, limits of roots and rational roots, isolation and separation of roots, and the approximate evaluations of roots. Prerequisite: MAT 281. (3 crs.)

**MAT 341. LINEAR ALGEBRA I.** This course covers systems of linear equations and matrices, determinants, vectors in  $n$ -space, vector spaces, linear transformations, eigenvalues, eigenvectors, and applications. Prerequisite: MAT 272. (3 crs.)

**MAT 351. ABSTRACT ALGEBRA I.** Fundamental concepts of logic; natural numbers, well-ordering property, induction, elementary concepts of number theory; groups, cosets, Lagrange's theorem, normal subgroups, factor groups; homomorphism, isomorphism and related topics, including Cayley's theorem. Prerequisite: MAT 272. (3 crs.)

**MAT 381. CALCULUS III.** Continuation of integration techniques, indeterminate forms and improper integrals, parametric and polar curves, and conic sections, infinite series, and the theory of infinite series and power series. Prerequisite: MAT 282. (3 crs.)

**MAT 382. CALCULUS IV.** Vector analysis in two and three dimensions. Topics include theory of curves and surfaces; partial derivatives; multiple integrals; and Greens, Stokes and the Divergence theorems. Prerequisite: MAT 381. (3 crs.)

**MAT 400. MATHEMATICAL MODELING.** This course provides an introduction to mathematical modeling. Students will be presented with real-world problems from a variety of fields, such as physics, biology, earth science, meteorology, engineering, economics, etc. Students will learn how to select appropriate mathematical models to model the real-world situation, use the model to solve a real-world problem, interpret the results of the solution(s), and communicate their work orally and in written format. This course serves as a capstone course for students in mathematics. This is a writing-intensive course. Prerequisites: MAT 215, MAT 341 and MAT 381. (3 crs.)

**MAT 406. DIFFERENTIAL EQUATIONS.** Ordinary differential equations and their solutions. The existence and uniqueness of solutions. Various types of differential equations and the techniques for obtaining their solution. Some basic applications, including numerical techniques are discussed. Prerequisite: MAT 381. (3 crs.)

**MAT 419. MATH INTERNSHIP.** This course is designed for the B.A. in Mathematics majors who are seeking work experience in the mathematics area. This intern experience will enable students to apply their knowledge of mathematics in the real workplace. The internship will provide students with the valuable experience in the applications of mathematics that should enhance their job opportunities upon graduation. Prerequisite: Students should have completed 64 credits with a good GPA plus have sufficient background to meet the needs of the particular internship in which they will be participating. (3 crs.)

**MAT 441. LINEAR ALGEBRA II.** Extends the concepts learned in Linear Algebra I. The content is not fixed, but usually includes the following topics: linear transformations, change-of-bases matrices, representation matrices, inner-product spaces, eigenvalues and eigenvectors, diagonalization, and orthogonality. Prerequisite: MAT 341. Offered in-class, spring (even years only). (3 crs.)

**MAT 451. ABSTRACT ALGEBRA II.** Study of rings, ideals, quotient rings, integral domains and fields; ring homomorphisms; polynomial rings, division algorithms, factorization of polynomials, unique factorization, extensions, fundamental theorem; finite fields. Prerequisite: MAT 351. (3 crs.)

**MAT 461. STATISTICAL ANALYSIS I.** Basic concepts of both discrete and continuous probability theory. The study of random variables, probability distributions, mathematical expectation and a number of significant probability models. Introduction to statistical estimation and hypothesis testing. Prerequisite: MAT 282 and MAT 215 or MAT 225. Offered in-class, fall. (3 crs.)

**MAT 462. STATISTICAL ANALYSIS II.** Continuation of MAT 461. Statistical theory and application of statistical estimation techniques and hypothesis testing methods. Simple linear and multiple linear regression models. Statistical techniques are implemented with microcomputer statistical software. Prerequisite: MAT 461. Offered in-class, spring (odd years only). (3 crs.)

**MAT 468. FIELD EXPERIENCES IN MATHEMATICS.** This class is not scheduled to run every semester and will be run approximately once every two years. It gives the student an opportunity to delve into a topic of special interest. It also affords the student an opportunity to experience research procedures in the field. The selection of the topic or topics to be examined will vary according to the research interests of faculty and students. The course is an online course that includes a required field trip related to the topic of the course. Examples of possible topics may be "The Mathematics of Egypt," "The Mathematicians of Europe," "The Mathematics of Wall Street." Prerequisites: Mathematics major, completed 64 credits or permission of the department chair or course instructor. (3 crs.)

**MAT 469. HONORS COURSE IN MATHEMATICS.** Mathematics majors must, as a prerequisite for this course, have completed 64 credits with a GPA of 3.25 in all work and the permission of the department chair. (3 crs.)

**MAT 481. REAL ANALYSIS I.** This course covers logic and techniques of proof; relations, functions, cardinality and naive set theory; development of real numbers from natural numbers through topology of the line; and convergence and related ideas dealing with functions (sequences and series), including continuity. Prerequisites: MAT 272 and MAT 381. (3 crs.)

**MAT 482. REAL ANALYSIS II.** Further development of the limit concept pertaining to functions, including differentiation and integration along with appropriate theorems and properties; continuation of development of sequences and series, including functions. Prerequisite: MAT 481. (3 crs.)

**MAT 490. TOPOLOGY.** Set theory as applied to topological spaces, including the real line; metric spaces. Prerequisite: MAT 351 or MAT 481. (3 crs.)

**MAT 495. SEMINAR IN MATHEMATICS.** Topics in this course are chosen jointly by the instructor and the student or students involved. Prerequisite: Permission of instructor and chair of the department. (Repeatable for a maximum of 6 crs.)

**MAT 496. SENIOR RESEARCH PROJECT.** This course, which should be taken near the end of the student's bachelor's degree program, involves an in-depth investigation of a mathematical or computer science topic (theoretical computer science being mathematical in nature). The investigation will culminate in the presentation of a senior paper. Prerequisite: Permission of mathematics and computer science departments. (3 crs.)

## **MUS — Music**

**MUS 100. INTRODUCTION TO MUSIC.** Exposes the student to the various historical, analytical and aesthetic elements of music, thereby providing an opportunity to broaden and enrich personal enjoyment. This exposure to music is made through the use of visual aids, audio and video recordings, and concert attendance. (3 crs.)

**MUS 104. VOICE CLASS.** This course is designed for students who want to improve their singing voice as a musically expressive instrument. Breathing, vocal placement, and diction and rhythmic literacy will be emphasized. Attention will also be given to improving sight-singing ability. (3 crs.)

**MUS 186. CLAVINOVA ENSEMBLE.** This course will provide a music experience for students so they can actively engage in the artistic, cultural and social benefits of music presentations. This is a performance-based course requiring the development of intellectual and physical demonstrations. Active participation by all members is required since the quality of the course and the experiences gained are dependent on the progress of all individuals. The University Clavinova Ensemble performs at concerts both on and off campus. Membership in this ensemble is open to any interested keyboard player. No audition is necessary, but a successful interview with and permission of the director is required. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 187. GUITAR ENSEMBLE.** This course will provide a music experience for students so they can actively engage in the artistic, cultural and social benefits of music presentations. This is a performance-based course requiring the development of intellectual and physical demonstrations. Active participation by all members is required since the quality of the course and the experiences gained are dependent on the progress of all individuals. The University Guitar Ensemble performs at concerts both on and off campus. Membership in this ensemble is open to any interested guitarist. No audition is necessary, but a successful interview with and permission of the director is required. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 188. STRING ENSEMBLE.** This course will provide a music experience for students so they can actively engage in the artistic, cultural and social benefits of music presentations. This is a performance-based course requiring the development of intellectual and physical demonstrations. Active participation by all members is required since the quality of the course and the experiences gained are dependent on the progress of all individuals. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 191. UNIVERSITY CHOIR.** The California University Choir provides an opportunity for students to sing a wide variety of music from both contemporary and traditional repertoire. The choir performs frequently on campus and throughout southwestern Pennsylvania. Choir membership is elective; an interview with the director is required. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 192. CALIFORNIA SINGERS.** A small (20-24 members) vocal ensemble, with membership determined by audition. The group performs entertainment music of all eras and many cultures; the style of performance is adapted to fit the music being performed, the audience and the season. Smaller groups within the ensemble, such as the A Capella Stella (all women a cappella) and Vulcanize (all male a cappella) may rehearse separately to prepare extra concert repertoire. Choreography, dialogue or mime is part of some performances. A student may participate with or without using credit. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 196. JAZZ ENSEMBLE.** The Jazz Ensemble performs a wide variety of literature, from swing through fusion, funk, rock and ballad. Entrance is by an interview with the Jazz Ensemble director. Attendance is required at rehearsals and all public performances. Membership granted only by audition. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 198. UNIVERSITY MARCHING BAND.** The University Marching Band performs at football games and parades, and is the featured band at numerous marching band festivals. Membership in this ensemble is open to any interested instrumentalist or equipment technician. There is no audition, but an interview with the director is required. Membership is also open to any student interested in auditioning for feature twirler or for a position on the auxiliary unit as a silk, dancer or rifle. This course is repeatable to a maximum of 8 credits. (1 cr.)

**MUS 199. UNIVERSITY CONCERT BAND.** The University Concert Band performs a wide variety of traditional and contemporary literature written for the idiom. The University Concert Band performs at convocations and concerts both on and off campus. Membership in this ensemble is open to any interested instrumentalist. No audition is necessary, but an interview with the director is required. This course is repeatable to a maximum of 8 credits. (1 cr.)

MUS 202. NORTH AMERICAN MUSIC. Presents a panoramic view of the musical activities in America from Colonial times through the present. Included in this study of American folk, popular and art music are the various aspects of primitive music, psalmody, early opera and concert life; African and European folk music's influence in America; the singing school; the musical effect of European immigrants; and the roots of jazz and its ramifications. Prerequisite: MUS 100 is strongly recommended. (3 crs.)

MUS 211. KEYBOARD CLASS. For the beginning level students interested in achieving facility at the piano. Includes playing of major and minor scales, patterns and fingerings, and chords (I, IV, V) in both major and minor keys followed by their inversions and the common tone chord sequence pattern. A student completing the course should be able to play simple songs by combining melody with chord accompaniment. It is expected that students will be at an entry level in keyboard experience. Prerequisite: MUS 215 or permission of instructor. (3 crs.)

MUS 215. COMPREHENSIVE MUSICIANSHIP I. Provides a knowledge of the fundamentals of music and an ability to execute basic skills, including the study of notation, rhythms and meters, major and minor scales and key signatures, intervals and chords. Basic ear training and an introduction to piano keyboard is also included. Strongly recommended for elementary education students and any others interested in strengthening their knowledge of music fundamentals. (3 crs.)

MUS 300. JAZZ: HISTORY, FORM AND ANALYSIS. This course presents the historical background of jazz from 1900 to the present, the important artists and ensembles and their contributions to the art form, and analysis of jazz styles and forms via guided listening of recordings, videos and live performances. Prerequisite: MUS 100. (3 crs.)

MUS 304. AMERICAN MUSICAL: HISTORY, FORM AND ANALYSIS. This course presents the various historical, cultural and social elements of the American musical. This will be accomplished through the use of visual aids, audio recordings, television, video tapes, films and, whenever possible, live performances. Experts in the field will be utilized as guest lecturers. Prerequisite: MUS 100 is strongly recommended. (3 crs.)

MUS 306. THE OPERA: HISTORY, FORM AND ANALYSIS. This course will examine the origins, history and elements of opera and related dramatic works for voices with instruments. The analysis of various operas will reveal the relationship of plots and music to historical and national events taking place at the time of their composition. The entire class will attend a live opera performance if at all possible. Prerequisite: MUS 100, MUS 215 is strongly recommended. (3 crs.)

MUS 307. SPECIAL MUSIC PROJECT. This course revolves around a specific staged musical production. It encompasses all facets of this project from concept through delivery, including individual and ensemble performances, technical design and implementation, business and marketing. (3 crs.)

MUS 313. ROCK AND ROLL: HISTORY, FORM AND ANALYSIS. This course presents the various musical, historical, cultural and social elements of Rock and Roll. The student will acquire from this course an aural and intellectual grasp of this facet of music. This will be accomplished through the use of lecture/discussion and individual projects as well as the use of audio and video methods to study the important artists and ensembles and their contributions to the art form. Experts in the field will be utilized as guest lecturers. Prerequisites: MUS 100 or permission of instructor. (3 crs.)

MUS 315. COMPREHENSIVE MUSICIANSHIP II. This course is designed for the student who wishes to acquire comprehensive musicianship skills. The student will learn the sol-fa system of note reading and interval identification, using both stationary and moveable tonic. Through sight-singing and ear-training exercises, students will refine their aural skills. Students will learn to notate simple melodies dictated, as well as to sing, whistle, or hum melodies and chords represented by notation. Prerequisite: MUS 215. (3 crs.)

MUS 316. COMPREHENSIVE MUSICIANSHIP III. Comprehensive Musicianship III builds on the foundations of Comprehensive Musicianship I & II. It is the study of advanced theory of music including chromatic harmony. Stylistic differences between 18th and 19th century practice will be studied. Sight-singing and ear-training work will be continued. Ongoing practice of basic keyboard skills will continue to reinforce knowledge of these elements of music literacy. Original composition will be encouraged. Prerequisite: MUS 215, MUS 315, MUS 211 or by permission of instructor. (3 crs.)

MUS 372. CREATIVE ARTS FOR ELEMENTARY EDUCATION. This course provides a survey of concepts, theories, and experiences for integrating arts education into the elementary classroom curriculum. Students will have practical experiences in art, music and theatre along with arts and education theories. This course will enable future teachers to develop arts experiences and lesson plans for children. Prerequisite: EDE 211. Materials fee required. (3 crs.)

MUS 380. CREATIVE DIGITAL MUSIC. This course is designed to provide the student with the skills necessary to create and manipulate digital audio with the goal of understanding commercial applications such as creating underscore music for dialogue and video game music. (3 crs.)

MUS 390. MUSIC PRODUCTION I. This introductory course provides a foundation in musical production. It will incorporate advanced MIDI theory and skills that are applied in the areas of music notation software, music production (sequencing) software, MIDI controller techniques and their respective required configurations (software/hardware). Prerequisite: MUS 380. (3 crs.)

MUS 416. COMPREHENSIVE MUSICIANSHIP IV. Comprehensive Musicianship IV is the final theory course of the rotation and builds on the foundations of Comprehensive Musicianship I, II and III. It is the study of advanced theory of music including chromatic harmony. Stylistic differences between 18th-, 19th- and 20th-century practice will be studied. Sight-singing and ear-training work will be continued. Ongoing practice of basic keyboard skills will continue to reinforce knowledge of these elements of music literacy. Original composition will be encouraged. Prerequisites: MUS 215, MUS 315, MUS 316, MUS 211 or by permission of instructor. (3 crs.)

MUS 425. COMMERCIAL MUSIC ARRANGING. This course will call upon the application of previously acquired skills and apply them to the task of creating imaginative and practical commercial arrangements in various musical styles. Prerequisites: MUS 100, MUS 215, MUS 315, MUS 316, MUS 416, MUS 380. (3 crs.)

MUS 488. MUSIC TECH INTERNSHIP. This course offers the student the opportunity for practical, professional recording work and field experiences in various on- and off-campus settings. Internships are to be jointly administered by an on-site supervisor and a departmental internship supervisor. (2 crs.)

MUS 489. MUSIC TECH PRACTICUM. This course offers the student the opportunity for practical, professional recording work and field experiences in various on-and off-campus settings. Practicums are to be by a departmental practicum supervisor. Prerequisites: departmental internship minimum requirements and/or approval of department internship committee. (1 cr.)

MUS 490. MUSIC PRODUCTION II. This course builds on the foundation of Music Production I and focuses on the techniques for recording, editing and producing digital sound. Using the (industry standard) hard-disk recording software Pro Tools, students will have hands-on experience in the fundamental methods of multitrack recording, mixing and mastering. In addition, digital audio theory, including (but not limited to) sampling, ADC/DAC conversion. Prerequisites: MUS 380, MUS 390. (3 crs.)

MUS 499. SENIOR PROJECT/RECITAL. This course serves as the final demonstration of the student's specialization within the B.Mus. in commercial music technology program. Under the supervision of a faculty adviser, the student seeks to make a substantive contribution to the discipline. Considerable latitude in the form of the contribution is permitted. Empirical and historical research as well as creative presentations are all appropriate. Other faculty members of the Music Department are assigned to independently pass judgment on the student's scholastic effort. An oral defense, demonstration or display of the completed project/recital is required. (3 crs.)

MUS 109, 209, 309, 409. PRIVATE INSTRUCTION: BRASS I-IV. (1 cr.)

MUS 119, 219, 319, 419. PRIVATE INSTRUCTION: PIANO I-IV. (1 cr.)

MUS 129, 229, 329, 429. PRIVATE INSTRUCTION: PERCUSSION I-IV. (1 cr.)

MUS 149, 249, 349, 449. PRIVATE INSTRUCTION: WOODWINDS I-IV. (1 cr.)

MUS 159, 259, 359, 459. PRIVATE INSTRUCTION: VOICE I-IV. (1 cr.)

MUS 170, 270, 370, 470. PRIVATE INSTRUCTION: GUITAR I-IV. (1 cr.)

MUS 179, 279, 379, 479. PRIVATE INSTRUCTION: STRING I-IV. (1 cr.)

## **NMT — Nanomanufacturing Technology**

NMT 311. MATERIALS, SAFETY AND EQUIPMENT OVERVIEW FOR NANOFABRICATION. This course provides an overview of basic nanofabrication processing equipment and material chemistry and handling procedures. The focus is on cleanroom protocol, safety, environmental and health issues in equipment operation and materials handling. Topics to be covered will include cleanroom operation, safety and health issues; vacuum pump systems operation, turbomolecular, cryo, diffusion, and dry mechanical pump systems; furnace operation, safety, environmental and health issues (covering horizontal and vertical tube furnaces, and rapid thermal annealing tools); chemical vapor deposition system operation, safety, environmental and health issues (covering gas delivery, corrosive and flammable gas storage, plumbing, regulators, and mass flow controllers); and vacuum deposition/etching system operation, safety, environmental and health issues (covering microwave and EF power supplies, tuners, heating and cooling units, vacuum gauges, valves, and process controllers). Specific materials handling issues will include DI water, solvents, cleaners, ion implantation sources, diffusion sources, photoresists, developers, metals, dielectrics, and toxic, flammable, corrosive and high purity gases as well as packaging materials. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

NMT 312. BASIC NANOFABRICATION PROCESS. This course provides an overview of basic processing steps in nanofabrication (contact lithography, basic etching and deposition techniques). The majority of the course details a step-by-step description of the equipment and processes needed to fabricate devices and structures. Processing flow will be examined for structures such as microelectronic devices, including diode and the MOS capacitor. Students receive an in-depth introduction to basic lithography from wafer preparation to final inspection. Contamination issues in nanofabrication are discussed in detail. Students will learn the similarities and differences in both equipment and process flows for each configuration by undertaking hands-on processing. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

NMT 313. THIN FILMS IN NANOFABRICATION. This course covers advanced thin-film deposition and etching practices in nanofabrication. Advanced deposition techniques covered in the first part of the course include atmosphere, low-pressure and plasma-enhanced chemical vapor deposition, sputtering, thermal and electron beam evaporation. Materials studied include dielectrics (nitride, oxide), polysilicon (doped and undoped), and metals. The second part of the course focuses on advanced etching processes and techniques emphasizing reactive ion etching (single wafer, batch), high-density plasma systems (ECR, MERIE, ICP), ion beam etching, and wet chemical etching. Students will receive hands-on experience in depositing and etching dielectric, semiconductor and metallic materials using state-of-the-art tools and practicing many of the steps critical to nanofabrication of semiconductor devices, including microelectronics, MEMs devices, display structures and structures used in the biotechnology fields. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

NMT 314. ADVANCED LITHOGRAPHY AND DIELECTRICS FOR NANOFABRICATION. This course covers all aspects of advanced lithography from design and mask fabrication to pattern transfer and inspection. The course is divided into three major sections. The first section describes the advanced lithographic process from substrate preparation to exposure. Most of the emphasis is on understanding the nature and behavior of photoresist materials. The second section examines systems and techniques that define patterns. This section will introduce specialized optical masks and reticles, aligners, steppers and scanners. In addition, critical dimension (CD) control and profile control of photoresists will be investigated. The last section will discuss advanced optical lithographic techniques, such as phase shifting masks and illumination schemes as well as e-beam, e-ray, EUV and ion beam lithography. A

section about engineering dielectrics is also discussed. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

**NMT 315. MATERIALS MODIFICATION IN NANOFABRICATION.** This course will cover in detail the processing steps used in modifying material properties in nanofabrication. Evaluate thermal budget requirements using state-of-the-art tools. An intensive study of metals used in nanotechnology aids the student in understanding the various methods of metalization, such as CVD, evaporation and sputtering. Metal applications for interconnect technologies will be examined. Aluminum, refractory metals and copper deposition techniques and characterization will be discussed in detail along with topics such as diffusion barriers, contact resistance, electromigration, corrosion, stress effects and adhesion. Other modification technologies such as ion implantation, diffusion, and surface preparation and treatment are integrated as well. An intensive study of dielectric properties and materials, including dielectric constant engineering, mechanical, optical and electrical characteristics, poly, BSG, PSG, SOG and BPSG, gives the student further insight into advanced device fabrication. Material properties and basic device structures will be discussed for the optoelectronic market. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

**NMT 316. CHARACTERIZATION, PACKAGING AND TESTING OF NANOFABRICATED STRUCTURES.** This course examines a variety of techniques and measurements essential for controlling device fabrication and final packaging. We will revisit concepts such as residual gas analysis introduced in NMT 211; optical emission spectroscopy (OES) and end point detection will be discussed as introduced in NMT 213. Characterization techniques, such as surface profilometry, advanced optical microscopy, optical thin film measurements, ellipsometry and resistivity/conductivity measurements, will be implemented on nanofabricated samples. Basic electrical measurements on device structures for yield analysis and process control will also be stressed. These will include breakdown measurements, junction testing, C-V and I-V tests, and simple transistor characterization. In addition, we will examine mechanical as well as electrical characteristics of nanostructures for biological/biomedical applications. The students will perform DNA analysis by learning and performing the polymerase chain reaction for DNA replication. They will also study and manufacture microfluidic channels for biological analysis. An extensive overview of biology will be given with emphasis on biocompatible materials. The student will also learn about the manufacturing issues involved in subjects such as interconnects, isolation and final device assembly. The importance of planarization techniques, such as deposition/etchback and chemical/mechanical polishing, will be emphasized. Lastly, packaging procedures, such as die separation, inspection bonding, sealing and final test for both conventional ICs and novel MEM and biomedical devices, will be examined. Prerequisites: Acceptance into the NMT capstone semester at Penn State. Fall, spring and summer. (3 crs.)

**NMT 495. NANOFABRICATION MANUFACTURING TECHNOLOGY INTERNSHIP.** Student interns are placed with a nanofabrication manufacturing technology-related organization related to their future employment goals. The intent of the internship is to provide students with practical work or research experience in an environment in which they will be dealing with practical problems requiring real solutions in a relatively short time frame. Adviser and department chairperson approval is required before course enrollment. Prerequisite: Upper-level standing. Fall, spring and summer. (6-12 crs.)

## **NUR – Nursing**

**NUR 101. WOMEN'S HEALTH ISSUES.** This course addresses various health care issues, needs and concerns of women. Emphasis is placed on the biological, developmental, psychological and social concepts related to women's health care. Open to all students. (3 crs.)

**NUR 120. THE INFORMED HEALTH CONSUMER.** This course examines the role of consumer movement and its relationship to the health care delivery system. Emphasis is placed on educating the consumer to knowledgeably and effectively use the health care delivery system. Open to all students. (3 crs.)

**NUR 330. PHILOSOPHY OF PROFESSIONAL NURSING.** Focusing on theoretical frameworks for professional nursing practice, this course includes an introduction to the nursing process and general systems theory. Assignments help students develop and apply a personal philosophy of professional nursing and to independently plan appropriate interventions for multicultural clients of all ages. Prerequisite: B.S.N. status. Fall. (3 crs.)

**NUR 350. HEALTH ASSESSMENT.** Concepts and skills of history-taking and physical assessment are emphasized, focusing on the variations in approach as well as in findings at different stages of human development. Prerequisite: B.S.N. status. Spring. (3 crs.)

**NUR 370. METHODS OF NURSING RESEARCH.** Basic concepts and methods related to the research process are covered. Opportunity is provided for the development of critical-thinking and decision-making skills needed by the professional nurse to analyze and evaluate research findings for application to practice. Prerequisite: B.S.N. status. Fall. (3 crs.)

**NUR 375. LEADERSHIP AND CHANGE IN NURSING.** This course enhances leadership skills through analysis of theories/concepts and experiential exercises. Practicums provide for application of general systems theory in critical analysis of situations and decision making within the practice of nursing to meet emerging health needs of consumers. Prerequisite: B.S.N. status. Spring. (6 crs.: 3 crs. theory; 3 crs. clinical)

**NUR 410. RESEARCH UTILIZATION IN NURSING.** This course differentiates between conducting research and utilizing research. Through participation in research utilization activities, students learn to synthesize research-based knowledge into applicable protocols of care and to utilize research on an organizational level. Prerequisite: B.S.N. status and NUR 370. Spring. (2 crs.)

**NUR 450. TRENDS AND ISSUES IN NURSING.** This course involves analysis of professional nursing as well as bioethical issues from historical and contemporary viewpoints with implications for professional nursing practice in the health care delivery system. Prerequisite: B.S.N. status. Fall. (3 crs.)

NUR 470. FAMILY HEALTH NURSING. An introduction to the theory and practice of family nursing, this course reviews selected family and nursing theories to provide the basis for serving families as units as well as family subsystems and individual family members. Clinical experiences will focus on assessment and care of families for health promotion, restoration and/or rehabilitation. Prerequisite: B.S.N. status. Fall. (6 crs.: 3 crs. theory; 3 crs. clinical)

NUR 475. COMMUNITY HEALTH NURSING. This course focuses on the synthesis of theories from nursing and the public health sciences with emphasis on improving the health of the community by identifying subgroups that are at risk. Clinical activities focus primarily on health promotion directed toward a total community or population group. Prerequisite: B.S.N. status. Spring. (6 crs.: 3 crs. theory; 3 crs. clinical)

NUR 485. PROFESSIONAL DEVELOPMENT IN NURSING. This capstone course examines professional growth from entry into the B.S.N. program to graduation and culminates in completion of a professional portfolio. Prerequisite: B.S.N. status, and this course must be taken the final semester of nursing course work. Fall and spring. (1 cr.)

## **PHI – Philosophy**

PHI 100. PERSPECTIVES IN PHILOSOPHY. This course is an introduction to such major philosophical issues as the nature of knowledge, reality, religion and morals. (3 crs.)

PHI 115. LOGIC AND LANGUAGE. This course is an introduction to basic principles and techniques for distinguishing correct from incorrect reasoning. (3 crs.)

PHI 200. WORLD RELIGIONS. This course studies the seven world religions, including their origins and doctrines. (3 crs.)

PHI 201. ANCIENT PHILOSOPHY. This study of the pre-Socratic philosophers includes Plato, Aristotle, the Stoics, Epicureans and the Skeptics. (3 crs.)

PHI 206. SIXTEENTH- TO EIGHTEENTH-CENTURY PHILOSOPHY. From Descartes to Kant, this course studies modern philosophy in the wake of the Scientific Revolution and the Reformation. (3 crs.)

PHI 211. FORMAL LOGIC I. An introduction to the syntax and semantics of truth-functional and first-order languages, this course also covers proof theories for such languages. (3 crs.)

PHI 220. ETHICS. An examination of selected ethical systems and their philosophical foundations, this course places special emphasis on understanding such basic moral concepts as good, right and duty. (3 crs.)

PHI 225. SOCIAL AND POLITICAL PHILOSOPHY. An examination of selected social or political systems and their philosophical foundations, this course places special emphasis on such basic concepts as natural rights, equality, justice, individual freedom and political authority. (3 crs.)

PHI 247. SCIENCE, TECHNOLOGY AND SOCIETY. This course examines the philosophical issues that stem from the impact that evolving science and technology have on people's beliefs, values and behavior. (3 crs.)

PHI 270. PHILOSOPHY OF MARXISM. This examination of the basic texts of Marx and Engels and the subsequent development of Marxist philosophy attempts a critical evaluation in light of contemporary political philosophy. (3 crs.)

PHI 305. MEDIEVAL PHILOSOPHY. Beginning with neo-Platonism, this course proceeds to study such thinkers as Augustine, Eriugena, Anselm, Thomas Aquinas and William of Ockham. (3 crs.)

PHI 307. MEDICAL ETHICS. This course extends the study of ethics – theoretical and applied – to moral dilemmas and decision making in the field of medicine and health-related professions. (3 crs.)

PHI 308. BIOETHICS. This course examines ethical controversies arising from the study of biology and the development and application of biotechnology and considers applications of theoretical ethics to those controversies. (3 crs.)

PHI 310. NINETEENTH-CENTURY PHILOSOPHY. A survey of the development of German idealism after Kant and the voluntaristic reactions to it, this course also considers British Empiricism and French Positivism. (3 crs.)

PHI 312. FORMAL LOGIC II. A continuation of PHI 211 Formal Logic I, with emphasis on the metatheory of truth-functional and first-order languages, this course also considers selected topics in the philosophy of logic and the philosophy of mathematics. Prerequisite: PHI 211. (3 crs.)

PHI 320. ETHICAL THEORY. An examination of the possibility and nature of ethical knowledge and the meaning of moral discourse, this course gives special consideration to contemporary discussions. (3 crs.)

PHI 325. PHILOSOPHY OF SCIENCE. A study of the methods, concepts and presuppositions of scientific inquiry, this course attempts to understand the historical development of science in the context of various theories of knowledge and reality. (3 crs.)

PHI 335. AESTHETIC THEORY. This course examines the nature and basis of criticism in the fine arts and literature, the nature and function of art, aesthetic standards, the concept of beauty, artistic creativity, and the meaning of truth in literature and the arts. (3 crs.)

PHI 355. PHILOSOPHY OF RELIGION. This course considers the nature of religion, speculations and arguments about the nature and existence of God, the possibility of religious knowledge, claims to religious experience and revelation, the problem of evil, the belief in immortality, and the meaning of religious language. (3 crs.)

PHI 370. THE PHILOSOPHY OF LAW. A survey of the debate about the concept of law in the history of philosophy, this course examines the recent revival of the debate in greater detail. Specific topics include the nature of legal reasoning, the legal enforcement of morality, the problem of responsibility and the concept of justice. (3 crs.)

PHI 405. EPISTEMOLOGY. An examination of selected theories of knowledge, this course includes contemporary discussions. (3 crs.)

PHI 410. METAPHYSICS. This course studies general problems and theories concerning the nature of reality. (3 crs.)

PHI 415. PHILOSOPHY OF MIND. An examination of important stages in the philosophical development of the notion of mind, this course discusses such contemporary problems as the relation of mind and body and the nature of consciousness, and analyzes such notions as will, emotion, action and memory. (3 crs.)

PHI 426. PHENOMENOLOGY AND EXISTENTIALISM. A study of the historical background and development of 20th-century European philosophy, this course places particular emphasis on such philosophers as Husserl, Heidegger, Sartre and Merleau-Ponty. (3 crs.)

PHI 431. ANALYTIC PHILOSOPHY. This course explores selected philosophical issues (e.g., knowledge, truth and meaning) utilizing recent work in conceptual and methodological analysis. Though the course is usually problem-oriented, a good deal of the history of recent Anglo-American philosophy is covered. Recommended prerequisites: PHI 206 and a logic course. (3 crs.)

PHI 459. TUTORIAL IN PHILOSOPHY. (Variable crs.)

PHI 470. SPECIAL PROBLEMS IN PHILOSOPHY. This course is a discussion of some special problem or issue in philosophy. (3 crs.)

PHI 490. SEMINAR IN PHILOSOPHY. This course is a discussion of either one prominent philosopher or a movement in philosophy. (3 crs.)

## **PHS — Physical Science**

PHS 120. BASIC PHYSICAL SCIENCE WITH LABORATORY. Basic Physical Science (L) is a laboratory-oriented course in physical science for nonmajors. Laboratory activities/experiments are assigned, providing a hands-on introduction to experimental methods of scientific investigation. Each activity provides opportunities for the student to discover the practical knowledge necessary for a well-rounded understanding of physical science. Spring and fall. (3 crs.)

PHS 137. INTRODUCTION TO ENVIRONMENTAL CHEMISTRY. This course provides a brief overview of basic chemistry and then examines the environment from a chemical viewpoint. It offers certified GLOBE training ([www.globe.gov](http://www.globe.gov)) to current and future elementary- and secondary-grade teachers. It is a lab-component course and is on the natural science, critical thinking and technology literacy general education menus. No prerequisites. Three class-hours per week. Spring, summer and fall. (3 crs.)

PHS 145. ASTRONOMY. A presentation of methods of investigation and results of astronomical discoveries. Survey of facts and important astronomical theories. Solar system, what is a star, multiple star systems, variable stars and stellar evolution will be discussed. Instruments of the astronomer, such as telescopes and spectrosopes, will be used. Three class-hours each week. Spring, summer and fall. (3 crs.)

## **PTA — Physical Therapist Assistant**

PTA 100. INTRO TO PTA. An overview of the discipline of physical therapy and the role and function of the physical therapist assistant within the physical therapist-physical therapist assistant team. Additional topics include examinations of the history of physical therapy, physical therapy professional organizations, legal and ethical issues, and commonly encountered pathologies. Fall. (3 crs.)

PTA 101. BASIC PHYSICAL THERAPY PROCEDURES. This course provides an introduction to basic physical therapy patient care procedures in a laboratory format. Topics covered include body mechanics, positioning and draping, vital signs, basic exercise, transfer activities, wheelchair features and activities, ambulation aids and activities, infection control, wound care, emergencies, and a review of the Americans with Disabilities Act. Corequisite: PTA 100. Fall. (1 cr.)

PTA 110. INTRO TO PATHOLOGY. This course examines the disease process on the cellular, histological and systemic levels. Particular emphasis is placed on those pathologies commonly encountered by the physical therapist assistant in pediatric, geriatric, orthopedic and neurologic patient populations. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, HSC 290, PTA 230. Summer. (2 crs.)

PTA 150. PHYSICAL THERAPY CLINICAL INTERNSHIP. This introductory clinical internship provides the physical therapist assistant student with extensive observation of activities such as patient care, administration, quality assurance and supervision of other supportive personnel. In addition, students begin to treat patients under the direction of the physical therapist using principles common to all procedures. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, PTA 110, HSC 290, PTA 230. Summer. (3 crs.)

PTA 200. PROFESSIONAL ISSUES IN PHYSICAL THERAPY. This course is an examination of the legal, ethical and professional aspects of a career in physical therapy. Important issues such as liability, malpractice, proactive acts and reimbursement are discussed. Special attention is focused on the importance of research and preparation for the PTA National Physical Therapy Examination. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, PTA 110, PTA 150, PTA 205, PTA 210, PTA 225, PTA 230, PTA 250, HSC 275, HSC 290. Spring. (2 crs.)

PTA 205. INTERVENTIONS IN CARDIOPULMONARY IMPAIRMENTS. An examination of the anatomy, physiology and pathology of the cardiopulmonary system. Specific methods of examination and intervention, including indications and contraindications, for myriad cardiopulmonary conditions. The laboratory portion of the course emphasizes data collection skills and interventions specific to cardiopulmonary rehabilitation performed under

direction of a physical therapist. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, PTA 110, PTA 150, PTA 230, HSC 290. Fall. (2 crs.)

PTA 210. INTERVENTIONS IN NEUROLOGICAL IMPAIRMENTS. This course is an examination of the etiology, signs and symptoms, and effects of pathologies to the central and peripheral nervous systems. Emphasis is placed on how neurological diagnoses affect the physical function of patients. Specific treatment procedures and techniques within the physical therapist assistant scope of practice are demonstrated and practiced in the laboratory setting. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, PTA 110, PTA 150, PTA 230, HSC 290. Fall. (4 crs.)

PTA 225. INTERVENTIONS IN ORTHOPEDIC IMPAIRMENTS. This course guides the physical therapist assistant student under direction of a physical therapist from fundamentals and theory through practice in orthopedic rehabilitation. Emphasis is placed on rehabilitation treatment options for all major joints to reduce pain and swelling, increase motion and strength, enhance balance and proprioception, and restore function. The course will also examine the role of the physical therapist assistant in prosthetic and orthotic management. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101, PTA 110, PTA 150, PTA 230, HSC 290. Fall. (4 crs.)

PTA 230. PHYSICAL THERAPY INTERVENTIONS ACROSS THE LIFE SPAN. This course will illustrate the continuum of pathologies, impairments and interventions across a life span, i.e., gestation, pediatric, adult, middle age and geriatric. This course will include pathologies from populations who are not included in the classifications of the other technical level classes in the program: wound care, burn care, breast cancer, pregnancy, postpartum. Lab experiences will include interaction with pediatric through geriatric clients. The emphasis of the lab will be to allow students the opportunity to adapt interaction to the age and abilities of the client. Prerequisite: Formal admission into the physical therapist assistant program and completion of PTA 100, PTA 101. Spring. (4 crs.)

PTA 250. PHYSICAL THERAPY CLINICAL INTERNSHIP II. This clinical internship provides physical therapist assistants with the opportunities to perform their responsibilities under appropriate physical therapist or physical therapist assistant supervision and with positive role modeling. The experience provides exposure to a variety of patients and learning activities. Prerequisite: All physical therapist assistant coursework must be completed with the exception of PTA 200. Spring. (12 crs.)

## **PHY – Physics**

PHY 101. COLLEGE PHYSICS I. Introductory physics. Vectors, mechanics, energy, momentum, conservation principles and oscillatory motion. Five hours combined lecture and laboratory each week. Prerequisite: MAT 281. Spring and occasionally fall. (4 crs.)

PHY 121. GENERAL PHYSICS I. An introductory noncalculus course dealing with mechanics and heat. Three class-hours and three laboratory-hours each week. Prerequisite: MAT 181. Spring, summer and fall. (4 crs.)

PHY 122. GENERAL PHYSICS II. An introductory noncalculus course addressing the areas of sound, light, and electricity and magnetism. Five hours combined lecture and laboratory each week. Prerequisite: PHY 121. Spring, summer and fall. (4 crs.)

PHY 202. COLLEGE PHYSICS II. A continuation of College Physics I. Heat and thermodynamics, hydrostatics, waves and acoustics, electricity, and an introduction to magnetism and ac circuits. Five hours combined lecture and laboratory each week. Prerequisite: PHY 101, MAT 282. Fall and occasionally spring. (4 crs.)

PHY 203. COLLEGE PHYSICS III. A continuation of College Physics II. Magnetism, AC circuits, Maxwell's equation and electromagnetic waves, light, atomic and nuclear physics, and special relativity. Some review of material from College Physics I and II. Five hours combined lecture and laboratory each week. Prerequisite: PHY 202. Corequisite: MAT 381. Spring. (4 crs.)

PHY 221. INTERMEDIATE MECHANICS. Vector calculus, Newtonian kinematics and dynamics of many particle systems, with emphasis on integral relations, motion in a central potential, scattering theory, systems with constraints, variational principles in mechanics, small oscillations, wave equations and special relativity. Three class-hours and three laboratory-hours each week. Prerequisite: PHY 202. Corequisite: MAT 381. As needed. (4 crs.)

PHY 301. INTERMEDIATE ELECTRICITY AND MAGNETISM. Electric and magnetic fields and energy, the effects of matter on them, circuits, Maxwell's equations, electromagnetic waves. Vector calculus and differential equations used. Prerequisites: PHY 203 and MAT 381. Recommended: PHY 221, MAT 382, and MAT 341. Three lecture-hours and three laboratory-hours each week. As needed. (4 crs.)

PHY 331. MODERN PHYSICS. Relativistic kinematics and dynamics, particle and wave aspects of radiation and particles, the structure of the hydrogen atom, and many-electron atoms. Introduction to quantum mechanics. Prerequisites: PHY 203, MAT 381. As needed. (3 crs.)

PHY 341. MATHEMATICAL METHODS OF PHYSICS. Vector calculus, complex variable analysis and conformal mapping. Fourier series and integrals, ordinary differential equations, partial differential equations, general series representations of functions and special functions. Prerequisites: PHY 203 and MAT 381 or approval of instructor. As needed. (3 crs.)

PHY 375. RADIATION AND OPTICS. A review of Maxwell's equations and wave analysis. Fraunhofer diffraction, radiation from atoms, polychromatic waves, magneto-optic and electro-optic effects, and introduction of laser and maser theory. Prerequisite: PHY 301. As needed. (3 CR5.)

PHY 376. STATISTICAL AND THERMAL PHYSICS. Statistical methods, statistical thermodynamics, macroscopic thermodynamics and its relation to statistical mechanics, application of statistical methods to gases and solids, phase equilibrium, and quantum statistics. As needed. (3 crs.)



PHY 405. QUANTUM MECHANICS. Formulation and application of the fundamental principles of quantum theory which evolved in the 20th century. Planck's quantum postulates, de Broglie hypothesis and wave particle duality. Momentum space and the Fourier transform. Formulation of the Schrödinger equation and its application to the treatment of particles in potential fields. Prerequisites: PHY 331 and/or MAT 406. As needed. (3 crs.)

PHY 410. PHYSICS INTERNSHIP. The student is provided an opportunity to work in an industrial or nonprofit research laboratory, and the practical training is intended to supplement the student's course work. Prerequisite: Junior standing and permission of the department chair. Spring, summer and fall. (Variable crs.)

PHY 451. ADVANCED LABORATORY I. Experiments selected from topics discussed in Modern Physics. The lecture time is used to discuss error analysis, curve fitting and points of interest to the laboratory reports. Prerequisite: 12 physics credits. One class-hour each week and three laboratory-hours each week. As needed. (1 cr.)

PHY 455. SOLID STATE PHYSICS. An introduction to the physics of solid materials, including crystalline lattice structures, band theory, conductors, semiconductors and superconductors. Recent developments in nanoscience as related to solid state physics will also be emphasized. Prerequisites: PHY 202 AND MAT 282 or approval of instructor. Recommended prerequisite: PHY 203. As needed. (3 crs.)

PHY 475. ASTROPHYSICS. Topics concerning stellar evolution including observations, physical states of the stellar interior, evolutionary phases and initial and final stellar structure, and cosmology. As needed. (3 crs.)

PHY 495. PHYSICS SEMINAR. An introduction to literature, history, teaching and research methods in the physical sciences. Prerequisites: Junior standing and at least 19 hours of physics (including College Physics I-II). Spring, summer and fall. (1 cr.)

## **POS – Political Science**

POS 100. INTRODUCTION TO POLITICAL SCIENCE. This course is designed to introduce students to key ideas, institutions, processes and actors in the political world. It is intended to be a general, not detailed, examination and attempts to encourage understanding, reflection and critical thinking. Fall and spring. (3 crs.)

POS 101. CONTEMPORARY POLICY AND POLITICS. A critical examination of contemporary issues and strategic players with an emphasis on policy outcomes. (3 crs.)

POS 102. AMERICAN GOVERNMENT FOR ELEMENTARY EDUCATION MAJORS. This course provides an introduction to the major institutions and processes in the American political system, and addresses how attitudes and beliefs impact elections and policy. (1 cr.)

POS 105. AMERICAN POLITICS. This is an introductory course in American government focusing on the major institutions and processes in the American political system. Topics discussed in the course include separation of powers, checks and balances, civil liberties, political parties, the Congress, the President, the Supreme Court, federalism, and policy-making processes. Fall and spring. (3 crs.)

POS 210. POLITICS OF WESTERN EUROPE. A comparative analysis of the institutions, processes and policies of the nations of Great Britain, France and Germany, and how these nations relate to the United States system. Recommended: POS 100 or POS 105. (3 crs.)

POS 222. THE ADMINISTRATION OF CRIMINAL JUSTICE IN THE UNITED STATES. The operations of the criminal justice system in the United States. Topics include crime in American, the rule of law, the role of the police, the function of the prosecuting and defense attorneys, criminal courts and trial processes, sentencing, corrections, incarceration, probation and parole. Recommended: POS 100 or POS 105. (3 crs.)

POS 300. INTRODUCTION TO PUBLIC POLICY. Primarily in seminar fashion. Students present and discuss major ideas from assigned readings. Formal lectures are also scheduled when needed to present basic ideas and information. Recommended: POS 100 or POS 105. (3 crs.)

POS 301. QUANTITATIVE POLITICAL ANALYSIS. A description, analysis and application of basic research tools in the discipline of political science. Prerequisite: POS 101 or 105. (3 crs.)

POS 303. MASS MEDIA AND AMERICAN POLITICS. The interaction of politics and the mass media within American society are covered. Topics include media effects on political socialization, techniques of opinion manipulation, propaganda, press responsibility, public opinion polling and government control of the media. Special attention is devoted to the use of television as an instrument of communication. Recommended: POS 100 or POS 105. (3 crs.)

POS 306. THE CONGRESS. In this intensive examination of the legislative problems and procedures of Congress, students are introduced to such topics as the representational functions of Congress, the role of parties and leaders in Congress, the importance of the committee system, and the forces affecting congressional decision making. Recommended: POS 100 or POS 105. (3 crs.)

POS 307. REVOLUTION. A comparative study of the phenomenon of revolution, encompassing the causes, events and principal actors in those periods that culminate in the outbreak of violent political change. Recommended: POS 100 or POS 105. (3 crs.)

POS 308. MUNICIPAL GOVERNMENT. The course is designed to provide students with a basic understanding of the organizational forms of municipal governments, the process of decision making and implementation, and proposed solutions to problems of urban society. Recommended: POS 100 or POS 105. (3 crs.)

POS 310. THE AMERICAN PRESIDENCY. Intensive study of the American presidency, focusing on personality, organization of the office, use and misuse of power, and policy making. Recommended: POS 105. Alternate fall. (3 crs.)

POS 311. CYBERPOLITICS. An examination of the impact of the Internet on American democratic institutions and processes, focusing on campaigns and elections, civil liberties, law enforcement, national security, and public policies,

including cyberdemocracy, cyberterrorism, law enforcement issues of wire tapping and encryption, education, taxes, entitlements, business, and medicine. Recommended: POS 100 or POS 105. (3 crs.)

POS 312. POLITICS OF THE WORLD ECONOMY. This course will be concerned with understanding the politics of the world economy. The emphasis will be on the contemporary structure of the international political economy, how it emerged, and what actions and policy responses – by international institutions, governments, multinational corporations and labor unions – continue to shape its order. Students will also gain knowledge of how their lives are impacted by the world economy and what future opportunity exists there. Recommended: POS 100 or POS 105. (3 crs.)

POS 314. CONSTITUTIONAL LAW: GOVERNMENTAL POWERS. A study of the major provisions of the American Constitution and the growth of American constitutional law based on analysis and discussion of leading judicial decisions. Recommended: POS 100 or POS 105. (3 crs.)

POS 315. CONSTITUTIONAL LAW: CIVIL LIBERTIES AND CIVIL RIGHTS. A study of the development and meaning of the rights and liberties guaranteed to persons under the Constitution of the United States. Special emphasis is placed on the antecedents of and the adoption of the Bill of Rights and a description of the court structure through which the meaning of civil liberties is determined in specific situations. Recommended: POS 100 or POS 105. (3 crs.)

POS 316. JUDICIAL POLICY AND POLITICS. Intensive study of the judicial process in the United States and the relationship between the judicial system and the larger American social system. Recommended: POS 100 or POS 105. (3 crs.)

POS 317. NONQUANTITATIVE TECHNIQUES. This is a course on nonquantitative techniques used in decision making: case studies, field research (e.g., theoretical sampling and semi-structured interviews), nominal group technique, idea writing, future imaging, timelines, Delphi questionnaires and focus groups. Recommended: POS 100 or POS 105. (3 crs.)

POS 318. POLITICAL PARTIES AND INTEREST GROUPS. This course examines the roles political parties and pressure groups play in electoral politics and policy making. Recommended: POS 100 or POS 105. (3 crs.)

POS 319. CAMPAIGN MANAGEMENT. A course on political campaigns and elections that combines theory and practice. The emphasis is placed on campaign strategy. Recommended: POS 100 or POS 105. (3 crs.)

POS 320. U.S. FOREIGN POLICY. Policy objectives, patterns of decision making and U.S. foreign policy actions are covered. The roles of interest groups, public opinion, Congress and other external influences in U.S. foreign policy are also examined. Recommended: POS 100 or POS 105. (3 crs.)

POS 322. POLITICS OF THE MIDDLE EAST. This course will consider the nature and types of politics found throughout the Middle East. Consideration will begin with the diversity of peoples in this area, both in terms of religion and ethnicity, and how these were shaped by the Ottoman and European imperial systems of government. This will be followed by an examination of how contemporary Arab, Israeli, Turkish and Iranian governments have dealt with this legacy even as they respond to the challenges of the modern world. Recommended: POS 100 or POS 105. (3 crs.)

POS 323. POLITICS OF LATIN AMERICA. A comparative analysis of institutions, processes and politics of Latin American countries and how these have been shaped by the international relations of the region. Recommended: POS 100 or POS 105. (3 crs.)

POS 325. POLITICS OF ASIA. This course will consider the nature and types of politics found throughout Asia. Consideration will focus upon the major governments of China, Japan, India and Pakistan, how they emerged from various imperial forms of political order, what the legacy of this is. This will be followed by an examination of the various forms of contemporary governments, from parliamentary systems to dictatorships, and a judgment of how they meet or fail to meet the challenges of the changing modern world. Recommended: POS 100 or POS 105. (3 crs.)

POS 326. POLITICS OF AFRICA. A comparative analysis of the institutions, processes and politics of selected African nations and their place in the international arena. Recommended: POS 100 or POS 105. (3 crs.)

POS 327. CONTEMPORARY POLITICAL THOUGHT. A general survey of the major political ideas and thinkers of the 20th century, drawing connections between these ideas and contemporary developments in philosophy, psychology, economics and sociology. Recommended: POS 100 or POS 105. (3 crs.)

POS 329. INTERNSHIP IN POLITICAL SCIENCE. Practical field experience to supplement academic work and develop professional competencies in research and communication skills. Fall, spring and summer. (Variable crs.)

POS 330. AMERICAN POLITICAL IDEAS. An advanced course in political theory: the major political ideas and controversies that are associated with the development of American political thought. Recommended: POS 100 or POS 105. (3 crs.)

POS 335. ADMINISTRATIVE LAW. The legal structure and political environment within federal administrative agencies in the United States that formulate public policy. Emphasis is given to the growth of the administrative state within the United States, the necessity for the delegation of legislative authority to administrative agencies, and the need for judicial control of the bureaucracy. Recommended: POS 100 or POS 105. (3 crs.)

POS 336. INTERNATIONAL ORGANIZATIONS. An analysis and evaluation of the United Nations and other international organizations and of some of the theoretical concepts and practical problems involved. Recommended: POS 100 or POS 105. (3 crs.)

POS 340. THE POLITICS OF EMPIRES. This course will explore how the organization and evolution of international order has been influenced and determined by empires and imperial political systems from the classical era to the contemporary age. The student will study not only the structure and practice of imperial institutions and patterns

of international order, but their impact upon the social, economic and cultural life of those who lived within their authority. The nature of empires will also be considered according to the nature of their political legitimacy, from royal legitimacy to the development of trade to more modern ideological manifestations. The course will conclude with a treatment of the prospect and validity of empire and imperial organization in our own time. Recommended: POS 100 or POS 105. (3 crs.)

POS 344. INTERGOVERNMENTAL RELATIONS. A treatment of the organization, powers, functions, and problems of state and local governmental units. Emphasis is placed on the growing complexity of relationships among the various levels of government as a result of the technological developments and the growth of metropolitan areas. Recommended: POS 100 or POS 105. (3 crs.)

POS 346. INTERNATIONAL RELATIONS. This course considers the nature of world politics and how it has evolved. Emphasis will be on the nature of power in international relations and why this often leads to conflict – from war to economic competition. Following this, the student will consider what measures and institutions have been created to deal with such issues, from diplomacy to international organizations like the United Nations to the emergence of international human rights law and citizen advocacy groups. There will also be consideration of careers available in international relations and the students will be exposed to this through playing the role of a diplomat in an international relations simulation or game. (3 crs.)

POS 347. POLITICAL THOUGHT: CLASSICAL. This course will consider the content and evolution of political thought from the world of ancient Greece and Rome through the medieval period. Emphasis will be on reading and understanding the actual writings of political thinkers from Plato and Aristotle to Julius Caesar and Tacitus to the writers of medieval Europe and the Byzantine Empire. The subjects considered will be the nature and forms of government, what political values are, and how these values and forms of government, such as democracy or monarchy, or freedom and stability, continue to influence the world of contemporary politics. (3 crs.)

POS 348. POLITICAL THOUGHT: MED & MODERN. This course will consider the content and evolution of political thought from the world of the Renaissance and early Italian city states, such as Florence, to the advent of our own times, with the beginnings of modern mass democracy and the administrative and social security state. Emphasis will be on reading and understanding the actual writing of political thinkers from Dante and Machiavelli through the advocates of parliamentary government, such as John Locke, to modern thinkers, such as Alexis de Tocqueville. The subjects considered will be the nature and forms of government, what political values are, and how these values and forms of government, such as classical republicanism or parliamentary democracy, or natural rights and social welfare, continue to influence the world of contemporary politics. (3 crs.)

POS 355. PUBLIC ADMINISTRATION. Primarily an introduction to the study of American public administration, this course seeks to achieve several broad objectives. First, it conveys an understanding of the significant role played by administration in present-day American government and of the implications of the role for a democratic society. It has the further purpose of providing insight into the specific relationships between administration and the broad political environment from which it arises and in which it operates. Finally, and mainly, the course offers opportunity for consideration of those more specialized and technical factors, such as a public organization, public personnel, budgeting and executive leadership, that are involved in the formulation and administration of public policy. Recommended: POS 100 or POS 105. (3 crs.)

POS 360. POLITICS, PALACES AND ART IN ISLAM. This course will be concerned with understanding the classical and royalist patterns of Islamic politics and how these have been an enduring and formative influence in contemporary Islamic thought and practice. The emphasis will be on the arrangement of Islamic political and religious power and how these are reflected in public architecture and art. The student will also gain knowledge and familiarity with the Umayyad, Tughlaq, Timurid, Fatimid, Safavid, Ottoman and Mughal cultures and empires and how these continue to have resonance and meaning for today's Muslims. Recommended: POS 100 or POS 105. (3 crs.)

POS 379. SPECIAL PROBLEMS IN POLITICAL SCIENCE. Topical historical studies determined by departmental faculty. (3 crs.)

POS 415. PUBLIC OPINION & POLITICAL BEHAVIOR. Students will use the knowledge gained in this course to describe and forecast trends in public opinion, compare and contrast public opinion across demographic groups, analyze changes in public opinion over time, critically evaluate polling methodology, and use and apply discipline-specific methods to the study of public opinion and political behavior. Students will be able to use these skills in almost any career path they choose. Recommended: POS 100 or POS 105. (3 crs.)

POS 450. SEMINAR IN POLITICS. The seminar is designed to provide an intensive examination of a specific and narrowly focused area in government and politics. The course is research-oriented and consists of individually prepared contributions by all participants, which are discussed and critically appraised by all members of the class. Prerequisite: Students taking this course must be seniors majoring in political science. (3 crs.)

## **PGM – Professional Golf Management**

PGM 100. INTRODUCTION TO PGM. This course provides students with an overview of the PGA of America and the Cal U/PGM educational program. Students will be introduced to the PGA's qualifying level and the Cal U/PGM curriculum, which will enable them to become more informed about the educational requirements to become future PGA members and what is expected in Cal U/PGM Level I. In addition, students will be introduced to the working intricacies of the PGA of America. Fall. (3 crs.)

PGM 125. PGM INTERNSHIP I. This course introduces the student to proper golf course management techniques, including daily expectations while working at a golf course and proper protocol. This course also provides the student with the unique professional educational experience by combining theoretical and hands-on training. The course will be completed at a recognized PGA facility chosen in conjunction with the faculty and the student. The student will spend a minimum of 360 hours or 12 weeks at the field site in order to satisfactorily complete this requirement. Summer. (1 cr.)

PGM 150. TEACHING OF GOLF I. This course provides the golf student with the theory and techniques of teaching the golf swing. Students will utilize technology to evaluate the golf swing and develop and deliver golf lesson plans. The course utilizes the classrooms in Hamer Hall, as well as California University's indoor practice facility in Gallagher Hall and outdoor golf practices at Cedarbrook Golf Course. Spring. (3 crs.)

PGM 200. INTERMEDIATE TOPICS IN PGM. This course will provide students with a detailed examination of the PGA of America and the Cal U/PGM educational program. Students will be introduced to PGM Level II, which will enable them to become more informed about the educational requirements to be completed in preparation for the Cal U/PGM Level 2 checkpoint. Fall. (3 crs.)

PGM 210. GOLF SHOP MANAGEMENT. This course will provide the student with the basics of the operations and management of the golf shop. Topics include methods of merchandising, scheduling of play, implementing course regulations, development and management of the golf operations team, time management, and personnel management. Fall. (3 crs.)

PGM 225. PGM INTERNSHIP II. This course exposes the student to proper golf course management techniques, including daily expectations while working on a golf course and proper protocol. It also provides the student with the unique professional educational experience by combining theoretical and hands-on training. The course will be completed at a recognized PGA facility chosen in conjunction with the faculty and the student. The student will spend a minimum of 360 hours or 12 weeks at the field experience site in order to satisfactorily complete this requirement. Summer. (1 cr.)

PGM 300. ADVANCED TOPICS IN PGM. This course provides the student with the content needed for the PGM Level III checkpoint. Inventory, merchandising, food and beverage, and PGA membership are some of the topics covered. Fall. (3 crs.)

PGM 310. INTRODUCTION TO TURFGRASS MANAGEMENT. The course will provide the student with an overview and introduction to not only the science of turfgrass, but also the role turf management plays in the golf operation. Topics include grass selection, mowing, fertilization, irrigation, supplementary cultural practices and the management of botanical pests. Fall. (3 crs.)

PGM 325. PGM INTERNSHIP III. This course exposes the student to proper golf course management techniques, including daily expectations while working on a golf course and proper protocol. It also provides the student with the unique professional educational experience by combining theoretical and hands-on training. The course will be completed at a recognized PGA facility chosen in conjunction with the faculty and the student. The student will spend a minimum of 360 hours or 12 weeks at the field experience site in order to satisfactorily complete this requirement. Summer. (1 cr.)

PGM 350. FOOD AND BEVERAGE MANAGEMENT. This course provides the student with an overview of the principles and techniques involved in establishing and maintaining a successful, profitable food and beverage operation at a golf facility. Some of the topics the course will examine include: (1) menu development, (2) menu descriptive copy, (3) principles and techniques of restaurant design, (4) staffing and training, (5) cost control measures, (6) beverage control and legal aspects of beverage control, (7) kitchen equipment and safety, (8) sanitation, (9) improving and enhancing customer service, and (10) the legal aspects of food and beverage operations. Spring. (3 crs.)

PGM 405. EXPANDED GOLF OPERATIONS. The course enables the PGM student to evaluate, design, implement and enhance the operations of a golf facility. The student will be introduced to the various elements of developing or enhancing existing golf facilities. Spring. (3 crs.)

PGM 410. TEACHING OF GOLF II. This course is designed to improve the golf instructional skills of golf professionals, especially those desiring to be quality coaches. Included in the course are such topics as teaching, coaching, training techniques, motivational strategies and the needs of special populations. Methods of recording student progress, management techniques for a successful instructional program, and the use of audio-visual and other electronic teaching tools are examined. Spring. (3 crs.)

PGM 425. SENIOR INTERNSHIP IN PROFESSIONAL GOLF MANAGEMENT. This course is one of the professional golf management student's internship experiences. Students will be assigned to an internship site based on their unique educational needs and experience. Internship students will work directly with PGA golf professionals in one or more work settings. Spring. (6 crs.)

PGM 435. CAPSTONE INTERNSHIP IN PROFESSIONAL GOLF MANAGEMENT. This course is part of the professional golf management student's capstone experience. Students will be assigned to an internship site based on their unique educational needs and experience. Internship students will work directly with PGA golf professionals in one or more work settings. Summer. (6 crs.)

## **PSY – Psychology**

PSY 100. GENERAL PSYCHOLOGY. This course is an introduction to the scientific study of behavior and mental processes. It explores topics such as the biological basis of behavior, research methods, learning, emotions, cognitive processes, perception, personality, abnormal behavior and the treatment of mental disorders. Research as well as practical application is stressed. (3 crs.)

PSY 206. ADOLESCENT PSYCHOLOGY. Factors that influence the growth and development of adolescents. Emphasis on the relationship among physiological, psychological and sociological factors and theoretical systems used to describe, explain, predict and work with adolescents. Prerequisite: PSY 100. (3 crs.)

PSY 207. DEVELOPMENTAL PSYCHOLOGY. This course discusses factors of a biological and environmental nature that impact a person's physical, mental, social and emotional development throughout the life span. Prerequisite: PSY 100. (3 crs.)

PSY 208. EDUCATIONAL PSYCHOLOGY. This course emphasizes the application of psychological principles to the classroom. Topics discussed include human development, learning, individual differences, assessment, education objectives, motivation and behavior management. Prerequisite: PSY 100. (3 crs.)

PSY 209. INDUSTRIAL PSYCHOLOGY. This course is a comprehensive introduction to the field of industrial psychology. It demonstrates the application of psychological principles of behavior to work conditions. An examination of business and industrial activities and the role a psychologist plays in such activities. A strong emphasis on the practical and everyday problems that confront people in the world of work. Prerequisite: PSY 100. (3 crs.)

PSY 211. SOCIAL PSYCHOLOGY. The interaction between the individual and social groups within a cultural context: the individual in a social role, social groups and social institutions. The course will cover such topics as aggression, interpersonal attraction, group behavior, persuasion and helping behavior. Prerequisite: PSY 100. (3 crs.)

PSY 215. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. The psychological problems of children who have hearing, speech, mental and personality deficits and of children who are culturally disadvantaged are explored, as well as characteristics of children of superior ability. A major purpose is to gain a functional understanding of these problems and of the procedures for helping to cope with them. Prerequisites: PSY 100, PSY 205 for psychology majors; PSY 205 or PSY 207 for nonmajors. (3 crs.)

PSY 216. CHILD PSYCHOLOGY: BIRTH TO AGE 4. The purpose of this course is to provide students with meaningful scientific information in understanding infants and children in providing practical principles for working with children. Special attention is given to the study of the relationship of the physical, emotional, cognitive and social growth from conception to age 4. (3 crs.)

PSY 217. CHILD PSYCHOLOGY: AGE 5 TO 9. The purpose of this course is to acquaint students with the basic principles and major issues of children age 5 to 9. Theories and methods used to understand physical, emotional, cognitive and social development will be discussed. (3 crs.)

PSY 220. DESCRIPTIVE STATISTICS. This course presents the fundamentals of hypothesis testing. It covers computation and interpretation of descriptive statistics (measures of central tendency, variability, correlation and regression) as well as an introduction to typical statistical procedures utilized in the social sciences, particularly psychology. (3 crs.)

PSY 222. PSYCHOLOGY OF STRESS MANAGEMENT. Sources of stress, effects of stress, manifestations of stress and methods of coping with stress will be examined, with the focus being on practical application. Prerequisites: PSY 100. (3 crs.)

PSY 235. PSYCHOLOGY OF LEARNING. The major areas of learning focused on are behavioral (classical conditioning operant conditioning, and observational learning), cognitive and neurophysiological. In each of these areas, study progresses from basic research to applications. Historically influential theorists, such as Thorndike and Skinner, are discussed. Prerequisite: PSY 100. (3 crs.)

PSY 305. PSYCHOLOGY OF PERSONALITY. This course explores the essential factors that result in creating individual differences in human behavior and mental processes. Current theories and classical theories are studied to increase understanding of the development and structure of personality. The characteristics of the normal and the maladjusted personality are identified, with special concern for developmental patterns. Prerequisite: PSY 100 and junior standing. (3 crs.)

PSY 306. COGNITIVE PSYCHOLOGY. This course is an introduction of thought processes in humans. Various aspects of cognitive, including research methods, perception, attention, memory, memory errors, language, problem solving, higher-level reasoning and animal cognition will be explored. Prerequisite: PSY 100. (3 crs.)

PSY 310. MENTAL HEALTH/PSYCHOLOGY OF ADJUSTMENT. Problems of personality and mechanisms of adjustment, including a study of the origin and resolution of conflicts, and the role of emotion in the patterns of behavior. Prerequisite: PSY 100. (3 crs.)

PSY 311. PSYCHOLOGY OF GENDER ROLES. Students explore how gender roles develop and how gender influences the daily lives of men and women. Aspects of life experience where gender plays an important role — including education, occupations, physical and mental health, politics, religion and the media — are explored. Multicultural and cross-cultural perspectives are integrated throughout the course. Prerequisite: PSY 100. (3 crs.)

PSY 331. INFERENCE STATISTICS IN PSYCHOLOGY. This course presents the fundamentals of parametric and nonparametric inferential statistical procedures, including t-tests; analysis of variance, correlation and regression; and chi-square. It covers the testing of the assumptions of these procedures as well as their computation and interpretation with regard to hypothesis testing. Prerequisites: PSY 100 and PSY 220. (3 crs.)

PSY 336. FORENSIC PSYCHOLOGY. This course is designed to give the undergraduate with a minimal background in psychology a basic overview of the field of forensic psychology. The course provides a broad examination of forensic psychology and concentrates on the applied side of the field, focusing on research-based forensic practice. Professional application of psychological knowledge, concepts and principles to both the civil and criminal justice systems are emphasized. The course exposes students to the many careers related to the field and utilizes the multicultural perspective focusing on racial issues, mental and physical disabilities, sexual orientation, and gender discrimination in relation to the work of forensic psychologists. Prerequisite: PSY 100. (3 crs.)

PSY 340. PSYCHOLOGICAL TESTING. This course explores the nature and function of measurement and assessment in psychology with concentration on test construction and interpretation. Tests are examined. Sample intelligence, personality, aptitude, ability and interest tests are examined. Prerequisites: PSY 100 and PSY 220. (3 crs.)

PSY 345. HISTORY AND SYSTEMS OF PSYCHOLOGY. This course explores the evolution of psychology starting with its philosophical roots. All major perspectives of psychology are explored, including structuralism, functionalism, behaviorism, gestalt, psychoanalysis, humanism and the cognitive view. Understanding the contextual forces

that shaped the discoveries and thinking of the times in relation to the development of psychology as a science is emphasized. Prerequisite: PSY 100. (3 crs.)

**PSY 350. PRINCIPLES OF BEHAVIOR MODIFICATION.** Applications of the principles of contemporary approaches to behavior modification are explored. Behavior-change techniques that are based on operant conditioning are emphasized. Some attention is also given to behavior therapy, which involves procedures based on classical conditioning. Examples of the uses of these techniques in counseling, clinical and educational settings are reviewed. Students complete one or more applied projects. Prerequisite: PSY 100. (3 crs.)

**PSY 360. EXPERIMENTAL PSYCHOLOGY.** This is a writing-intensive course emphasizing the design of research strategies for evaluating hypotheses about behavior and the quantitative analysis of research results. Students design and conduct a research project using the statistical and research techniques of scientific psychology. Prerequisite: PSY 100 and PSY 220 and PSY 331. (3 crs.)

**PSY 365. METHODS OF RESEARCH.** Hands-on experiences in conducting research and the scientific study of behavior. Students apply a variety of methods to research problems in a number of content areas and are exposed to the research literature in these areas. Also included is instruction in the preparation of a formal research report. Students will be expected to conduct one research study and write one research proposal. Prerequisites: PSY 100 and PSY 360. (3 crs.)

**PSY 370. INTERVIEWING SKILLS.** For students who will soon be seeking employment in an organizational setting, providing knowledge and practical experience in several different and specific types of interviews, especially the selection interview for employment, the career planning interview the exit interview, and the performance evaluation interview. Prerequisites: PSY 100 and PSY 209. (3 crs.)

**PSY 375. PSYCHOPATHOLOGY IN CHILDHOOD.** This course explores the various psychopathological disorders of childhood. The particular manifestation in children will be discussed for each disorder, with emphasis on the quantitative nature of clinical symptom characteristics as illustrated by case studies. The differentiation between similar diagnoses and symptoms, as well as the relationships between each disorder and other emotional familial problems, will be discussed. Prerequisites: PSY 100 and PSY 205. (3 crs.)

**PSY 400. ABNORMAL PSYCHOLOGY.** A survey of behavior pathology including psychoses, mood and adjustment disorders, and personality disorders, including drug addiction and psychophysiological disorders together with a general consideration of etiology, treatment and prognosis. Prerequisites: PSY 100 and junior standing. (3 crs.)

**PSY 410. CLINICAL CHILD PSYCHOLOGY.** This course is a comprehensive introduction to the field of clinical child psychology. It will explore the major concepts, research findings and professional issues influencing the practice of clinical child psychology. Prerequisites: PSY 100, PSY 205 and PSY 375. (3 crs.)

**PSY 420. SCHOOL PSYCHOLOGY.** This course is a comprehensive overview of the field of school psychology. It will explore issues related to the role and functions of school psychologists, including the psychoeducational assessment of children and adolescents, therapeutic interventions for school-age children, consultation, and legal and ethical issues in the practice of school psychology. This course has relevancy for students pursuing careers in education as well as for students pursuing careers in psychology. Prerequisite: PSY 100. (3 crs.)

**PSY 421. CLINICAL METHODS IN PSYCHOLOGY.** This course introduces students to the theory and application of major models utilized in the treatment of psychological disorders. Behavioral, cognitive, psychoanalytic and systems approaches (among others) are explored, with emphasis on their theoretical assumptions, techniques of intervention and associated personality theory. Students will learn to take into account individual differences (race, gender and age, among others) when considering the theories, techniques of clinical psychology. Prerequisites: PSY 100 and PSY 305. (3 crs.)

**PSY 422. CLINICAL SKILLS IN PSYCHOLOGY.** The focus of this course is on the specific techniques psychologists and other mental health practitioners use to create positive change in people. Students will learn the skills of active listening, empathy, cognitive reframing, crisis management, rapport building, and treatment planning, among others. Students will also learn to enhance their effectiveness as positive change agents through self-reflection, as well as acquisition of knowledge about the targets of intervention and their effectiveness. This course is considered the applied companion course to PSY 421. Prerequisites: PSY 100, PSY 400 and PSY 421. (3 crs.)

**PSY 424. SENIOR CAPSTONE.** Students of psychology will enhance their postgraduate opportunities by learning a variety of professional knowledge areas, skills and abilities. Topics such as ethics applied in the professions of psychology, multicultural sensitivity, foundational research and career planning will be addressed. Prerequisites: psychology major; senior standing. (3 crs.)

**PSY 425. SENIOR PROJECT.** This course is an opportunity for the student to integrate and synthesize all aspects of their prior collegiate academic experience as it relates to their chosen major of psychology. The student will review research methods and current research literature in an area that is of special interest to them, develop a proposal for further research on an approved project in an area of interest, conduct the research proposed, write a thesis and present the findings in an appropriate forum. Prerequisites: PSY 100, PSY 360, and senior standing. (1-3 crs.)

**PSY 428. ADVANCED INDUSTRIAL PSYCHOLOGY.** A more in-depth survey of several important issues considered in PSY 209, including organizational dynamics, psychological evaluations, employee rights laws, worker motivation, training and performance evaluation. Prerequisite: PSY 100, PSY 209, PSY 220 or equivalent. (3 crs.)

**PSY 430. PHYSIOLOGICAL PSYCHOLOGY.** The biological foundations of behavior are explored in this course. Topics examined include the anatomy and physiology of the nervous system, sensory and motor systems, memory, higher cognitive functions, and psychological disorders. Prerequisite: PSY 100 and junior/senior standing. (3 crs.)

**PSY 460. SENIOR SEMINAR: SPECIAL TOPICS.** Students of psychology will enhance their postgraduate opportunities by learning a variety of professional knowledge areas, skills and abilities that pertain to a specific current topic in the field of psychology. Topics such as ethics, multicultural sensitivity, foundational research,

applications, future trends in research and application and professional behavior will be covered as they pertain to the listed special topic offered in a given term. Prerequisites: psychology major, senior standing. (3 crs.)

PSY 469. PSYCHOLOGY INTERNSHIPS. Students will be placed with professional psychological agencies. They will integrate, under supervision, theoretical knowledge and practical applications through the duties and responsibilities assigned to them by practicing psychologists. Eligibility requirements and procedures for application are available at the departmental office. Prerequisite: PSY 100, junior/senior standing and permission from chair. (1-6 crs.)

## **REC — Recreation**

REC 165. INTRODUCTION TO RECREATION AND LEISURE. The course will familiarize students with the interrelationship between leisure and Western culture. Specifically, students will be introduced to the many effects leisure has on society including, but not limited to, the economic impact of leisure, leisure as a modifier of culture, and leisure as it relates to life stages and health. (3 crs.)

REC 225. RECREATION AND YOUTH DEVELOPMENT. This course provides a historical and contemporary analysis of youth culture in the United States. The role of recreation in shaping youth culture is examined. Through the investigation of various youth serving organizations, this course provides an understanding of free-time settings can offer youth with the supports, opportunities, programs and settings needed to successfully transition into adulthood. (3 crs.)

REC 235. SPECIAL EVENT MANAGEMENT IN RECREATION SETTINGS. This course provides a philosophical and theoretical understanding of the impact that events and festivals have had on society. The role of festivals and events in boosting the economy, infrastructure, job market of host communities is also examined. This course equips students to pursue careers in the field of festivals and events through the investigation of various aspects of planning, promoting, financing and managing special events within community, commercial and outdoor recreation settings. (3 crs.)

REC 240. HUMAN ECOLOGY. This course employs a social science approach to the relationship between humanity and the organic and inorganic environment. Emphasis is placed on the physical, biological and cultural basis of human adaptation. (3 crs.)

REC 246. SCENIC AREAS OF THE UNITED STATES. This course provides an analysis of the physical setting of some scenic areas in the United States. The focus is on differences in soils, vegetation, climate and landforms of scenic areas with special emphasis given to natural history. (3 crs.)

REC 270. INTERPRETIVE METHODS IN PARKS AND RECREATION. This course prepares the student to develop and to supervise interpretive services and public outdoor education programs focusing the natural resources/ environmental interpretation and historical/cultural interpretation. The course concentrates on interpretive knowledge, skills and abilities including displays and exhibits, interpretive walks, slide presentations, and interpretive trails. (3 crs.)

REC 280. ADVENTURE AND OUTDOOR RECREATION OUTFITTING. This course will be a theoretical and experiential examination and analysis of adventure and outdoor recreation outfitting and all of the related elements. The course is designed to give students a broad theoretical, as well as practical, background in teaching and learning experientially. Concepts presented, experienced and discussed in this course include the basic premises of experiential learning through adventure and outdoor recreation activities according to a wide variety of educators and philosophers. (3 crs.)

REC 361. PARKS & RECREATION FOR DIVERSE POPULATIONS. Leisure and recreation services for special population groups will be examined and studied with a focus on access/inclusion, barriers to participation, disabling conditions and special population groups, program development and service delivery, and legislation. (3 crs.)

REC 362. SITE DESIGN AND MANAGEMENT. This course will familiarize the student with the components of the park and recreation site design process. Instruction will center on the specific tools and procedures necessary to enable the student to be an effective planner of recreation and park facilities. The student will gain an understanding of the complete planning process from conceptualization through implementation, construction and maintenance. (3 crs.)

REC 365. RECREATION RESOURCE MANAGEMENT. This course explores the relationship between outdoor recreation in behavior and the natural environment and how the relationship benefits people and society. The exploration of natural resources and facilities management (i.e., wildlife health and trail maintenance) in outdoor recreation are emphasized as well as key issues facing the field today. (3 crs.)

REC 374. COMMERCIAL RECREATION MANAGEMENT. An overview of the commercial recreation industry, specifically focusing on the procedures involved in the developing, marketing and managing of the enterprise. The student is introduced to the methods used in starting a leisure business. The management skills necessary for effective and profitable management of an enterprise are also discussed. (3 crs.)

REC 378. RECREATION MANAGEMENT AND LEADERSHIP. An analysis of managerial and administrative practices and processes in recreation, park and agency departments, including departmental organization, policy making, liability and negligence, personnel management and staffing, fiscal management, budgeting, finance, records and reports, office management, and public relations. (3 crs.)

REC 412. PROGRAM PLANNING AND EVALUATION. The course emphasizes the analysis of a community, assessment of its residential leisure needs, and implementation of recreational programs into the community. The course stresses planning, objectives, goal setting, structural organization, advertising and evaluation. (3 crs.)

REC 478. PROFESSIONAL DEVELOPMENT IN RECREATION. The course provides students with the opportunity to gain practical experience in an agency in the leisure services delivery system while being supervised by an agency professional and a faculty member. Students will be able to apply skills and knowledge as a volunteer at an agency

that falls under their particular area of interest. Students are expected to utilize leadership and management skills to enhance participant involvement and agency operations. (3 crs.)

## **RET — Robotics Engineering Technology**

**RET 110. AGILE ROBOTICS.** This course provides a basic introduction to the field of robotics technology with particular emphasis on first-generation agile robotics as characterized by remotely piloted mobile robots. Because of the multidisciplinary nature of robotics, the student is exposed to many facets of robotics including concepts from computer, electrical and mechanical disciplines with a focus on engineering processes. The laboratory component features activities to solidify lecture concepts and team-oriented, hands-on projects to solve basic robotic problems. Two hours lecture, three hours lab per week. (3 crs.)

**RET 120. CADD CONCEPTS.** An introduction to the principles of drafting and design, this course covers terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views and reproduction processes. This course provides students with a basic understanding of modern technical drafting and modeling fundamentals for engineering design. Students will be introduced to freehand sketching, multiview orthographic projection, shape modeling and its applications in computer-aided drafting and design (CADD). Experiences will include geometry development and projection techniques, visualization methods and feature representation, as well as geometric modeling techniques for CADD, drafting practices, manufacturing processes and materials documentation. Two hours lecture, three hours lab per week. (3 crs.)

**RET 160. AGILE ROBOTICS II.** This course continues from Agile Robotics I by delving into the details of second-generation agile robotics technology as characterized by mobile robots with autonomous behaviors. Course highlights include use of software tools, further details of robotic systems, application of robot control programming, motion planning and additional applied technician skills. The laboratory component provides discovery activities to solidify lecture concepts and team-oriented, hands-on projects to solve autonomous robotics problems. Two hours lecture, three hours lab per week. Prerequisite: RET 110, CSC 124, MAT 191. (3 crs.)

**RET 210. ROBOTIC TEAMING.** Modeled from the third generation of agile robotics evolution, this course explores the concept of adding inter-robot communications to autonomous robotic platforms to support swarming behaviors. Swarming capability is a common requirement of both industrial and personal robotic systems to achieve collaborative tasks using a team approach. Sufficient coverage and application of a computer programming language and of an embedded robotic platform is included. Two hours lecture, three hours lab per week. Prerequisite: RET 160, MAT 191. (3 crs.)

**RET 260. ROBOTIC SYSTEMS PROJECT.** This project-based course integrates learning objectives of the robotics engineering technology program along with project management principles. Under the approval of the instructor, students will identify and realize a semester-long project based on mobile robotic technologies. Major phases of the project include literature research, project specification, project design, implementation, documentation and presentation in alignment with established engineering technology methods. Two hours lecture, three hours lab per week. Prerequisite: RET 210, ENG 217, PHY 121. (3 crs.)

## **SEC — Secondary Education**

**SEC 150. INTRODUCTION TO SECONDARY EDUCATION.** An entry-level course for prospective teachers designed to begin their professional development. Different instructional activities will allow the student to become proficient in the theories of modern secondary education instructional development, basic history and philosophy of secondary education and of pedagogy in general. Students will participate in observation at selected field sites, grades 7-12. Students will begin development of their professional portfolio. (3 crs.)

**SEC 200. INSTRUCTIONAL STRATEGIES IN SECONDARY EDUCATION.** This course will allow the secondary education major to explore and develop the many types of instructional strategies/methodologies that are accepted as valid in the teaching of grades 7-12 students in differing content areas. Students will explore the principles underlying the construction of valid and reliable tests along with simple statistical measurement with emphasis on the application to classroom work. Prerequisite: SEC 150. (3 crs.)

**SEC 300. FIELD EXPERIENCE IN SECONDARY EDUCATION.** This is a course in professional development that focuses on the practical problems of teaching and learning in the secondary school. Clinical experiences enable student participation in a range of activities that provide real-life experience with the problems confronting public school teachers today. Prerequisite: SEC 150. (3 crs.)

**SEC 350. CONTENT AREA LITERACY.** The purpose of this course is to help the prospective teachers of the secondary education academic subject areas develop an understanding and appreciation of the necessary reading skills needed by their students. Methods of establishing awareness of general reading needs as well as the special skills unique to their subject area will be stressed. Prerequisite: SEC 200. (3 crs.)

**SEC 400. CLASSROOM MANAGEMENT.** This course will allow the secondary education major to explore different instructional methodology, develop individual and unit lesson plans, and classroom management, including the physical set up of the classroom, classroom rules and procedures for dealing with problem students in the classroom. This course must be taken with SEC 461: Student Teaching and School Law. Prerequisite: Recommendation for student teaching. (3 crs.)

**SEC 421. ASSESSMENT IN ART EDUCATION.** This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in art education. Results of art and design standards according to recent research are studied and trends are indicated. Open to secondary education Art majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

**SEC 423. ASSESSMENT IN ENGLISH/COMMUNICATION EDUCATION.** This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in English/communications education.



Results of English/communications standards according to recent research are studied and trends are indicated. Open to secondary education English and communication majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

SEC 424. ASSESSMENT IN FOREIGN LANGUAGES EDUCATION. This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in foreign language education. Results of foreign language standards according to recent research are studied and trends are indicated. Open to secondary education Foreign Language majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

SEC 425. ASSESSMENT IN MATHEMATICS EDUCATION. This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in mathematics education. Results of mathematical standards according to recent research are studied and trends are indicated. Open to secondary education Mathematics majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. Spring. (3 crs.)

SEC 426. ASSESSMENT IN SCIENCES EDUCATION. This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in science education. Results of science standards according to recent research are studied and trends are indicated. Open to secondary education Biology, Chemistry, Earth and Space Science and Physics majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

SEC 427. ASSESSMENT IN SOCIAL STUDIES EDUCATION. This course is designed to provide insight into the design, implementation and analysis of assessment instruments used in social studies education. Results of social studies standards according to recent research are studied and trends are indicated. Open to secondary education Social Studies majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

SEC 431. TEACHING OF ART. Students examine and discuss major issues in art education at the local, state, national and international levels. Students analyze traditional approaches to these issues, including history of art education, national standards in art education, national teaching standards in art education, discipline-based art education movement, multiple intelligence in art education, special populations, cultural diversity, interdisciplinary arts education, collaboration outside the classroom, new mediums, presentation strategies and art education advocacy. Prerequisite: Admission to teacher education. (3 crs.)

SEC 433. TEACHING OF ENGLISH AND COMMUNICATIONS. The application of principles of educational psychology, philosophy and sociology to the teaching of English and communications in secondary schools. The course includes both practical techniques of classroom practice and an investigation of the larger problems of the profession. Adequate prior content courses in English are necessary to the student undertaking this course. Prerequisite: Admission to teacher education. (3 crs.)

SEC 434. TEACHING OF FOREIGN LANGUAGES. This course is intended to familiarize prospective modern foreign language teachers with the oral proficiency methodology, its rationale and instructional materials of various types. Emphasis is placed on oral proficiency techniques, as well as the techniques for teaching reading and writing, the effective and efficient use of electronic devices and visuals, the objectives of modern foreign language teaching, the selection of textbooks, the preparation of lesson plans, and the preparation of materials for laboratory and classroom use. Prerequisite: Admission to teacher education. (3 crs.)

SEC 435. TEACHING OF MATHEMATICS. This course is designed to provide insight into the teaching of general mathematics, algebra, geometry, probability and statistics in grades 7-12. Students become aware of and use the resources and methods of instruction for teaching mathematics at the secondary level. Open to secondary mathematics education majors only and must be taken within two semesters prior to student teaching. Prerequisite: Admission to teacher education. (3 crs.)

SEC 436. TEACHING OF SCIENCE. This course prepares preservice middle school and high school science teachers to engage students in understanding science through personal experience. The course emphasizes strategies that engage students in active inquiry, collaboration with peers, and acquiring and using tools of learning in an experiential learning environment. The approach of the course is experiential, inquiry-oriented and reflective. Prerequisite: Admission to teacher education. (3 crs.)

SEC 437. TEACHING OF SOCIAL STUDIES. This course coordinates knowledge of the social studies disciplines (history, geography, civics and government, economics, anthropology, psychology, and sociology) with various instructional strategies appropriate for instruction in grades 7-12. Emphasis is given to the design, delivery and assessment of social studies education that meet Pennsylvania academic standards for social studies education. Prerequisite: Admission to teacher education. (3 crs.)

SEC 460. PROFESSIONAL PRACTICES IN SECONDARY EDUCATION. The development and refinement of contemporary pedagogical skills constitute the primary learning purpose for student teachers. Specific teacher-learning skills that are developed are lesson planning, delivery methods, organizational procedures, class control and educational measurement and evaluation. An integral component of the student teaching experience is a bi-weekly class. The class serves as a means of coordinating activities and exchanging ideas and experiences of the student teachers. SEC 461 is required to be taken with this course at the same time. (3 cr.)

SEC 461. STUDENT TEACHING AND SCHOOL LAW. This is the final and most extensive clinical experience. Students are assigned to a supervising teacher or teaching team at one of our clinical sites. The students spend full time in classroom teaching for a semester of 15 weeks. Student teaching is scheduled during either the fall or spring terms of the senior year. Pass/fail grade. Prerequisite: Recommendation for student teaching. (12 crs.)

## **SOW — Social Work**

**SOW 150. INTRODUCTION TO SOCIAL WORK.** This course explores the social, political, economic and historical dimensions of poverty and welfare services in the United States. It complements other beginning courses in the social sciences by integrating this knowledge in a fashion that aids in the comprehension of welfare services while establishing a basis for movement toward higher-level courses. (3 crs.)

**SOW 301. SOCIAL WORK INTERVIEWING.** This class introduces students to the theory, value and skill components necessary for effective interviewing with diverse client systems. Communication techniques and personal attributes that enhance problem solving are explored. Demonstration and practice of core skills are thoroughly integrated. (3 crs.)

**SOW 302. SOCIAL WORK PRACTICE WITH INDIVIDUALS.** This course assumes that generalist social workers perform varied tasks with basic skills, attitudes and knowledge, and that this development will increase self-awareness with subsequent emergence of a professional self. Students learn problem assessment, caseload management, and a variety of counseling theories and intervention strategies, with special emphasis on the unique characteristics of the rural client. Prerequisites: Majors only; SOW 301. (3 crs.)

**SOW 303. HUMAN SEXUALITY AND SOCIETY.** Humans evolve as sexual beings from a continual interplay among biological, cultural and psychosocial factors. The course studies the enhancement of personal well-being, establishing psychologically healthy relationships, making responsible sexual choices, protecting reproductive health, preventing sexual dysfunction and trauma. Included in the course is accurate information and open discussion regarding the ways in which sexuality both contributes to and affects overall health and well-being. The course covers diverse groups and human life span, including sexuality and sexual expression among the elderly. The course is designed to ensure students' level of comfort with their own sexuality. Prerequisite: Junior status or instructor's permission. (3 crs.)

**SOW 306. SOCIAL WORK IN THE RURAL ENVIRONMENT.** This course exposes the undergraduate social work student to the unique problems and social needs of nonmetropolitan communities, in particular small towns and rural areas. Students will come to understand the social structure of such communities and the pervasiveness of many social problems, especially poverty. Existent social welfare systems will be examined along with recommendations for program development, resource identification and social planning. Prerequisite: SOW 150. (3 crs.)

**SOW 308. DIVERSITY IN A CHANGING WORLD.** This course provides an analysis of the historical, economic and political relations of American religious, ethnic and racial minorities in terms of social change and social structure. Special attention is given to Puerto Rican, Chicano and Indian subcultures, as well as minority experience in the rural environment. Sources of prejudice and discrimination and social processes, including conflict, segregation, assimilation, accommodation and cooperation, are examined. (3 crs.)

**SOW 315. HUMAN GROWTH AND BEHAVIOR I: BIRTH TO YOUNG ADULT.** This course provides foundation knowledge, contribution of studies, research and theory in understanding human development. SOW 315 begins the life cycle from prenatal influence through young adulthood. Emphasis is on both normal development/behavior and on differences. The course illustrates how diverse groups are affected in their development through the life cycle, with examples from rural experience. (3 crs.)

**SOW 316. HUMAN GROWTH AND BEHAVIOR II: YOUNG ADULT TO LATE LIFE.** This course provides foundation knowledge, contribution of studies, research and theory in understanding human development. SOW 316 continues the life cycle from adolescence through old age. Emphasis is on both normal development/behavior and on differences. The course illustrates how diverse groups are affected in their development through the life cycle, with examples from rural experience. Program recommends taking SOW 315 first. (3 crs.)

**SOW 320. HISTORY AND PHILOSOPHY OF SOCIAL WELFARE.** Historical trends and philosophical perspectives on social welfare programs and policy development are examined. This course provides an overview of the relationship of cultural and professional values to social, political and economic institutions, with emphasis on the impact on oppressed and vulnerable client systems. Prerequisite: SOW 150. (3 crs.)

**SOW 330. CHILD WELFARE.** In this class, students learn about societal efforts to insure the welfare of children, the rights of children and parents, child welfare policies, programs, and service delivery problems. Students examine historical and current practices, working with natural parents, supportive services, substitutes and residential care. (3 crs.)

**SOW 340. POVERTY AND RELATED SOCIAL PROBLEMS.** This course examines poverty as a dependent and independent variable in its relationship to other social problems and human behavior. Social policy and programs that attempt to respond to the variety of conditions that are both causes and effects of poverty and related behavior will be studied. Prerequisites: SOC 100, or permission of instructor. (3 crs.)

**SOW 348. SOCIAL WORK PRACTICE WITH FAMILIES AND GROUPS.** This course is the third in a four-course practice methods sequence. It builds on the skills developed in Interviewing and Social Work Practice with Individuals, utilizing the ecological approach to assessment and problem solving. The course covers the history of social group work, the stages of group development, assessment of goals and objectives for groups and families, and the principles and values for intervention and problem solving with groups and families. Prerequisites: Majors only; Prerequisite or corequisite: SOW 302. (3 crs.)

**SOW 349. SOCIAL WORK PRACTICE WITH ORGANIZATIONS AND COMMUNITIES.** Macro practice methods refer to those skills that enable the generalist social worker to act at an organizational and community level to effect change in larger social systems. These skills encompass planning, organizing and administrative tasks. Proficiency at the macro level is particularly important for the rural practitioner who may be relatively isolated from other service providers. Through a semester-long class project, students gain hands-on experience in committee work, program development, action, research, budgeting and many other specific skills. Prerequisites: Majors Only; SOW 348. (3 crs.)

**SOW 350. SOCIAL WORK WITH THE AGING.** This course examines the development and current status of policies and services related to the elderly, the service delivery systems, and implications for social work practice concepts for working with the elderly. Prerequisites: SOW 150 or permission of instructor. (3 crs.)

**SOW 364. JUVENILE DELINQUENCY.** Students in this course learn to recognize the causes, prevention and treatment of deviancy among youth. This course explores the impact of sex, race, poverty, urban/rural context and other social factors on deviance. Students examine the juvenile court system, its nonadversary role, changing attitudes toward treatment and questions regarding change. (3 crs.)

**SOW 366. SOCIAL POLICY ANALYSIS AND SOCIAL SERVICE DELIVERY.** This course examines the basic process of policy development and helps social work students develop a conceptual framework for analyzing and evaluating policies and their consequences. Students pay particular attention to the impact of social policy on people and human service organizations. Built on an interdisciplinary base (economic, political science and sociological theories), the course prepares students for policy practice skills taught in SOW 370. Prerequisites: Majors only; SOW 320. (3 crs.)

**SOW 370. POLICY PRACTICE IN SOCIAL WORK.** In this class, students learn about the social change process, strategies, reactions to change, the impact of change on social policy and social welfare institutions. Prerequisites: Majors only; SOW 366. (3 crs.)

**SOW 405. SOCIAL WORK RESEARCH METHODS.** This course prepares the student to understand social work research methods and the use of research methods. The student will be able to understand the philosophy of research, the reasons for doing social work research and the components of the research process including strengths, limitations, ethics and interpretation of research findings. The course will progress from the general discussion of research principles and methods to the more specific elements of professional social work research. This is a 400-level course with work and expectations of student to be at an advanced level. Prerequisites: Majors only; SOW 302, SOW 320. (3 crs.)

**SOW 410. SOCIAL WORK IN MENTAL HEALTH.** This course builds on psychosocial study, assessment and treatment introduced in Social Work Practice with Individuals. It acquaints students with DSM-IV-R terminology and its uses for generalist social work practice. It also explores the scope and depth of individual psychopathy, community concerns, prevention and intervention approaches. Prerequisites: SOW 150 and SOW 302. (3 crs.)

**SOW 419. SOCIAL WORK PRACTICUM I.** This course provides a supervised placement in a practice setting under the supervision of an M.S.W. social worker. The application of theoretical knowledge and skills, along with demonstrated competencies in working with various client systems is emphasized. The course requires a minimum of 480 clock-hours. Prerequisites: SOW 301, SOW 302, SOW 303, SOW 308, SOW 315, SOW 316, SOW 320, SOW 348, SOW 366 and SOW 405. SOW 349 may be taken concurrently if not already completed. (6 crs.)

**SOW 420. SOCIAL WORK PRACTICUM II.** This course provides a supervised placement in a practice setting under the supervision of an M.S.W. social worker. The application of theoretical knowledge and skills, along with demonstrated competencies in working with various client systems is emphasized. The course requires a minimum of 480 clock-hours. Prerequisites: SOW 301, SOW 302, SOW 303, SOW 308, SOW 315, SOW 316, SOW 320, SOW 348, SOW 366 and SOW 405. SOW 349 may be taken concurrently if not already completed. (6 crs.)

**SOW 495. SEMINAR IN SPECIAL TOPICS.** This seminar focuses on selected topics of particular significance or current importance and interest to the social work profession. Students can receive credit for more than one seminar provided that each seminar focuses on a different topic. Prerequisite: Junior or senior in major or permission of instructor. (Variable crs.)

## **SOC – Sociology**

**SOC 100. PRINCIPLES OF SOCIOLOGY.** This survey course permits students to explore the rich variety of topics studied by sociologists. Central to all the topics are the structures and processes of human interaction. Emphasis is placed on the relationship of natural and social factors in human behavior. Attention also is given to topics such as the meaning and function of culture; the origin, function and characteristics of social institutions; and the genesis and nature of social pathology. (3 crs.)

**SOC 205. CONTEMPORARY SOCIAL PROBLEMS.** Social issues of popular concern in America today, such as poverty, ecology, violence and homosexual rights, are discussed and analyzed from a sociological perspective. Attention is not only given to the content of the issues, but also to the place of statistics in data reporting and analysis; the objective data used in support of interest group claims; and the use of various theoretical schemes in providing alternative explanations for each issue being a social problem. Prerequisite: SOC 100 or the permission of the instructor. (3 crs.)

**SOC 210. SOCIAL STRATIFICATION.** Students examine three dimensions of social inequality: social class, social status and power. Students will also examine the implications of the distribution of class, status and power in American society. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

**SOC 211. COLLECTIVE BEHAVIOR.** This course is a descriptive and analytical inquiry into the relatively unstructured social responses to social change. War resistance movements, militia movements, stock market panics, popular fads and crazes are among the topics considered. Attention is given to the processes, emergent structures and theoretical explanations associated with various types of collective behavior. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

**SOC 225. SOCIOLOGY OF AGING.** Theoretical and research methodological issues in the sociological study of human aging are considered. Special emphasis is placed upon the interaction of pertinent biological and sociological variables as they relate to a variety of topics, including work, retirement, leisure, institutionalization and death. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 240. SOCIAL INSTITUTIONS. Designed as a descriptive study of the basic institutions of society (particularly family, religion, economic, government and education), the course uses a cross-cultural and comparative perspective. American institutions form the core of the comparative analysis. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 290. GENDER AND WORK. This course examines the gendered nature of paid and unpaid work from a socio-historical and comparative perspective. Students will explore the forms and varieties of gendered work in the developed and developing countries with an emphasis on how concepts of masculinity and femininity influence the organizational structure, occupational categories and job tasks associated with formal and informal work arrangements. (3 crs.)

SOC 300. SOCIOLOGY OF DEVIANCE. This course discusses the various forms of deviant behavior, public responses to such behavior and the causes of such behavior. Particular attention is given to the interactive processes that result in behavior being labeled as deviant. How the criminal justice system copes with deviant behavior also is considered. (3 crs.)

SOC 309. SOCIOLOGY OF SPORT. This course is an examination of sport as a social institution in America. Students will address controversies and issues regarding the development of sport at all levels of formality and organization. Sport as a social institution will be analyzed from the primary theoretical orientations of the discipline, namely the functionalist, interactionist and conflict approaches. (3 crs.)

SOC 311. CRIME. This course is designed to give the student a brief overview of crime and criminality and to enable the student to understand the relationship between administrative structure of the criminal justice system and crime causation. Included in this course is a description and analysis of various types of criminal behavior, the epidemiology of crime in the United States, the social basis of law and major etiological forces responsible for law breaking. (3 crs.)

SOC 312. SOCIOLOGY OF ORGANIZATIONS. This course examines work as a social institution and how it intersects and affects developments in other social institutions, such as the family, education, religion, and politics and government. Special emphasis on technological developments affecting work are explored. (3 crs.)

SOC 315. SOCIAL MINORITIES. This course analyzes the dynamics of social minority status specific to ethnicity, racial classification and sexual orientation, and how minority status is socially constructed. Students will also examine societal responses to minority status and attempts to change this status. Finally, students will select one minority group in another country and compare it to one in the United States. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 316. URBAN SOCIOLOGY. This course focuses on the relationship between the demographics of urbanization and the social-psychological characteristics of urbanism. Determinist, compositional and subcultural theories are compared. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 317. SOCIOLOGY OF SUBSTANCE USE AND ABUSE. The sociology of substance use and abuse, as well as the approaches for treatment are covered. Special emphasis is given to alcohol and the more commonly abused drugs (e.g., nicotine, marijuana, cocaine). The course focuses on the social processes that influence substance abuse and the societal costs and consequences. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 320. INTERNATIONAL WOMEN'S MOVEMENT. In this discussion-centered examination of women's movements throughout the world, students will analyze contemporary movements utilizing a case study approach. The course begins with an analysis of the contemporary movement in the United States and then follows selected movements in Europe, the Middle East, Africa, Asia and Latin America. (3 crs.)

SOC 325. SOCIOLOGY OF THE FAMILY. This course explores the family in the United States from both theoretical and personal perspectives. Multiple sociological theoretical perspectives on the family will be examined. Students will explore primary issues most families encounter, such as choices about partnering, having children, stresses and crises, multigenerational/multi-identity perspective, aging, work and family, limitations of public policy, and many more. A multicultural/multi-identity perspective is used for analysis in the course. (3 crs.)

SOC 330. RELIGION AS A SOCIAL PHENOMENON. The course is a descriptive and analytical scientific study of religious phenomena. Although the course focuses on religion in American society, it uses a comparative approach to understand the nature, forms and functions of religion in society. Prerequisite: SOC 100 or the permission of the instructor. (3 crs.)

SOC 377. MODERN FREEDOM MOVEMENTS. This course surveys selected freedom movements of the 20th century from the perspective of social movement theory. Each freedom movement is evaluated in terms of its goals, leaders, strategies, and success or failure in bringing about social change. Each movement is also evaluated in terms of what it contributes to social movement theory. (3 crs.)

SOC 378. CHARISMATIC LEADERS. This course examines the nature of the relationship between charismatic leaders and their followers. Charismatic leaders are selected from a wide variety of religious, social, economic and political contexts for study. Each leader is evaluated in terms of his/her charismatic qualities and success or failure in bringing about stated goals. Each leader is also evaluated in terms of his/her contribution to the concepts and theories of charismatic leadership. (3 crs.)

SOC 379. SPECIAL PROBLEMS IN SOCIOLOGY. This course is offered when a topic germane to society arises and is discussed and agreed upon by the sociology faculty. (Variable crs.)

SOC 395. SOCIOLOGY OF ELITE DEVIANCE. This course introduces the student to the concept of elite deviance and a description of the environment in which these acts of great harm take place. Theories cover the macro, intermediate and micro levels of analysis with a focus on the higher (im)morality which permits embezzlement, narcotic trafficking, money laundering and myriad other forms of deviance that only those in high positions of trust can commit. Corporate deviance alone affects millions of people and costs billions of dollars. Global deviance and policy ramifications conclude the course. (3 crs.)

SOC 410. SOCIAL THEORY AND SOCIETY. This course considers the historical development of sociological theory as well as how theories are constructed and used to explain social phenomena. Special attention is given to the understanding and analysis of classical theorists, including Marx, Weber and Durkheim. Prerequisite: SOC 100 or the permission of the instructor. (3 crs.)

SOC 411. SYMBOLIC INTERACTIONISM. This course is an in-depth study of one of the major theoretical perspectives in sociology. Its particular relationship with social psychology is considered. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 415. SOCIAL RESEARCH METHODS. This course develops the technical and analytical skills necessary for the conduct of social science research. Students will learn what methods are appropriate to various types of research inquiries, and they will learn how to evaluate research reports. (3 crs.)

SOC 417. FIELD RESEARCH METHODS. This is an advanced research methods course that emphasizes the process of gathering ethnographic data and writing an ethnographic report. Ethnography is an approach to research that enables researchers to look at the social world through the eyes of their informants and requires students to use inductive thinking and reasoning skills. The primary methods used are field interviewing and participant observation; the basic field methodologies of qualitative researchers in anthropology and sociology. Students study a micro-culture of their own choosing throughout the semester then prepare a written report and deliver an oral report on the major findings. (3 crs.)

SOC 420. APPLIED SOCIOLOGY. This course focuses on the applied aspects of sociology and is intended for sociology majors in the applied concentration. Students will learn to apply the concepts, theories and methods of sociology to better the human condition. Problem-solving techniques, research applications and conflict resolution strategies will be used to examine issues in nongovernmental organizations, businesses, government, social-service and social-movement organizations. (3 crs.)

SOC 425. EVALUATION RESEARCH. This course is designed for students who have selected the applied program in sociology. The course provides an overview of program evaluation research, i.e., needs assessment, formative evaluations, process evaluations and outcome evaluations. Students will carry out a mock program evaluation as part of their course requirements. (3 crs.)

SOC 429. SOCIOLOGICAL INTERNSHIP. Designed to supplement the classroom studies of sociology majors with practical field experience, internships provide students not only with additional knowledge and skills, but with the opportunity to apply what was learned previously to on-site situations. Internships are intended to develop the major's professional competencies in observational, analytical and research skills. (6 crs.)

SOC 495. SEMINAR IN SOCIOLOGY. The capstone course for sociology majors, this seminar will center around a current theme in sociology. Students will be expected to demonstrate the use of major concepts, methods and theories in analyzing the theme. Prerequisite: Sociology major with junior or senior status. (3 crs.)

## **SPN — Spanish**

Culture courses are taught in English and are intended to satisfy General Education Humanities elective requirements as well as those in the major. One culture course is offered each regular semester. All culture courses are taught every two years.

SPN 101. ELEMENTARY SPANISH I. This course is designed for the student without previous knowledge of Spanish who wishes to achieve a command of language fundamentals. Acquisition of speech skills in the classroom is reinforced in the language laboratory. Progressively greater emphasis is placed on reading and writing. Three class-hours and one language lab-hour per week. (3 crs.)

SPN 102. ELEMENTARY SPANISH II. This is a continuation of Spanish 101. Three class-hours and one language lab-hour per week. Prerequisite: SPN 101 or three to four years of high school Spanish. (3 crs.)

SPN 203. INTERMEDIATE SPANISH I. This course reviews the essentials of Spanish grammar through intensive oral and written practice to facilitate the use of Spanish grammar and to develop the use of words and expressions accepted throughout the Spanish-speaking world. Three class-hours and one language lab-hour per week. Prerequisites: SPN 101 and SPN 102 or their equivalents. (3 crs.)

SPN 204. INTERMEDIATE SPANISH II. Students develop control of the principal structural patterns of the language through dialogue and oral reading as well as through written exercises based on selected readings. Three class-hours and one language lab-hour per week. Prerequisites: SPN 203. (3 crs.)

SPN 304. SPANISH FOR LAW ENFORCEMENT. This course focuses on the applied aspects of the Spanish language in a law enforcement context. Significant emphasis will be on the practical exercises such as arrest situations, assisting victims of crimes, conducting searches, undertaking criminal interviews and interrogations, and reading Miranda rights. Students will also learn about the Hispanic community in terms of crimes, prison population, and how to work with citizens and community leaders toward mutual goals and objectives. While some background is provided in terms of the criminal justice system, such information is intended to assist in the language capabilities of justice personnel as opposed to undertaking substantive studies in that regard. Prerequisite: SPN 203. (3 crs.)

SPN 305. SPANISH FOR BUSINESS. This course focuses on the applied aspects of the Spanish language in a business and international trade context. Significant emphasis will be on practical communicative activities that involve business scenarios, learning about business integrity and values that are recognized in the Hispanic community, analysis and discussions of Spanish commercial readings, analysis and discussions of business-cultural reading that impact the Hispanic market. While some background is provided in terms of the business and international trade such information is intended to assist in the language capabilities of business personal as opposed to undertaking substantive studies in this regard. Prerequisite: SPN 203. (3 crs.)

SPN 311. SPANISH CONVERSATION, COMPOSITION AND PHONETICS I. In this course, students will acquire a genuine command of the language and the ability to communicate by listening, speaking, reading and writing. There is intense practice in conversation, composition and phonetics based on modern prose, as well as on natural spontaneous speech models, including colloquialisms. Class is taught in Spanish. Prerequisite: SPN 204 or its equivalent. Fall. (3 crs.)

SPN 312. SPANISH CONVERSATION, COMPOSITION AND PHONETICS II. This course is a continuation of Spanish 311 on a higher level of proficiency accepted by educated speakers of the Spanish world. Class is taught in Spanish. Prerequisite: SPN 311. Spring. (3 crs.)

SPN 342. GOLDEN AGE AND BAROQUE. Spain's Golden Epoch, its beauty and cultural significance, is the topic of SPN 342, which surveys the artistic and other intellectual developments that gave fame to this great century. The origins of the modern novel, the vocal and instrumental works by Golden Age composers, as well as the beautiful pastoral and mystic poetry of this most productive period are themes of discussion. Spanish painters like El Greco and Velazquez, whose works embody the new forms and ideas of the Renaissance, come alive as their works are presented. This course also surveys the unfolding of secular theater. It examines how plays of Lope de Vega revolutionized the entire concept of drama; how Tirso de Molina set the legend of Don Juan, "the heartless seducer"; and how Cervantes, through his character Don Quixote, influenced Western culture. Examples of the Baroque style, evident in many of these works, will clarify the distinguishing features of this form. (3 crs.)

SPN 345. TWENTIETH-CENTURY SPAIN: 1900-1939. This course examines the sudden flowering of culture in Spain at the turn of the 20th century. It reviews the accomplishments of a new talented group of artists who were university trained. This unique group of poets, musicians, cinematographers, dramatists and architects contributed in such a way that their impact and deep influence on the arts gained them international fame. Their works, created in the context of romanticism, symbolism and surrealism, were instrumental in adding new dimensions to the already existing schools. This course also focuses on the fact that many of the works synthesized elements in the past often thought to be incompatible: vanguardism and populism. (3 crs.)

SPN 346. TWENTIETH-CENTURY SPAIN: 1939 TO THE PRESENT. This course is dedicated to the study of the exciting revitalization of today's Spanish society following the repression of the postwar years. It will trace the various faces of that revolution of Spanish culture when the Spaniards decided to forget the Civil War, the World War, the atomic bomb and the desperate state of Spain. The course will also examine the relationships among different forms of artistic expression of the period (e.g., the surrealist mode in Spanish cinema, as well as in painting and music). It will present the two major tendencies among the intellectuals of the time: those who fostered an inclination toward social protest and those who manifested an attitude of avoidance of the Spanish reality and produced works of universal significance. (3 crs.)

SPN 348. ROMANTICISM IN LATIN AMERICA. This course examines the new art and cultural trends of post-independence Latin America. It looks at the role of painting, music and literature in the process of construction of a national identity: the "Americanista" ideology. It will study the origins and tendencies of the romantic movement, which breaks all classical rules and gives free rein to excited feelings. The course will follow the artistic-cultural work and activities of the prominent figures whose talent and efforts contributed to the creation of the new Spanish American nations. (3 crs.)

SPN 349. MEXICO IN THE TWENTIETH CENTURY. This course views the changes in Mexican society since 1910, the year of the revolution that marked the beginning of a new political and artistic life, not only for the Mexicans, but for all of Latin America. The course explores the concern that Mexican intellectuals have with social and political issues, and the impact that socio-political events have had on Mexico's contemporary cultural achievements. The course will also present the opportunity to examine the social awareness of today's Mexicans and the effect that this consciousness will have on the country's relationship with the United States. (3 crs.)

SPN 350. CONTEMPORARY ARGENTINA. This course will attempt to give the student a multiphasic view of the culture of Argentina, the Latin American country with the most widespread artistic activity. It will begin with the nationalistic trend in the arts, which evolved from the so-called "gauchesco" tradition. It will then examine the vanguardist currents with such leading creative personalities as the ultraist writer and poet Jorge Luis Borges, the strikingly original music composer Alberto Ginastera, and the foremost South American cubist painter Emilio Pettoruti. The goal of SPN 350 is also to give the student a greater awareness of the ever-increasing attention the world is giving to Hispanic America, the recent boom in Spanish intellectual productivity, and an appreciation of the future impact this will have on the world. (3 crs.)

SPN 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS. This course is intended to provide an in-depth grammatical analysis of the Spanish language, emphasizing shades of differences in the meaning of words and expressions as used in oral and written expression. Class and readings are in Spanish. Prerequisite: SPN 312. Alternate fall. (3 crs.)

SPN 421. SURVEY OF SPANISH LITERATURE I. This course is an introduction to the masterpieces of Spanish literature, ranging from Poema de Mio Cid to current authors. Represented will be all of the important Spanish literary genres: narrative poetry (epic and ballad), lyric verse, short story, and selections from novels and dramas. Class and readings are in Spanish. Prerequisite: SPN 401. Alternate fall. (3 crs.)

SPN 422. SURVEY OF SPANISH-AMERICAN LITERATURE II. A study of representative selections from the Colonial period to the present, this course emphasizes the salient characteristics and the distinctive contributions of each literary form in the period or movement under study. Class and readings are in Spanish. Prerequisite: SPN 421. Alternate years. (3 crs.)

SPN 450. FOREIGN LANGUAGE COLLOQUIUM IN SPANISH. This course is intended to promote interaction, to stimulate critical thinking, and to provide argumentative situations that will develop the student's capacity and ability in oral and written expression. Class and readings are in Spanish. Prerequisite: SPN 422. Alternate years. (3 crs.)

SPN 469. STUDIES IN SPANISH LITERATURE. Subject matter to be arranged. This course is designed for Spanish majors who wish to take additional credits and/or study abroad. Prerequisite: 18 hours of Spanish. As needed. (Variable crs.)

MFL 479. MODERN LANGUAGES & CULTURAL FIELD STUDIES. This course involves a study-travel program outside the United States usually in a Spanish/French /Arabic-speaking country. This program is preceded by a semester-length course reflecting on the cultural elements of the region as well as its people. Prerequisite: Permission of the instructor. Variable credits.

MFL 481 MODERN LANGUAGES INTERNSHIP. This course is intended to provide the Spanish/French/Arabic student with an opportunity to work in a professional setting to learn about areas that are not available or not practical in an academic environment. The internship will enable the student to apply Spanish/French/Arabic language skills in the real workplace and will provide an invaluable experience which should make the student more marketable upon graduation. Prerequisite: Students should have completed 12 credits of the language and have junior standing. Variable credits (1-12) depending on the length of the internship and the number of hours devoted to the internship.

## ESP — Special Education

ESP 100. SOCIAL CONTEXTS OF DISABILITY IN POPULAR MEDIA. This is a discussion-based class designed to develop an awareness of disabilities as they are portrayed in modern popular media. This course specifically investigates representations of disability in mainstream media, as well as the impact that such portrayals have on people with disabilities and on people without disabilities. (3 crs.)

ESP 101. EXCEPTIONAL CHILD I. Exceptional Child I is the first of a two-course introductory sequence to children with disabilities and to the field of special education. This course examines the range of high-incidence disabilities in children and their broad sociological, educational and vocational implications. Specifically, the sequence develops competencies in such areas as the historical development of services for individuals with disabilities, legislation and litigation affecting the delivery of services, definitions and classification of disabilities, the impact of inclusion programs, preschool and postschool programs, family services, and program modifications and teaching techniques for children with disabilities, all within an applied behavior analysis context. (3 crs.)

ESP 210. SPECIAL EDUCATION FOUNDATIONS AND COLLABORATION. This course is designed to provide information and skills necessary for accommodating exceptional learners in a variety of school arrangements. The primary focus is foundations and characteristics of special education and students with exceptionalities and collaboration/consultation for the successful inclusion of students with exceptionalities into the inclusionary classroom. Corequisite: ESP 311. (3 crs.)

ESP 211. SPECIAL EDUCATION HISTORY, THEORY AND EXCEPTIONALITY. This course is designed to provide information and skills necessary for individuals interested in the philosophy found within special education identification and practices. The course also serves to provide information regarding the definition, prevalence, etiology, characteristics and general educational practices as they relate to individuals with exceptionalities. (3 crs.)

ESP 301. BEHAVIOR PRINCIPLES I. Behavior Principles I is the first of a two-semester introduction to the professional discipline of applied behavior analysis. Applied behavior analysis is an educative approach with three fundamental characteristics that is always responsive to some form of human problem. It restructures the problem, such as underdeveloped academic skills or socially undesirable responses, into behavior(s), and it applies the principles of behavior to change these problematic behaviors. In the process, it identifies important functional relationships contributing to an expanding technology of human behavioral change. (3 crs.)

ESP 311. ASSESSMENT AND POSITIVE BEHAVIOR INTERVENTION. This course is required for all education or related services majors and is intended to provide future teachers with the fundamental knowledge, skills and disposition: how to administer, score and interpret both norm- and criterion-referenced assessment devices; how to design appropriate learning environments to promote positive learning and reduce interfering behaviors; and how to design and implement schoolwide and classroom-positive behavior interventions and supports. Corequisite: ESP 210. (3 crs.)

ESP 312. ABA FOR SPECIAL EDUCATORS. This course is designed to provide a strong foundation and knowledge of basic principles of learning through the introduction of applied behavior analysis, the science and technology of behavior. The focus is on current practices for group/individual data collection, program selection and implementation. Basic research design, positive practices, group contingency and behavior reduction techniques are emphasized. Prerequisite: 30 hours of field experience. (3 crs.)

ESP 339. FIELD EXPERIENCE I: HIGH INCIDENCE. The Special Education Field Experience in High Incidence Disabilities is one of the first courses taken by students majoring in special education. Students are in a school setting to gain experience with students with disabilities. This will be a collaborative experience between the student, University supervisor and collaborating teacher. The collaborating teacher is certified in special education and has at least two years experience teaching students with disabilities. While fully immersed in the school-based setting, University students may observe, assist, tutor, instruct, assess and/or manage students. Within the experience students will reflect and self-critique their current skills, knowledge and disposition related to all school-age students they encounter. Prerequisites: ESP 101, ESP 301. (3 crs.)

ESP 349. FIELD EXPERIENCE II: LOW INCIDENCE. The Special Education Field Experience in Low Incidence Disabilities is a course taken by students majoring in special education. Students are in a school/agency setting to gain experience with students with low incidence disabilities. This will be a collaborative experience between the student, University supervisor and collaborating teacher/professional. The collaborating teacher/professional is certified in special education with at least two years experience with students/adults with disabilities. While fully immersed in the field-based setting, University students may observe, assist, tutor, instruct, assess, and/or manage students/adults. Within the experience students will reflect and self-critique their current skills, knowledge and disposition related to

all students/adults with disabilities they encounter. Prerequisites: ESP 101, ESP 200, ESP 301, ESP 401. Corequisites: ESP 402, ESP 403. (3 crs.)

ESP 401. BEHAVIOR PRINCIPLES II. Behavior Principles II is the second of a two-semester introduction to the professional discipline of applied behavior analysis. Prerequisite: ESP 301. (3 crs.)

ESP 402. LIFE SKILLS PLANNING AND INSTRUCTION. This course prepares students to work with children and/or adults who require ongoing support in order to participate in one or more major life activity. Students are required to design and implement an instructional program with a person who needs this type and level of support. Prerequisites: undergraduate; ESP 101, ESP 200, ESP 301, ESP 401. Corequisites: undergraduate; ESP 349, ESP 403. (3 crs.)

ESP 403. ASSESSMENT AND PRESCRIPTIVE TEACHING. This course teaches students how to administer, score and interpret both norm-referenced and criterion-referenced assessment devices and how to prescribe programs of remediation based on the results of these devices. Prerequisites: Undergraduate: ESP 101, ESP 200, ESP 301, ESP 401. Corequisites: undergraduate; ESP 349, ESP 402. (3 crs.)

ESP 404. CURRICULUM & METHODS I – READING & LANGUAGE ARTS. This course is offered to special education majors the semester prior to their student-teaching experience. Curriculum and Methods I is a materials and methodology course for pre-service special education teachers. An emphasis is placed on results of reading research and proven methods of instruction for teaching beginning reading to children with learning difficulties. The course stresses a behavioral, direct-instruction approach to teaching, as well as the development and implementation of intervention strategies for various populations of children with exceptionalities in inclusion settings. Additional topics include modifications and adaptations of materials, effective teaching, learning strategies, lesson planning, assessment and individualized education programs. Prerequisites: ESP 101, ESP 200, ESP 301, ESP 339, ESP 349, ESP 401, ESP 402, ESP 403, and admission to teacher education. (3 crs.)

ESP 405. CURRICULUM PLANNING AND METHODS II. This course is offered to special education majors the semester prior to their student-teaching experience. Curriculum Planning and Methods II is a methods course for special education teachers in training that emphasizes the assessment, instructional skills and materials necessary to teach arithmetic concepts to children with disabilities. The course stresses a behavioral diagnosis of arithmetic strengths and weaknesses, the development and implementation of intervention strategies for various populations of exceptional children, the selection and/or development of appropriate materials for instruction, and the procedures and techniques for continuous evaluation of the instructional process. Prerequisites: ESP 101, ESP 200, ESP 301, ESP 339, ESP 349, ESP 401, ESP 402, ESP 403 and Admission to teacher education. (3 crs.)

ESP 406. TRANSITION PLANNING AND INSTRUCTION. This course deals with special education programs for senior high school students as well as those persons who reside in the community. Emphasis is placed on vocational preparation and training. Specific techniques for task analysis of jobs, daily living skills, and social adaptation constitute a major portion of this course. Emphasis is placed on the development of functional skills that contribute to normalized development. Prerequisite: ESP 101, ESP 200, ESP 301, ESP 401, ESP 402. (3 crs.)

ESP 407. EARLY INTERVENTION SPECIAL EDUCATION. The course is designed to provide future educators with knowledge of history, theories, legislation and litigation associated with early childhood special education. In addition, students will develop learning environments, implement research based curriculum, conduct developmental assessments, establish educational teams, as well as enhance skills in communicating with team members and facilitate consultation with the targeted population and family members. Field experience: 30 Hours. (3 crs.)

ESP 412. EVIDENCE-BASED PRACTICES FOR ELEMENTARY INCLUSION. This course is offered to Elementary Education majors the semester prior to their student-teaching experience and is a methodology course for pre-service education teachers. The purpose of the course is to prepare elementary pre-service teachers to provide evidence-based language arts and math instruction to students with disabilities in inclusion settings. An emphasis is placed on results of research and proven methods of instruction for teaching beginning reading and math to children with learning difficulties. The course stresses a behavioral approach to teaching, as well as the development and implementation of intervention strategies for various populations of children with exceptionalities in inclusion settings. Additional topics include modifications and adaptations of materials, effective teaching, learning strategies, lesson planning, assessment, and individualized education programs. Prerequisites: Admission to teacher education, current clearances. (3 crs.)

ESP 413. EVIDENCE-BASED PRACTICES FOR SECONDARY INCLUSION. This course is offered to Secondary Education majors the semester prior to their student-teaching experience and is a methodology course for pre-service education teachers. The purpose of the course is to prepare Secondary pre-service teachers to provide math language arts instruction to students with disabilities in secondary inclusion settings. An emphasis is placed on results of research and proven methods of instruction for teaching reading and math to secondary students with learning difficulties. The course stresses a behavioral approach to teaching, as well as the development and implementation of intervention strategies for various populations of children with exceptionalities in inclusion settings. Additional topics include modifications and adaptations of materials, effective teaching, learning strategies, lesson planning, assessment, and individualized education programs. Prerequisite: Admission to teacher education. (3 crs.)

ESP 414. ADVANCED EVIDENCE-BASED PRACTICES. The course is designed to provide future educators with knowledge of research based practices that may be employed in Pre-K through grade 8 in academic and nonacademic educational settings. The course will focus the future educator on techniques that will be beneficial for developing skills in core areas such as mathematics, language arts, science and social studies along with those skills that are necessary for navigating noninstructional periods. (3 crs.)

ESP 461. STUDENT TEACHING AND SCHOOL LAW. The student teaching program is designed to ensure that special education majors are exposed to the full range of children covered under the comprehensive certification, i.e., mentally retarded, emotionally disturbed, learning disabled, brain damaged, and physically handicapped. The major practicum provides an intensive experience for the student in two of the handicapping areas for a period of 16 weeks. The practicum seminar component meets weekly to provide special education majors with an opportunity to discuss problems encountered by the students in their teaching experiences. Students are provided with opportunities



to demonstrate the effectiveness and functionality of their teacher-made devices, learning centers, and curriculum materials used in their classrooms. Undergraduate students seeking dual certification in both special education and elementary education are also supervised within the special education department for their practicum experience. Teacher candidates are required to have one student teaching experience within special education and another in a regular elementary classroom. All other components remain the same for the student teachers seeking dual certification. Prerequisites: Admission to teacher education, 3.0 GPA, admission to student teaching. (12 crs.)

## **SPT — Sport Management Studies**

**SPT 100. INTRODUCTION TO SPORT MANAGEMENT.** An introduction to basic skills and competencies required to successfully manage in the sport management industry, the course utilizes general management theory and principles that make direct application to the sport management field. Spring and fall. (3 crs.)

**SPT 105. FUNDAMENTALS OF STUDENT ATHLETE RECRUITING.** This course has been designed as a Web-based offering for the high school principal, counselor, coach, or those seeking a future career in related fields, and for parents of student athletes who desire to compete at the collegiate level. This course outlines the various methods students use in an attempt to get an athletic scholarship, federal and state financial aid, as well as NCAA, NAIA and junior college requirements for competition. The class also includes specific strategies that student athletes must learn in order to achieve success in their college experience, such as the knowledge of nutrition, goal setting, as well as pitfalls of the incoming freshman adjusting to college life as an athlete. Fall, spring, summer, intersession. (3 crs.)

**SPT 199. PRACTICUMS IN SPORT MANAGEMENT.** A supervised observation/work experience in a sport management setting, the practicum experience requires 70 hours of observation/work in an approved sport management environment. Spring and fall. (3 crs.)

**SPT 300. PSYCHOLOGY OF SPORT.** This course is designed to cover diverse concepts associated with formal recreational or sport activity. These include, but are not limited to, motor skill learning, coaching characteristics and techniques, nervous system correlates of athletic activity, research on relaxation, imagery and cognitive techniques, and peak athletic performance. Spring. (3 crs.)

**SPT 305. ETHICS IN SPORT MANAGEMENT.** This course will provide background in ethical theory to sport. Ethical problems, dilemmas and conflicts in sport will be discussed, as well as coaching practices, funding practices, management problems and social (cultural) roles. At the completion of this course, the student should be able to practice applying these ethical theories to typical problems in the world of sport. Fall. (3 crs.)

**SPT 310. SPORT MARKETING.** A study of basic marketing science as it applies to all realms of the sport industry, this fundamental course is intended to give students the depth and breadth of marketing principles and practices as they apply to the sport industry. Fall. (3 crs.)

**SPT 315. FACILITY AND EVENT MANAGEMENT.** This course is designed to provide students with the basic knowledge of the facility planning process, as well as how to manage specific sport facilities and the events staged in these facilities. Fall. (3 crs.)

**SPT 320 ADMINISTRATION OF INTERCOLLEGIATE ATHLETIC PROGRAMS.** This course reviews the many administrative tasks an athletic administrator encounters in the administration of an intercollegiate athletic program and department. The course is designed for students majoring in sport management studies, business administration or students who might be interested in a career in athletic administration at the collegiate level. Fall, spring. (3 crs.)

**SPT 400. LEGAL ASPECTS OF SPORT.** To enhance the student's knowledge about the legal system as it pertains to sport law, this course covers basic legal concepts concerning both contract law and tort law in sport to provide the student a sound foundation so that the student will be better able to recognize legal liability exposure in the sport workplace. Spring. (3 crs.)

**SPT 410. GOVERNANCE IN SPORT.** This course is a study of the growth and development of sport throughout the world, as well as how the governing bodies involved affect the structure, organization and delivery of sport. Spring. (3 crs.)

**SPT 415. SPORT FINANCE.** This course is a study of how sport organizations develop financial strategies and utilize financial indicators in developing organizational strategic plans. Fall. (3 crs.)

**SPT 420. ECONOMICS OF SPORT.** This course focuses on analysis of how economic models are used to measure the impact of sport on various economies. Fall. (3 crs.)

**SPT 425. ORGANIZATION AND ADMINISTRATION OF SPORT.** This course is a study of the application of organizational theory to the understanding and management of sport organizations. Spring. (3 crs.)

**SPT 430. SPORT MANAGEMENT SENIOR SEMINAR.** This course provides the student with a basic understanding of the developments, trends and social processes that explain the widely popular sporting experience of society today. Fall. (3 crs.)

**SPT 499. INTERNSHIP IN SPORT MANAGEMENT.** This course is the sport management student's capstone experience. Students will be assigned to an internship site based on their unique educational needs and experience. Internship students will work directly with sport management professionals in one or more work settings. Spring and summer. (12 crs.)

## **TED — Technology Education**

**TED 100. INTRODUCTION TO TECHNOLOGY EDUCATION.** This course initiates the professional development of each technology education student. Activities will afford each student the opportunity to become well grounded in the philosophy, theory and practice of technology education curriculum and pedagogy. Following extensive modeling activities within a campus-based classroom/laboratory environment, all students will participate in similar activities at

selected K-12 schools for 15 hours of field experience. Three lecture-hours and one laboratory-hour per week. Fall and spring. (3 crs.)

**TED 105. COMMUNICATING TECHNICAL DESIGNS.** This course is intended to promote the competencies, skills and sensibilities needed for the successful development and realization of contemporary products. A design/problem-solving model will include elements of design and appearance, ergonomics, idea modeling, anthropometrics, form, function and visualization. These elements will be coupled with basic engineering drawing skills, including freehand drawing, orthographic projection and basic descriptive geometry, axonometric drawings and developments. Emphasis will be placed on documentation of design work using manual drafting, CAD and freehand sketching. Two lecture-hours and three lab-hours per week. Fall and spring. (3 crs.)

**TED 111. INFORMATION SYSTEMS.** This course provides a broad overview of information systems, specifically print, acoustic, light, audiovisual and electronic media as they relate to the realm of communications. The student will experience individualized and group laboratory activities in the combined areas of generating, assembling, processing, disseminating and assimilating of a communicative message. Two lecture-hours and three lab-hours per week. Fall and spring. (3 crs.)

**TED 126. ENGINEERING MATERIALS AND PRODUCT DESIGN.** This laboratory-based course is an introduction to material properties and product design. Design engineering requires knowledge of the selection, properties, uses and impacts of materials choices, and processing methods. A process of research, design, creation, use and assessment of products will be used. The lab activities of the course will focus on the safe and efficient processing of polymer materials. Six lab-hours per week. Fall and spring. (3 crs.)

**TED 210. DESIGN AND APPROPRIATE TECHNOLOGY.** This course focuses on developing a basic understanding of design and appropriate technology. Students engage in design and problem-solving activities to develop, produce, test and analyze technological systems while assessing the multiple interactions between such systems and their impacts on societies, values, economics, environments and basic human needs. Two lecture-hours and three lab-hours per week. Prerequisite: TED 126 or permission of instructor. Fall and spring. (3 crs.)

**TED 226. APPLICATIONS AND PROCESSING OF ENGINEERING MATERIALS.** This course is designed to serve as an introduction to engineering principles as they relate to the selection, preparation, conditioning, forming, shaping, finishing and using materials. Engineering principles will be reinforced with activities that allow students to explore the many facets of materials science, selection, processing and testing. Additionally, this course serves as the foundation for other laboratory courses that require the processing of materials. Six lab-hours per week. Fall and spring. (3 crs.)

**TED 300. ASSESSMENT AND INSTRUCTION IN TECHNOLOGY.** To address the standards, it is critical that technology education students be able to instruct and assess student learning in a standards-based environment. This course will enable students to explore and develop instructional methodologies and assess student learning in both a traditional and authentic sense. Students will also be introduced to a variety of classroom management and discipline issues that classroom teachers face each day. All students will participate in related activities at selected K-12 schools for 25 hours of field experience. Three lecture-hours and one lab-hour per week. Prerequisite: TED 100. Fall and spring. (3 crs.)

**TED 302. ENERGY AND CONTROL SYSTEMS.** Students will be presented with an overview of energy systems as they relate to technology and how signals are controlled for various technological processes. States, forms and sources of energy will be examined as well as the control, transmission, conversion and storage of energy forms. Students will be involved with a variety of laboratory activities to design, build, test and evaluate energy and control systems. Two lecture-hours and three lab-hours per week. Prerequisite: TED 105, TED 126. Fall and spring. (3 crs.)

**TED 304. DESIGN IN BIO-RELATED TECHNOLOGY.** This course provides a broad overview of bio-related technologies as it relates to technology education. Students will study these systems from historical, current and potential future applications of bio-related technologies in a broad spectrum of industries/agencies. Students will participate in various laboratory and research activities as they identify and analyze bio-related products, services and processes. They will work individually and in groups to design, test, analyze and evaluate bio-related processes and products. Two lecture-hours and three lab-hours per week. Prerequisite: TED 105, TED 111, TED 126. Fall and spring. (3 crs.)

**TED 316. STRUCTURAL DESIGN.** Students will develop a basic understanding of the design and behavior of structures. Through laboratory activities, students will learn how structures are designed; why certain materials are used; how structures withstand loads; and the impacts of structures on societal, biological and technological systems. Two lecture-hours and three lab-hours per week. Prerequisite: TED 105, TED 126. Fall and spring. (3 crs.)

**TED 335. TRANSPORTATION SYSTEMS.** This course focuses on developing a basic understanding of the behavior of land, water, air and space transportation systems. Students engage in problem-solving activities to design, produce, test and analyze transportation systems while studying the technical subsystems of propulsion, structure, suspension, guidance, control and support. Two lecture-hours and three lab-hours per week. Prerequisites: ITE 105, TED 111, TED 125 and TED 225. Fall and spring. (3 crs.)

**TED 346. DIGITAL COMMUNICATIONS.** Digital communications is a laboratory-based course that provides students with understanding of, and competence in, the use of rapidly changing digital communication technologies through a conceptual approach tied to current practical applications. Students will complete a variety of hands-on activities culminating in a major digital communication project. Two lecture-hours and three lab-hours per week. Prerequisite: TED 111. Fall and spring. (3 crs.)

**TED 352. ELEMENTARY SCHOOL TECHNOLOGY EDUCATION.** Technological literacy must be a learning goal for all Americans. This course will enable elementary education majors to explore and develop instructional methodologies and assess student learning while addressing grade-level content standards for the study of technology in grades K-5. Prerequisite: Sophomore-level standing. Fall and spring. (3 crs.)

TED 416. SUSTAINABLE ARCHITECTURE AND SYSTEMS. This course covers a variety of natural and sustainable construction materials and systems – some revivals of ancient materials and practices, some new and innovative – as the natural-building movement gains both momentum and prominence in the construction and architectural arena. Integrated topics such as water conservation systems and energy conservation and alternative generation sources are also included. Two lecture-hours and three lab-hours per week. Prerequisite: Upper-level standing, Fall and spring. (3 crs.)

TED 426. MANUFACTURING ENTERPRISE. The class begins with an introduction to manufacturing technology, technical systems, and the historical evolution of manufacturing. Students will examine the organization and management of manufacturing endeavors. The class culminates in the design and production of a product in a manufacturing enterprise situation which closely parallels the functions of a manufacturing corporation. This will be done in a production laboratory using current equipment and processes. Two lecture-hours and three lab-hours per week. Prerequisite: TED 105, TED 111, TED 126 and TED 226. Fall and spring. (3 crs.)

TED 436. ENGINEERING DESIGN AND DEVELOPMENT. This course provides individual and/or small groups of students within a laboratory class the opportunity to conduct a focused investigation of a particular technological system or subsystem. The nature of this investigation requires direct contact by the student with corporate, university and governmental libraries, laboratories and associations. The scope of the research and development problem could relate to local, national or international topics. The time frame of the research could be historical, contemporary or futuristic. Each student and/or group is required to design, build, operate and analyze some type of technological model, prototype or simulation that demonstrates with precision the essence of the research problem. Portfolio documentation of the progress of the research and development problem is required. Two lecture-hours and three lab-hours per week. Prerequisite: TED 105, TED 111, TED 126 and TED 226. Fall and spring. (3 crs.)

TED 450. TEACHING TECHNOLOGY IN THE SECONDARY SCHOOL. In this course, participants learn to apply pedagogical skills in developing curriculum materials, applying teaching techniques, assessing student achievement and designing laboratory layouts in the systems of communication, construction, manufacturing, transportation and bio-related technologies. Integrating math and science concepts in a technology learning activity is an integral component of the course as students learn to design, produce, use and assess technological systems. Two lecture-hours and three lab-hours per week. Prerequisite: TED 100, TED 300, approved for admission to teacher education from the College of Education and Human Services. Fall and spring. (3 crs.)

TED 451. TEACHING TECHNOLOGY IN THE ELEMENTARY SCHOOL. This course is designed for students who are technology education majors. It is designed to offer each student the opportunity to design and build teaching/ learning activities that integrate concepts related to mathematics, science, communication and social science with technology. Two lecture-hours and three lab-hours per week. Prerequisite: PSY 208, TED 300, approved for admission to teacher education from the College of Education and Human Services. Fall and spring. (3 crs.)

TED 461. TECHNOLOGY EDUCATION STUDENT TEACHING. Student teaching is the culminating experience for technology education majors. The student teacher is assigned to and works under two different master teachers at two different field locations during the semester. The development and refinement of contemporary pedagogical skills constitute the primary learning purpose for the student teacher. Specific skills that are developed are lesson planning, laboratory management, safety practices, record keeping, classroom management and educational measurement and evaluation. An integral component of the student teaching experience is a regularly scheduled practicum. This serves as a means of coordinating activities and interchanging ideas and experiences of student teachers. Prerequisite: Approved for recommendation for student teaching from the College of Education and Human Services, TED 450 and TED 451; Corequisite: TED 462. Fall and spring. (10 crs.)

TED 462. PROFESSIONAL PRACTICES IN TECHNOLOGY EDUCATION. This course is designed as a capstone course for technology education students. It is designed to provide students with an understanding of the role of the technology education teacher within a school system. Content covered in the class is applied to the students' student teaching experience and prepares them to enter the teaching profession upon graduation and certification. Finally, this course prepares students to successfully meet the requirements of the PDE 430 (Pennsylvania Statewide Evaluation Form for Student Professional Knowledge and Practice) documentation. Prerequisite: Approved for recommendation for student teaching from the College of Education and Human Services, TED 450 and TED 451; Corequisite: TED 461. Fall and spring. (3 crs.)

TED 476. LABORATORY DESIGN AND MAINTENANCE. This is an advanced placement course designed to further prepare students who are about to begin teaching in a technology-based laboratory or who are already teaching in one. The course will have three main focuses. First, it will examine the requirements of a technology-based laboratory and contrast it with the needs of an industrial arts-based facility. Second, it will look at the safety requirements of such a facility and its associated activities. Third, the course will present information on routine laboratory maintenance, maintenance systems, troubleshooting and machine repair. Three hours of lecture/laboratory per week for 15 weeks. Prerequisite: Upper-level standing. Fall and spring. (3 crs.)

TED 565. SPECIAL PROBLEMS IN TECHNOLOGY EDUCATION. This course provides the student with opportunities to experience and research various technologies, techniques and teaching methodologies in the discipline areas of technology education. An intense in-depth study will be made in relation to selected topics on an individual basis or as a short-term concentrated study session for a group. Credit is variable. (1-6 crs.)

## **THE – Theatre**

Theatre practicum courses are the application of learned skills in specific areas of theater and dance. Credit is variable to a maximum of five credits per term and a maximum of six to be counted toward graduation. (Variable crs.)

THE 100. INTRODUCTION TO THEATRE. A study of the art and craft of theater from play script to play production. The course surveys theater history, literature, architecture, acting, directing and design for the student who wants to know what goes on in theater and what it means. Students can expect to participate in classroom performances. Fall and spring. (3 crs.)

THE 101. VOICE AND SPEECH. A practical and useful course for the performer or anyone who wants a flexible, strong, controlled voice. The Lessac method, involving the natural ways in which the body produces vocal sounds, is primarily studied to produce clear and articulate speech that is free of regional qualities, affectation, imitation and annoying physical habits. The course also involves transcription of the International Phonetic Alphabet for correct pronunciation. Spring. (3 crs.)

THE 126. MAKEUP. This course covers modeling the face and the body with makeup and with three dimensional prostheses. Historical, character, fantasy, corrective, street and fashion makeup will be researched and applied. Students with an advanced interest will construct three-dimensional prostheses and hair pieces. Fall or spring. (3 crs.)

THE 131. FUNDAMENTALS OF ACTING. An introduction to the basic tools of the actor's craft and personal discipline for the student through the use of acting exercises, sensitivity exercises, theater games and improvisation. Spring. (3 crs.)

THE 141. STAGECRAFT I. Introduction to the theory and practice of stagecraft, involving basic set construction, painting and play reading. Practical experience for students majoring in all performance media (e.g., television, film). Fall. (3 crs.)

THE 150. INTRODUCTION TO THEATRICAL DESIGN. This course is an overview of all areas of theater design including scenic, lighting and costume. Students will explore a variety of theatrical styles and historical periods. Particular emphasis is placed on the design tools, including basic scale drawing, drafting, script analysis and color rendering. Fall. (3 crs.)

THE 201. VOICE AND INTERPRETATION. Introduction to the basic vocal and analysis techniques necessary for effective interpretation and presentation of nondramatic literature: poetry, prose and narrative literature. Fall. (3 crs.)

THE 211. LIGHTING I. The basic theory and practice of lighting, primarily for the stage, but also for film and television. Practical experience for students majoring in performance media (stage, television, film) is stressed. Fall. (3 crs.)

THE 225. COSTUME CONSTRUCTION. Basic pattern drafting and sewing techniques applied to the construction of costumes. Fall or spring. (3 crs.)

THE 231. INTERMEDIATE ACTING. The development of a personal and useful acting method to develop believable characters for the stage. The acting method is developed through intense scene work that includes character and script analysis. Prerequisite: THE 131 Fundamentals of Acting or permission of instructor. Fall. (3 crs.)

THE 240. CREATIVE DRAMATICS. The stimulation and development of creativity through playmaking exercises, storytelling, improvisation and sensitivity techniques useful for potential teachers and parents. Fall or spring. (3 crs.)

THE 255. PUPPETRY. The planning and production of puppet plays. Emphasis will be placed on designing and building puppets beginning with the simplest form and moving to the most complex. Students will write simple scripts for use in performance of puppet plays. Fall. (3 crs.)

THE 271. SCENE DESIGN I. Introduction to the theories and practice of designing scenery with emphasis on lighting for various environments. Prerequisite: THE 141 or permission of instructor. Spring. (3 crs.)

THE 302. HISTORY OF THEATRE I. The development of theater from the Classics through the Baroque, including representative plays. Prerequisites: ENG 101, ENG 102 are suggested. Fall. (3 crs.)

THE 304. WORLD DRAMA. Classical to 19th-century plays (excluding Shakespeare) studied as blueprints for theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. Writing component course. Fall or spring, as needed. (3 crs.)

THE 305. SHAKESPEARE IN THE THEATRE. Representative Shakespearean plays studied as theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. Writing component course. Fall or spring, as needed. (3 crs.)

THE 306. MODERN DRAMA. 19th- and 20th-century plays studied as blueprints for theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. Writing component course. Fall or spring, as needed. (3 crs.)

THE 309. READER'S THEATRE. Advanced theory and practice of oral interpretation techniques. Focus moves from solo to group performance and the basic staging techniques of both Reader's Theatre and Chamber Theatre. Prerequisite: THE 201 suggested. Every other spring. (3 crs.)

THE 311. LIGHTING II. Advanced theory and practice of lighting design for stage, television and film. Practical experience is stressed. Prerequisite: THE 211 or permission of instructor. Every other spring. (3 crs.)

THE 312. HISTORY OF THEATRE II. The development of Western theater from the Baroque to the present, including representative plays. Prerequisites: ENG 101, ENG 102 are suggested. Writing component course. Spring. (3 crs.)

THE 320. FUNDAMENTALS OF DIRECTING. The comprehensive study of the director's pre-production planning of a dramatic production for the stage. The directorial analysis of plays and basic fundamentals of composition, picturization, movement and improvisation with gesture, costume and properties is studied. The in-class preparation of a complete directorial script of a one act or a cutting from a longer play may be directed as part of a public program of student-directed plays. Prerequisite: THE 131. Every other fall. (3 crs.)

THE 325. COSTUME DESIGN. Basic principles of costume design. Students complete various design projects for specific plays selected from a variety of historical periods. Spring. (3 crs.)

THE 327. STAGE MANAGEMENT. This course will examine the role of the stage manager as a key artist within the theatrical event. The course will provide a practical application of the essential communication, organization, planning and leadership skills necessary to manage a theatrical event. Lastly the course will review current professional stage management practices. Every other spring. (3 crs.)

THE 328. SCENE PAINTING. The practice of scenery painting for the theater. Students work with a variety of paints, texturing materials and application techniques. Particular emphasis is placed on the enlargement of existing art works to a size suitable for stage use. Fall or spring. (3 crs.)

THE 331. ADVANCED ACTING. This course challenges the actor's ability to demonstrate a personal and useful acting method through a wide range of textual problems, historical and modern plays and acting styles. Prerequisite: THE 231 or permission of the instructor. Every other spring. (3 crs.)

THE 341. STAGECRAFT II. Advanced practice and principles of scenery and property construction. Practical experience with plastics, metals, drafting and advanced woodworking is stressed. Prerequisite: THE 141 or permission of instructor. Spring. (3 crs.)

THE 350. THEATRE PRACTICUM: ACTING. Fall and spring. (Variable crs.)

THE 351. THEATRE PRACTICUM: DANCE. Fall and spring. (Variable crs.)

THE 352. THEATRE PRACTICUM: DIRECTING. Fall and spring. (Variable crs.)

THE 353. THEATRE PRACTICUM: DESIGN. Fall and spring. (Variable crs.)

THE 354. THEATRE PRACTICUM: MANAGEMENT. Fall and spring. (Variable crs.)

THE 355. THEATRE PRACTICUM: TECHNICAL DIRECTOR. Fall and spring. (Variable crs.)

THE 356. THEATRE PRACTICUM: TECHNICAL PRODUCTION. Fall and spring. (Variable crs.)

THE 357. THEATRE PRACTICUM: TOURING THEATRE. May be repeated only to a maximum of 10 credits. Fall and spring. (Variable crs.)

THE 358. THEATRE PRACTICUM: SUMMER THEATRE. May be repeated only to a maximum of 10 credits. Summer. (Variable crs.)

THE 371. SCENE DESIGN II. Advanced theory and practice of designing scenery and lighting, with emphasis on designing for various environments. Prerequisite: THE 271 or permission of instructor. Fall or spring, as needed. (3 crs.)

THE 450. THEATRE PRACTICUM: SENIOR THESIS. Special acting, directing, management, and design or technical involvement in a play production. Prerequisite: Senior level only. Fall and spring. (3 crs.)

THE 480. DIGITAL PERFORMANCE. This capstone course for the upper-classperson uses emerging technologies to convey thematic ideas within live theatrical productions. The course will provide background and framework for students to create and present original live performance pieces employing multiple forms of media. Creativity, collaboration and technical innovation will culminate in a live public performance. Every other spring. (3 crs.)

## UNI — University College

UNI 100. FIRST-YEAR SEMINAR. First-Year Seminar helps students to achieve their educational goals through the utilization of a full range of institutional and community resources. (1 cr.)

UNI 200. CAREER READINESS. This course provides knowledge of a practical preparation for the world of work. Students conduct self-assessment for career planning; learn how to research particular jobs, careers and employers; develop skills needed for obtaining a job; learn how the workplace is organized; and explore the options for combining career and life expectations. (1 cr.)

## WST — Women's Studies

WST 200. INTRODUCTION TO WOMEN'S STUDIES. Women's Studies 200 examines both the diverse and the collective experiences of women and men. The complex intermingling of privilege and inequality that intersect and diverge among women's and men's identities and roles will be analyzed, such as race, ethnicity, sexual orientation, ability, religion, etc. The impact of gender and social justice issues in arenas such as education, work, family, sexuality, identity, entertainment, sports, religion and social policy will be explored. (3 crs.)

WST 300. SELECTED TOPICS IN WOMEN'S STUDIES. Discussion and research on selected topics in women's studies. Topics may be developed on an experimental basis according to the instructor's expertise and student interest. (3 crs.)

WST 320. LESBIAN, GAY, BISEXUAL, TRANSGENDER, QUEER STUDIES. This course engages students in Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ) studies. The course includes some historical perspective of LGBTQ issues and examination of identity development related to sexuality, gender, and sexual orientation (including the "coming out" process). The primary focus is on contemporary issues related to education, the military, family, education, the media, entertainment, government and public policy in the United States. (3 crs.)

WST 330. EXAMINING GENDER, RACE, SEXUALITY, AND CLASS IN VISUAL MEDIA. This course engages students in critical analysis of gender, race, class and sexuality issues as related to media. Students will first be exposed to theory, offering diverse lenses from which to examine media, such as feminism, critical race theory, cultural consciousness and social psychological stereotyping. Students will engage in critical consciousness, using the theories to examine media and the representations/misrepresentations that reflect and create socially constructed identities and roles regarding gender, race, sexuality and class. (3 crs.)

WST 400. FEMINIST SCHOLARSHIP AND RESEARCH: A SEMINAR. An exploration of classic and current controversies utilizing multiple feminist theories is the focus of this course. The structure of this course is primarily analytic discussion, including student facilitated conversations. Many of the topics selected for this course are student

driven as they are selected by the class participants. Students will conduct research on topics relevant to the students' interests and major field. (3 crs.)

WST 430. INTERNSHIP IN WOMEN'S STUDIES. Provides practical experience in women's studies related work. In consultation with the adviser, a student may seek placement in such situations as women's centers, shelters, health clinics, political organizations special interest organizations or newspapers. Course work may include individual student-instructor consultations, presentations, reading discussions, guest lectures, field trips, research and experiential papers. (3 crs.)

### **WFD — Workforce Development**

WFD 199, 299, 399, 499. SPECIAL TOPICS IN WORKFORCE DEVELOPMENT. These courses provide opportunities for students who have enrolled in or have completed structured certificates, apprenticeships or in-house workforce training programs, as well as life experiences, to document and demonstrate their competencies in order to obtain academic credit for degree-seeking purposes. These classes will plug directly into flexible options of the Associate of Science degree in workforce development, as well as the Bachelor of Science degrees in general studies: science and technology and industrial technology. (Variable 1 to 18 crs.; repeatable up to 18 crs.)

# University Services

## **Louis L. Manderino Library**

The Louis L. Manderino Library is committed to providing the resources needed to support the research needs of Cal U students and faculty. This includes a substantial collection of electronic and print journals, books (including e-books), online research databases, audiovisual materials (videos, DVDs, CDs), and U.S. and Pennsylvania government documents.

### *Electronic Resources*

Computerized information retrieval has made library research faster, more thorough and more efficient. Using the library's online public access catalog, students can quickly locate books, audiovisual materials or government documents in the library's collection. Cal U students have access to an impressive collection of more than 41,000 online, full-text periodical titles. We also offer online books and reference resources (encyclopedias, literary resources, etc.).

All of the library's electronic resources are accessible from on- and off-campus locations. This allows students to do research from anywhere they have Internet access: campus, dorm, apartment, home, etc. Since the library seeks to provide the best resources for our students, visit the library's website at [www.library.calu.edu](http://www.library.calu.edu) to see the most current list and descriptions of our electronic resources.

### *Reference Services and Library Instruction*

With so many resources and so much content available to students, knowing how to find appropriate information efficiently can be daunting. Our friendly reference librarians are available — in the library, or by telephone, email or instant messaging — to help guide students in their research. Cal U librarians are faculty members and work with classroom professors to provide instruction to students regarding the effective use of library resources in their course work. Students are also welcome to seek additional help by scheduling individual sessions with a librarian.

### *Shared Library Resources and Interlibrary Loan*

In addition to our own collections, Cal U participates in several resource sharing programs that offer our patrons a wealth of additional resources. The course reserves system allows Cal U professors to make their textbooks available for student use in the library. Students with access to the campus library may use E-Z Borrow to order books for free, fast delivery from more than 50 partner university libraries. When items are not available using E-Z Borrow, they can be ordered through our Interlibrary Loan Office. This service is normally free, except for some very rare circumstances involving particularly unusual items.

### *Other Services*

The library is regularly rated the No. 1 resource on campus in student satisfaction surveys because of the services and technology solutions we offer. We have 30 desktop public access computers, wireless Internet is available throughout the building, and wireless laptop computers are available for students to borrow from the circulation desk. The library has photocopying, black-and-white and color printing, and a KIC book scanner to create image and audio files, as well as Flip video cameras. Our Media Services Center provides audiovisual equipment and materials and offers lamination and binding services.

While the library is not always open, we have developed many research tools to help students around the clock. Our online subject guides provide patrons with resources for any major or class they are taking at Cal U. The library has collected every published Cal U yearbook from 1913 to present, sheet music for silent movies, and a treasure trove of local history on the library's fourth floor in Archives and Special Collections. In addition, Manderino Library is an official Federal Government Documents Depository.

The library is not just about academic needs, it can also be fun! Students can relax in one of our comfortable oversized chairs with coffee, a snack and one of our many sports, news, culture and fashion magazines. Or browse our popular collections on the first floor to find leisure reading and graphic novels. We also offer an assortment of Hollywood blockbuster and classic DVDs. You can borrow them free for a week or reserve our audiovisual room, equipped with a large LCD screen, for viewings and presentations within the library.

The library offers many programs every semester to suit student needs. The library routinely presents a variety of 30-minute workshops to showcase the tools students can use to cite their research, survive group projects, get the most out of online research and more. Attendance at these workshops can be added to an activities transcript and LiveText portfolio. The library also runs a video gaming event at the end of each semester.

### **IT Services**

University IT Services is located in the basement of Manderino Library. IT Services consists of two areas: computing systems and networking systems. Staff offices are open 8 a.m. to 4 p.m. Monday through Friday. Open computer labs located on the second floor of Noss Hall are available for student use. The computer facilities at the University are separated into two distinct functions. One function deals with providing computer resources to meet the instructional and research needs of the University, such as student access for course work and the Manderino Library online catalog. The other function provides resources to meet the administrative needs of the University.

### **Computer Accounts**

Students who register for classes automatically have a Windows computer account created for their use during the semester. A VMS account will be created if the student registers for specific classes. There is no charge for the service or for the use of the computer network.

### **Campus Network**

The University campus buildings are connected via a high-speed, state-of-the-art GigE local-area network. The network provides GigE connectivity to every floor on the campus, and each floor has switched Ethernet to every office, classroom, lab and residence hall room. Southpointe Center is connected via a high-speed wide-area network (WAN), which extends all computer resources to the remote sites. The network also provides the capability for distance-learning programs. The University is connected to the State COPA (Commonwealth of Pennsylvania) Network and is a SEGP (Sponsored Educational Group) under Internet2. This statewide network includes the Commonwealth of Pennsylvania and all of the State System of Higher Education universities and the Office of the Chancellor.

### **Instructional Computing Facility**

The Instructional Computing Facility (ICF), located on the second floor of Noss Hall, is the main center for student campus network access and general use desktop computing. This facility contains personal computer systems and printers in laboratories and classrooms and provides access to adaptive technology systems. Generally, the labs are open seven days a week during fall and spring semesters and five days a week during summer sessions. However, schedules may change, and the hours are posted each semester in the ICF and can be requested by calling 724-938-4335. The labs are closed during holidays and session breaks.

### **Distance Education via Interactive TV (ITV)**

As a leader in technology instruction, California University of Pennsylvania has numerous courses that are currently delivered via distance learning. Classes can originate and be received at the main campus and from off-campus sites, such as the Southpointe Center. These courses are delivered instantly using state-of-the-art videoconferencing systems across the University's data network. Distance education equipment allows the transmission of audio and video between two or more locations for the purpose of



delivering instruction, enhancing educational experiences, conducting meetings and participating in conferences.

(Distance education classrooms contain video cameras and sensitive microphones that can be controlled from a remote site. Always assume what you are doing and saying is being seen and heard ANYTIME you are in or near a classroom. Also, be aware that transmission of audio and video can occur with the monitors off, and conversations in the hall outside of classrooms may be heard. Private conversations should occur at some other location than the distance education classroom.)

### **Other Campus Facilities**

Many departments have computers for student use; only some of the facilities are listed here. Additional campus computer laboratories are located in and operated by various departments on campus, including Applied Engineering and Technology, Business and Economics, Mathematics and Computer Science, Earth Science, and English (Word Processing Laboratory). The College of Education and Human Services maintains a Teacher Education Computer Lab in the Keystone Education Building. There is also a Student Access Center computer lab located on the first level of the Natali Student Center. The Southpointe Center provides laboratories for instructional use. Contact your department for specific information about laboratory facilities available for educational purposes.

### **Campus Learning Labs**

#### ***Math Lab***

The following services and resources are offered free in the Math Lab in Noss Hall, Room 115: tutorial support in math and math-related courses; Web-based math courses homework, tutoring and testing; math anxiety help; and reference books.

Success in a math course is achieved by working on assignments as soon as possible after class and by making accomplishments each day. Students who have difficulty with math courses should call 724-938-5893 to schedule an appointment. They should bring attempted homework with them.

Nationally renowned authors claim that half of all college students are math-anxious and that many math-anxious students exhibit physiological symptoms, such as headaches or stomachaches. Students with these symptoms only in math environments should discuss the situation with the Math Lab director.

#### ***Reading Clinic***

The Reading Clinic offers free one-hour tutoring sessions to all students. The clinic is staffed by a faculty member and two work-study students who teach techniques to improve reading comprehension and vocabulary. Help is also available in identifying main ideas, making inferences, drawing conclusions, understanding concepts and facts, and test-taking skills. Emphasis is placed on transferring these skills to college text reading. In addition, the Reading Clinic assists students in reading Praxis preparation and obtaining reading rates. Students can make appointments to work privately or schedule an independent lab session that is staff-directed. The Reading Clinic is housed in Noss Hall, Room 107. The office of the Reading Clinic director, Patricia Johnson, is located in Noss Hall, Room 118. For more information, call 724-938-4364 or 724-938-4469 or email at [Johnson\\_p@calu.edu](mailto:Johnson_p@calu.edu). The Reading Clinic is open Monday through Friday.

#### ***Writing Center***

The Writing Center provides free writing assistance to Cal U students — undergraduate and graduate — in all academic majors and programs. Trained writing consultants work one-on-one with students who wish to improve their writing process, including getting started, developing a first draft, and revising and editing. While writing consultants don't copy edit or proofread student papers, they will work closely with students as they learn strategies (including editing and proofreading) for improving their own writing through

revision. The Writing Center also offers computer access, a writing resource library and informative handouts about writing.

Located in Noss Hall, Room 110, the Writing Center is open Monday through Friday. Hours vary. Walk-ins are welcome, but appointments are encouraged. For more information or to make an appointment, call 724-938-4336 or email [writingctr@calu.edu](mailto:writingctr@calu.edu).

### **Career Services**

Career Services can help you to gain a career advantage by guiding you through the four steps of the Career Advantage Program: DISCOVER, EXPLORE, EXPERIENCE and IMPLEMENT. Services are available to current and prospective students as well as alumni via one-on-one appointments and the Career Services website. Every Cal U student and graduate has a career adviser in Career Services.

Students are encouraged to visit Career Services beginning the freshman year to:

- Meet your career adviser;
- Obtain information and guidance in choosing a major and exploring career options using the Strong Interest Inventory and eDISCOVER;
- Learn how to effectively use the Career Services website and other targeted resources to explore careers and conduct a job or graduate school search;
- Find a job shadow experience;
- Find cooperative education opportunities (paid, career-related experience as early as the summer after the freshman year);
- Learn how to write an effective resume and cover letter;
- Practice interviewing skills by doing a mock interview;
- Learn how to find full-time, part-time, co-op and internship positions on the College Central Network at [www.collegecentral.com/calucn](http://www.collegecentral.com/calucn);
- Learn how to prepare for a job or career fair;
- Sign up for campus interviews and information sessions;
- Learn how to build your professional network using the Cal U Career Network on LinkedIn at [www.linkedin.com](http://www.linkedin.com); and
- Meet with your career adviser to create your job search or graduate school plan at the end of your junior year or beginning of your senior year.

Career Services also conducts workshops and presentations for classes and clubs. For more information, call 724-938-4413 or visit the website at [www.calu.edu/careers](http://www.calu.edu/careers). Find us on Facebook: [www.facebook.com/CalUCareerServices](http://www.facebook.com/CalUCareerServices).

### **Cooperative Education**

Co-op is a program provided by Career Services that enables students in all majors (undergraduate and graduate) to gain paid, career-related experience as early as their sophomore year. The program gives students the opportunity to relate classroom theory with a practical work experience in a field related to their academic or career goals.

Students may be employed part time or full time, and may choose to work during the fall, spring and/or summer semester. Undergraduates, as well as graduate students, in all academic majors are encouraged to participate, provided they meet the eligibility requirements. It is expected that the student's cooperative education experience will span two semesters or summers while enrolled at California.

#### ***Co-op Eligibility***

- Completion of 32 credits (associate degree, 15; master's degree, 6), and student must have at least a 2.00 overall grade-point average (3.00 for master's); and

- Agreement to complete co-op experiences (experiences can be completed in the summer, fall or spring, full time or part time).

### **Three Ways to Fit Co-op into an Academic Program:**

- Work part time while still enrolled full time in classes;
- Work full time with no classes scheduled for the semester; and
- Work full time or part time in the summer.

### **Where Can I Work?**

- Students can work either locally or nationwide;
- Co-op advertises positions throughout the United States and abroad; and
- The co-op coordinator can assist students in developing co-op sites in any location.

### **How Does Co-op Differ from Internships?**

- All co-op positions are paid — internship positions can be either paid or unpaid;
- Co-op is administered through Career Services — internships are coordinated through the Internship Center in partnership with academic departments; and
- Co-op is a noncredit experience — all internships are for credit. (Students receive a notation on their transcript for their co-op experience.)

Cooperative education positions are advertised on the College Central Network website, [www.collegecentral.com/calU](http://www.collegecentral.com/calU).

Students who enroll in cooperative education are eligible to apply for posted positions. Additional information and appointments with the cooperative education coordinator are available in the Career Services Department, Eberly Hall, Room 230.

### **Internship Center**

An internship offers students a for-credit opportunity to acquire college-level knowledge and skills outside of a traditional academic setting through an affiliation with community organizations, governmental agencies or private businesses. More than 2,500 Cal U students participate in internships and other types of experiential education each year.

Internship Center staff work with faculty, students and community organizations to create quality internships. Cal U students have interned at hundreds of diverse local, regional and national organizations. The following are just a few examples:

- International Criminal Tribunal for the Former Yugoslavia, The Hague, Netherlands
- Pittsburgh Tissue Engineering Initiative
- Sands Resorts
- U.S. Environmental Protection Agency
- *America's Most Wanted*
- U.S. Department of Defense
- Department of Justice
- Pittsburgh Children's Museum
- Urban League of Indianapolis
- The Golf Channel
- *Late Show with David Letterman*
- KDKA-TV
- Dallas Cowboys
- Pittsburgh Steelers
- Walter Reed Army Medical Center
- Cox Broadcasting
- Drug Enforcement Agency
- Trump National Golf Club
- Nickelodeon
- NASA

### **Frequently Asked Questions**

*Where do I start if I want to participate in an internship?*

Students should always start by meeting with their faculty adviser. A student's academic readiness, prerequisites, requirements, number of credits and possible internship sites will be discussed. Students must also declare their intent to intern by enrolling in the internship intent section during early registration for spring and fall semesters.

*How do I find an internship?*

The Internship Center maintains InternLink, a database of internship resources. Staff can also assist students in researching related resources, such as industry-specific websites, Labor and Industry information, technology councils, the Regional Internship Center, and more. Students also locate internships through their academic department, family and friends, Cal U alumni, job and internship fairs, and professional organizations. All internships must have the approval of the academic department. Students can contact the Internship Center to learn how to effectively search for an internship.

*Are internships paid?*

Internships can be paid or unpaid. Compensation is defined by the employer.

*How many credits does a student receive for an internship?*

Credits typically range from 3 to 12. The number of credits for the internship will be recommended by department faculty and approved by the dean of the student's college. In most departments, students work 40 hours per credit for an internship.

*What is the difference between an internship and co-op?*

- **Internship:** The Internship Center coordinates internships in partnership with academic departments. They can be either paid or unpaid. Internships are a for-credit program and are supervised by faculty members.
- **Co-op:** A co-op is a service provided by the Career Services Department. They are always paid positions. Students do not receive credit for their work experience.

*What should I do to prepare for an internship?*

- Contact Career Services to develop your Career Advantage Plan. There you will learn about job shadowing, co-ops, informational interviewing, preparing a resume and cover letter, mock interviews, and more.
- Go to the [On-line Internship Trainings](#) Web page and complete the following online orientations:
  - "Introduction to Internships"
  - "Making the Most of your Internship"
  - "Sexual Harassment"
  - "Employment Discrimination"
  - "Welcoming Diversity"
  - "Safety and Security"
- Take related courses and hone your computer skills.
- Begin researching internships at least two semesters prior to the semester of the internship.
- Keep those grades up!

*Where do I get more information?*

Students should contact the Internship Center for help in navigating the process, locating internship sites or any issues related to internships:

- Visit the [Internships](#) Web page.

- Visit Eberly Science and Technology Center, Room 230. Phone: 724-938-1578.
- Email Karen Primm: [primm@calu.edu](mailto:primm@calu.edu).

### Peer Mentoring

The peer mentoring program is designed to help new students with their transition into Cal U. The peer mentoring program assigns first semester freshmen and transfer students to upper-class peer mentors.

The peer mentor serves as a support and resource person who provides information, encouragement and guidance during the student's first year at Cal U. For more information on peer mentoring, contact the Universitywide Mentoring Program at 724-938-1682 or [mentoring@calu.edu](mailto:mentoring@calu.edu).

Visit the [Peer Mentoring](#) Web page for additional information.

### Visiting Student Program

Students at California University may choose to enroll for a period of time at any of the other 13 institutions in the Pennsylvania State System of Higher Education; and similarly, students from those 13 institutions may enroll at California. These institutions are Bloomsburg, Cheyney, Clarion, East Stroudsburg, Edinboro, Indiana, Kutztown, Lock Haven, Mansfield, Millersville, Shippensburg, Slippery Rock and West Chester universities.

The purposes of this program are to allow students at one institution to participate, for a limited period of time, in courses, programs or experiences not available at their home institution, without loss of institutional residency, eligibility for honors or athletics or credits toward graduation, and to expand options available to students in such matters as student teaching, clinical experiences, internships and international exchange programs.

Further information may be obtained from the Office of the Provost. Links to online undergraduate college catalogs of participating institutions may be found on the Manderino Library's website at [www.library.calu.edu](http://www.library.calu.edu).

The procedures and standards for the Visiting Student Program apply equally to students at any of the State System institutions and are as follows:

- The student must have satisfactorily completed at least 27 credits at California and be in good academic standing.
- The student must obtain advance approval from California University to complete specified studies at a sibling university under this program. Each university specifies the approval procedure for its own students' participation and for students from other State System universities.
- The student must present evidence of approval from California University and evidence of visiting university acceptance at the time of registration at the sibling university.
- A student may complete up to 18 credits in a single semester and up to 16 credits of summer work as a visiting student.
- All credits and grades accrued at the sibling university will be accepted in full by California University and thereafter treated as California University credits and grades.
- The student registers at, and pays tuition and fees to, the State System university visited. A student wishing to divide a course load between two institutions during the same term registers and pays appropriate tuition and fees at both universities.

See [Visiting Student](#) for more information.

### Public Safety

The Department of Public Safety and University Police at California University of Pennsylvania is a fully recognized law enforcement agency as authorized by 71 P.S. 646, the Administrative Code of 1929 as amended and Title 18 of the Pennsylvania Consolidated

Statutes (Crime and Offenses), and 24 P.S. 20-1006-A(14) 20-2010A (5) of the State System of Higher Education Act.

The department consists of professionally trained individuals capable of responding to requests for assistance in routine and emergency situations. The department is certified with automatic external defibrillators (AED). The department, a diverse group of police officers, communications officers and secretarial staff, provides continuous 24-hour assistance to the University community.

The staff includes a director, assistant director, two shift supervisors and 11 additional commissioned police officers that have received training at the Pennsylvania State Police Academy. Two public safety communications officers and one departmental secretary contribute to the operation of the department. Public Safety personnel are certified in CPR, basic first-aid procedures, and the emergency medical airborne evacuation policy and procedure for transportation of the seriously ill or critically injured.

Additional services offered to University students, faculty and staff consist of parking and traffic management; criminal investigations; health, fire and safety surveys; special event planning; accident investigation; and crime prevention information and presentations.

Pursuant to the Pennsylvania College and University Security Act and the Federal Crime Awareness and Campus Security Act of 1990, postsecondary institutions, including colleges and universities, must annually provide to all applicants, students and employees information with respect to campus crime statistics and the security policies of the institution.

The information is compiled by California University and made available through the Office of Admissions, Office of Student Development and Services, Office of Public Safety, and on the University website.

### **Character Education Institute**

The California University of Pennsylvania Character Education Institute opened in January 1995 in response to *Emphasis on Values*, a report produced by the Pennsylvania State System of Higher Education urging its universities to give increased attention to values during the 1990s and beyond.

#### ***Goals of the Institute***

The Character Education Institute has three broad goals based on the University's core values of Integrity, Civility and Responsibility:

- To provide character development training to regional organizations;
- To serve as a resource to the University's colleges, departments and student organizations as they contribute to the moral development of California University students; and
- To provide a resource center to help prepare education majors for their unavoidable role as character educators, and to provide assistance to school districts and local organizations that seek to contribute to the moral development of the citizens in their communities.

#### ***Services***

The Character Education Institute provides the following services and resources:

- The institute establishes relationships with regional businesses and organizations to provide character education and principle-based consulting services and training. As a result of this training, businesses and organizations establish endowed scholarships at the University.
- The Character Education Institute provides resources to members of the University community as they give increased attention to moral reflection and dialogue. These

resources include materials relevant to all education majors concerning their future role as character educators.

- The institute maintains a resource center that contains character education curriculum materials, books, journals, newsletters, audio and videotapes, and a clipping file on special subjects, e.g., values in athletics. These materials are available to University faculty, staff, administrators and students; to local civic groups; and to school directors and staff from local school districts.

To obtain additional information about the California University Character Education Institute, contact:

Ron Paul  
Executive Director, Character Education Institute  
California University of Pennsylvania  
250 University Avenue  
California, PA 15419  
724-938-5491  
[paul@calu.edu](mailto:paul@calu.edu)  
[www.calu.edu/education/charactered](http://www.calu.edu/education/charactered)

### **Marketing and University Relations**

The Office of Marketing and University Relations provides a full range of strategic marketing, communications and public relations services to California University of Pennsylvania. This office serves as an umbrella for the University's Marketing and Communications and Public Relations offices, as well as the Web Team. The office manages the brand and image of the University and engages in strategic partnerships to promote the University and its mission. It produces print, video and audio pieces for both internal and external audiences, and it maintains the University's official website and social media sites. Its work is designed to raise awareness of the University, its offerings and its impact on the region; to enhance relationships with the Cal U community, alumni and friends; to communicate with prospective and current students, faculty, staff and the general public; and to promote the progress and achievements of the University and its members. Marketing and University Relations works with the President's Office, University Development and Alumni Relations, Admissions, Academic Affairs and other University offices to assist in reaching institutional objectives. The director of communications and public relations serves as the University spokesperson. The office of the vice president for Marketing and University Relations is in Room 114 of Old Main. Phone: 724-938-5938; fax: 724-938-5880.

### **Marketing**

The Office of Marketing identifies opportunities to promote California University. In conjunction with consultants and members of various University constituencies, Marketing defines, plans and executes campaigns, producing supporting materials that satisfy the stated goals of various University areas. The office also collects and analyzes data, evaluates results and communicates its findings to the appropriate constituency. Phone: 724-938-4195; fax: 724-938-5932.

### **Communications and Public Relations**

The Office of Public Affairs run by the director of communications and public relations delivers the University's message to a variety of audiences, gathering information from the Cal U community and distributing it regularly to print and electronic media outlets. In collaboration with Marketing, University administration and internal clients, this office sets goals and develops strategies for the University's relationship-building efforts. The office publishes the Cal U Review, the University's quarterly alumni magazine; the California Journal, the University's official weekly publication; and the President's Perspective, a quarterly publication circulated to a targeted on- and off-campus audience. Phone: 724-938-4195; fax: 724-938-1500.

### ***Web Team***

The Web Team communicates the University's message worldwide via the Internet. This office produces and administers a variety of online applications, including the NuRelm NuContent and Hannon Hill Cascade Server content management systems. The team maintains California University's official website, and it uses social media sites, such as Facebook and YouTube, to build and maintain relationships among prospective, current and former students, as well as University administration, faculty and staff. The office also produces and posts podcasts (audio) and vidcasts (video) to raise awareness of the University, highlight its offerings, showcase student and faculty projects, and promote campus events.

### **University Development and Alumni Relations**

The Office of University Development and Alumni Relations is responsible for the University's fundraising and alumni relations efforts. This office promotes alumni engagement and works with individuals, corporations and foundations to provide critical financial support for the University and its students. The office also leads and manages the University's capital campaign. The office of the vice president for University Development and Alumni Relations is in Room 106 of Old Main.

### ***University Development***

The Development staff interacts with major gifts donors, corporations, foundations and others to support the University's strategic goals and to provide funding for student scholarships. In addition to the capital campaign, planned giving, major gifts, corporate and foundation relations, donor relations, prospect research, and advancement services are part of this office's mission. Phone: 724-938-5775; fax: 724-938-4547; email: [calucampaign@calu.edu](mailto:calucampaign@calu.edu).

### ***Alumni Relations and Annual Giving***

The Office of Alumni Relations and Annual Giving is the liaison between the University and approximately 53,000 living alumni. Located on the first floor of the Michael and Julia Kara Alumni House, this office organizes, coordinates and/or promotes a wide variety of programs, services and events, including Homecoming, Alumni Weekend and numerous class, geographic and special programs both on and off campus. In addition, this office manages the Annual Fund, which provides operational support to enrich educational experiences at Cal U, and it works with the Alumni Association to conduct various projects to engage alumni. Phone: 724-938-4418; fax: 724-938-4327; email: [alumni@calu.edu](mailto:alumni@calu.edu).

### ***Alumni Association***

The California University of Pennsylvania Alumni Association serves the University and its alumni by fostering a wide circle of beneficial relationships among alumni, students, the University and the greater community. The University's alumni have been organized officially since 1939. Today, approximately 53,000 graduates are members of the association. The association's board consists of 24 directors, elected by the membership. The board works closely with the President's Office and the Office of University Development and Alumni Relations. Phone: 724-938-4418; fax: 724-938-4327; email: [alumni@calu.edu](mailto:alumni@calu.edu).

### ***Emeriti Faculty Association***

The Emeriti Faculty Association of California University of Pennsylvania was founded in 1980 and has served and supported the University and its programs continuously as an independent organization that exists to support the mission, goals and objectives of the University. Today, 209 former faculty members are part of the Emeriti Faculty Association. The executive director of Alumni Relations and Annual Giving serves as the liaison between the Emeriti Faculty Association and the University. Phone: 724-938-4418; fax: 724-938-4327; email: [alumni@calu.edu](mailto:alumni@calu.edu).



### *Foundation for California University of Pennsylvania*

The Foundation for California University of Pennsylvania, with offices on the second floor of the Michael and Julia Kara Alumni House, was founded in 1986 to receive funds from foundations, businesses, alumni, staff, faculty and friends to benefit the University and its programs. The foundation manages endowment funds that provide support for student scholarships and other University activities. The foundation board consists of 19 members elected through a nominations process. The vice president for University Development and Alumni Relations serves as the liaison between the University and the foundation. Phone: 724-938-4329; fax: 724-938-4480; email: [smith\\_de@calu.edu](mailto:smith_de@calu.edu).

### **Student Affairs**

Inherent in the University's educational mission is a commitment to Building Character, Building Careers as well as supporting the University's core values of Integrity, Civility and Responsibility. The central focus of the Student Development and Services division is the personalization of the University experience, with concern for individual intellectual, personal, social, leadership and physical development. The division is committed to recognizing and assisting in the full realization of student potential. This includes supporting the University's Bill of Rights and Responsibilities, incorporating continuous improvement into all programs and activities, promoting community service and diversity, and instilling the culture of philanthropy throughout the student body.

In order to foster this holistic development of students, the division designed and implemented student learning outcomes. The object of Student Development and Services is to enable students to achieve the seven learning domains listed below through a variety of programs and services:

- Values, Morals and Ethics;
- Self-Awareness/Intrapersonal Development;
- Interpersonal/Social Development;
- Leadership and Citizenship;
- Preparation for Lifelong Learning;
- Purpose/Vocational Competence; and
- Physical Development.

For additional information and regulations governing student life and conduct besides those presented here, students should refer to the current edition of The Student Handbook.

Opportunities for work-study jobs, graduate assistantships, internships and volunteer work assignments are available for qualified students. Check with the various offices or departments to inquire about openings.

Registration at the University assumes the student's acceptance of responsibility for compliance with all regulations published in this catalog, as well as rules found in official publications or officially announced to the University community. For additional information and regulations governing student life and conduct, refer to "The Statement of Student Rights and Responsibilities: Student Code of Conduct" in the current edition of The Student Handbook.

### **Alcohol and Other Drug Awareness Programs**

The University alcohol and other drug awareness and education programs are located in Carter Hall. Education is provided by the CHOICES program, located in Suite G35.

The Wellness Center conducts outreach activities intended to make students aware of the risks involved with alcohol and other drug use. The Wellness Center is staffed by a director and is assisted by University students who are studying in the field of counseling and/or have demonstrated interest in helping people better understand the potential consequences

of alcohol and other drug use. In this respect, Wellness Center activities and sponsorship of programming is largely peer driven. The Wellness Center recognizes that there are periods within students' lives that risks run higher and makes added efforts to target these specific periods with its awareness efforts. For more information, call 724-938-4056.

CHOICES provides assessment and intervention designed to assist those whose behavior may be harmful to themselves and/or others because of alcohol and other drug use. Participation in CHOICES is open to any University student, while those who have been cited by the University judicial officer for violations of the Student Code of Conduct involving the use of alcohol and other drugs are required to participate. CHOICES I, the first level of this program, utilizes Brief Alcohol Screening and Intervention for College Students (BASICS). BASICS is a pragmatic and clinically proven approach to the prevention and treatment of undergraduate alcohol abuse. For more information, call 724-938-5507.

CHOICES II involves participants in more in-depth assessment and intervention efforts aimed at assisting them in making healthy decisions. This second level of the program may include referral to a University counselor and/or an outside counseling agency. For more information, call 724-938-5507.

### **California Times (California Student Newspaper)**

The California Times is the University's student newspaper, owned and operated by the Student Association Inc. The Times supports the educational mission of California University and the Pennsylvania State System of Higher Education by providing students with co-curricular journalism production experience. Students are given leadership responsibilities in virtually all aspects of creating a weekly print and online newspaper publication for the University community. Areas of specialization are available in news writing, reporting, graphic design, photography, advertising and editing. For more information, call 724-938-4321 or email [jeff.helsel@calu.edu](mailto:jeff.helsel@calu.edu).

### **CalCard – University Identification Card**

The CalCard is both a campus identification card and a convenient way to make purchases and use services on campus. The CalCard is available to all California University of Pennsylvania students, faculty, staff and eligible guests. The CalCard comes ready to use and pre-programmed with basic services, and can be enhanced based on users' needs.

#### *CalCard Services*

**AAA** — Part of the basic service of each student CalCard is the AAA Roadside Assistance program. Under this program, Cal U students can receive two free, limited roadside assistance calls from AAA per academic year. To use this feature, simply call the toll-free number on the back of the CalCard. For more information, visit the information desk in the Natali Student Center for an AAA brochure.

**Access** — Students who reside on campus use their CalCard to access their residence halls.

**Banking/Financial Services** — On-campus financial services are offered to students, faculty and staff through the Pennsylvania State Employees Credit Union (PSECU) in conjunction with the CalCard. Students can elect to have their CalCard activated for use as an ATM/debit card associated with their account. The PSECU E-Center is located on the lower level of the Natali Student Center. ATMs are located at the Natali Student Center and at the Vulcan Village apartments.

**Entertainment** — Students who have paid the student services fee receive free admission to most entertainment events sponsored by the Student Association Inc.

**Fitness Center** — Students who have paid the student services fee receive unlimited access to the Herron Recreation and Fitness Center. Faculty, staff and alumni who have purchased a membership use their CalCard to gain admission to the fitness center.

**Manderino Library** — The CalCard is used to check out materials and access the library's PILOT system.

**Tickets** — Students who have paid the student services fee receive free admission to all home, regular-season intercollegiate sporting events.

### ***CalCard Accounts***

CalCard accounts work like debit accounts; users deposit funds in advance and their account is debited each time they make a purchase.

**Meal** — Everyone enrolled in a meal plan will use the CalCard to pay for their meals. When purchasing a meal, just present the CalCard to the cashier. The user's meal account will be automatically reduced by one meal. Everyone enrolled in a meal plan will automatically receive a Dine Account.

**Dine** — Opening a declining-balance Dine Account is as simple as making a deposit at the Bursar's Office. The Dine Account can be used to pay for food at all food service locations. Deposits made to the Dine Account are available for use the next business day. Funds deposited to a Dine Account are available throughout the academic year (fall through spring), and do not carry over to the next academic year.

**Shop** — The CalCard Shop Account is the master debit account for on-campus use. Just make an initial deposit by using cash at one of the Value Transfer Stations located in the Natali Student Center or Manderino Library. Deposits can also be made via credit card on the Web at [calcard.blackboard.com](http://calcard.blackboard.com). Shop Dollars can be used to make purchases at all food service locations, Cal U Student Bookstore, vending machines, laundry facilities, Manderino Library for photocopies and overdue book fines, and at the information desk at the Natali Student Center for CalCard services, tickets and stamps. Shop Dollars are carried over on your account from semester to semester.

### ***Lost Cards***

Report lost CalCards to the CalCard Office. CalCards can also be suspended via the Web at [calcard.blackboard.com](http://calcard.blackboard.com). Those who have selected the option to have their CalCard activated as an ATM/debit card also need to contact PSECU if their card is lost or stolen.

### ***Additional Information***

For more information, visit the information desk in the Natali Student Center, call the CalCard Office at 724-938-4300 or email [calcard@calu.edu](mailto:calcard@calu.edu).

### **Cal U Student Bookstore**

The Cal U Student Bookstore, located on the first level of the Natali Student Center, offers varied services to all students, faculty and staff, including a textbook reservation service that allows students to order books before the first week of class through its online service at [www.calupa.bkstr.com](http://www.calupa.bkstr.com). The bookstore also offers a text rental program that allows students to rent selected books at 50 percent off the new price. These books may be used for the semester and then returned by the last day of finals. Some titles are also available as e-books. Payments accepted are Visa, MasterCard, Discover, American Express, cash and checks. If you would like to charge against your financial aid/account charge during the first week of class (spring and fall semesters), visit our online site at [www.calupa.bkstr.com](http://www.calupa.bkstr.com). Instructions as to how the process works and the authorization form that must be completed will be located on the first page two weeks prior to the beginning of the semester. The Cal U Student Bookstore offers a variety of other items, including Cal U clothing and giftware, magazines, study guides, greeting cards and computer software.

### **Campus Ministry**

Spiritual development is an integral part of the process of education and human growth. A campus ministry, staffed by professional campus ministers, fosters the development of spiritual and religious student life. The campus ministry of California University of Pennsylvania, at 724-938-4573 or [stand@calu.edu](mailto:stand@calu.edu), is located in the Natali Student Center, Room 143. Office hours are posted at the office while the University is in session.

## **Clubs and Organizations**

Many active clubs and student organizations are offered through academic departments and the Student Association Inc. These groups provide social, educational, civic engagement, community service and leadership opportunities for students. A complete list of SAI-funded organizations, current advisers and phone numbers may be found in [The Student Handbook](#) or at [www.calu.edu/current-students/get-involved/clubs-and-organizations](http://www.calu.edu/current-students/get-involved/clubs-and-organizations).

## **Commuter Center/Commuting and Nontraditional Student Services**

### *Commuter Center*

This facility for commuting students, including nontraditional students, is located on the first level of the Natali Student Center. It is a popular place to lounge between classes. The center is the home of the Commuter Council. This bright, spacious and comfortable room offers numerous amenities free of charge including computers and a laser printer, microwave oven, refrigerator, television, lockers, and a wealth of information and referrals. For more information, contact the Commuter Center at 724-938-4021. Also, visit the Commuter Center website at [www.calu.edu/current-students/student-services/commuters](http://www.calu.edu/current-students/student-services/commuters).

### *Commuter Council*

Membership provides opportunities to enhance your leadership skills and broaden your social life. The Commuter Council also welcomes the involvement of nontraditional students (see [Nontraditional Student Services](#)). For more information, contact the adviser at 724-938-4553.

### *Nontraditional Student Services*

Student Affairs recognizes students seeking a degree after a hiatus from schooling, seeking a second degree, seeking career skills enhancement, or taking nondegree or continuing education courses. The Commuter Center provides services for commuters (see [Commuter Center](#)) and opens avenues to the pleasures and benefits of university life for those whose time on campus is subject to the constraints of off-campus responsibilities. Nontraditional students frequent the Commuter Center and are also active members of the Commuter Council (see [Commuter Council](#)). For more information, contact the adviser at 724-938-4553.

Commuters and guests of the University who wish to avoid parking on the lower campus are urged to use the park and ride lot across the street from Vulcan Village. Regular shuttle service is available to the lower campus through the Mid Mon Valley Transit Authority. The shuttle service is free of charge for California University of Pennsylvania students with a valid CalCard. There is a nominal fee for nonstudents to ride the shuttle. For more information, call 724-489-0880.

The Office of Student Affairs and the Student Association Inc. jointly support commuting students at Cal U. For more information, visit the Commuter Center and the Commuter Center Web page at [www.calu.edu/current-students/student-services/commuters](http://www.calu.edu/current-students/student-services/commuters).

## **Counseling and Psychological Services**

Counseling Center faculty members provide an array of short-term counseling and psychological services to University students with problems that interfere with their adjustment to campus life, personal development or effective educational performance. The center provides the following services to students: evaluation, consultation, brief therapy and emergency intervention. Students requiring intensive or specialized care will be referred to community mental health providers. All therapists working in the Counseling Center adhere to federal and state ethical and legal standards and laws concerning confidentiality. Enrolled students can make an appointment by calling 724-938-4056, 8 a.m. to 4 p.m. Monday through Friday, while school is in session. Evening hours may be available by special appointment. After-hours and weekend crisis intervention is facilitated through the Public Safety Department at 724-938-4299.

## Activities Transcript

The activities transcript is an official record of the co-curricular activities, accomplishments and learning experiences of students attending Cal U. Official copies of the activities transcript may be used to complement a student's resume and academic transcript when applying to professional and graduate schools or prospective employers. The activities transcript is the map for navigating through a student's California University experience. By reviewing the transcript each semester or academic year, students will begin to identify strengths as well as identify areas they might improve. This information can guide a student's choice of activities in the following semester. Students can register and manage their transcripts online at [calyou.calu.edu/activitiestranscript](http://calyou.calu.edu/activitiestranscript).

## California University Television (CUTV)

California University Television (CUTV) is the University's cable television station, which is owned and operated by the Student Association Inc. CUTV is seen in nearly 100,000 homes, 24 hours a day on the Atlantic Broadband and Armstrong cable systems, and is on Video on Demand in the Comcast cable system.

The mission of CUTV is to produce and provide programming of regional community interest while providing valuable hands-on educational experience for interested students. This applied learning supports the mission and goals of California University, as well as the priorities and imperatives of the State System of Higher Education. Students can develop skills in television technology through experience in a variety of technical areas, including camera work, editing, direction and other production roles, as well as on-air talent positions.

California University television produces a variety of informational, educational and entertainment programs, such as CUTV Newscenter (a live news show), a variety of local government meetings, a student-produced comedy show (*Over The Top*), a local talk show, *Valley Views*, and many more. CUTV is heavily involved with University and area high school sports coverage. Over the past several years, CUTV has covered all of California University's football and basketball contests, as well as various volleyball, soccer, baseball and softball events. CUTV also produces a weekly coach's show for the sport in season. CUTV also produces a High School Football Game of the Week, with several of these contests carried live to a statewide audience via the Pennsylvania Cable Network (PCN).

To its credit, CUTV has been recognized by many national organizations. The National Association of Collegiate Broadcasters (NACB) awarded CUTV "Best in the Nation" for its news and sports coverage, as well as station of the year. The station has also received more than 30 Telly Awards for its sports, news and documentary coverage. In addition, CUTV has received awards from the Society of Professional Journalists, Communicator, Videography and Axiem organizations.

Offices and studios are located in the Natali Student Center. CUTV also maintains a fully loaded production truck, capable of producing multicamera field events. The program employs a staff of three professionals, and enjoys a student membership of more than 45. For more information, contact J.R. Wheeler, assistant dean of student affairs/media, in the Natali Student Center; phone: 724-938-5823; email: [wheeler@calu.edu](mailto:wheeler@calu.edu).

## Dining Services

The goal of the University dining services is to provide a quality, cost-effective, innovative dining program for students living on and off campus. The University encourages student involvement and awareness to help provide quality, nutritious meals at a reasonable cost. Dining locations provide an important environment for student interaction and socialization. Students living in the residence halls, as well as commuters, may choose from a variety of meal plans. All students who live in lower-campus University residence halls must participate in the meal program. A detailed dining services brochure may be obtained at the information desk in the Natali Student Center.

## **Housing: Living@Cal U**

Living@Cal U offers a variety of options for students, all designed to fit a variety of lifestyles from the first year of college through graduate school. University housing was designed with significant input from students, resulting in facilities and services tailored to students' changing needs. Suite-style residence halls on the lower campus house students who are primarily freshmen. The suites also include a mix of upper-class students to promote community development and sharing of campus traditions. Since the first year of college typically involves numerous academic, personal and social transitions, the staff's emphasis is on support and building community so students feel connected to Cal U, adjust to their new home and succeed academically. As students mature and want to branch out on their own to more independent living, the garden-style apartment complex, Vulcan Village, is available. Fully equipped apartments that house students just one mile from the lower campus give students the increased freedom and independence they're ready for.

Students must purchase a food service plan if they live in the suite-style halls on the lower campus. Vulcan Village apartments have fully equipped kitchens, so a meal plan is optional.

### *Lower-Campus Housing: The Suite Life*

Housing on the lower campus is not guaranteed for everyone. A majority of lower-campus spaces are reserved for incoming first-year students. These spaces are assigned on a first-come, first-served basis, so it helps to apply as early as possible. A percentage of the spaces available are set aside for upperclassmen, and a lottery is held to determine who can contract for lower-campus housing. Students not selected in the lottery must fulfill the remainder of their four-semester residency requirement at Vulcan Village. The University policy states that all first-time freshmen who continue enrollment are required by the University to reside in University housing (either lower-campus halls or upper-campus housing at Vulcan Village) for the first four semesters of their college career, with the following exceptions:

- Students commuting from the residence of their parents or legal guardians;
- Married students; and
- Students who are 21 years of age or older by the date of registration.

The housing contract is binding and includes both the fall and spring semesters of an academic year.

The University retains the right to assign all students to particular residence halls, floors and roommates in the best interests of the University. You may request a room or roommate(s), and we will attempt to honor the request, but will not be obligated to do so. The University will not guarantee any student a given room, roommate or residence hall based on class rank, previous occupancy or any other criteria. The assigned space remains the property of the University and regulations apply for its use. Failure to abide by set regulations may result in disciplinary action. If your behavior indicates that you are not suitable for the residence hall environment, the University has the authority to take possession of a given room at any time without refunding fees. Contracting for housing on the lower campus in any academic year does not obligate the University to offer housing in the same location in future semesters. For more information, contact the Housing and Residence Life office at 724-938-4444.

The University has coed residence halls, all of which are completely smoke-free and consist of suites in various configurations. All suites are single-gender. Fully air-conditioned and carpeted, the suites provide the most popular amenities students requested during construction planning. Each residence hall has a computer lab, community room, TV area with large screen TV, a kitchen and vending area, recycling area, full CalCard use, and digital video cameras. Each floor also has a lounge, study and laundry rooms, while each suite provides free local telephone service, TV cable and high-speed Internet connection.

The lower-campus residence life program at California University serves the needs of residential students and is designed to create a stable living and learning environment based on the University's core values of Integrity, Civility and Responsibility. Here, the halls are more than a place to sleep; they are a learning experience. For many of you, coming to college is your first opportunity to be away from parents, siblings and lifelong friends. Residential living encourages you to develop a sense of independence and to build new relationships with a variety of people, often resulting in long-lasting friendships.

Each semester, the staff works with students to plan activities and programs that promote learning outside the classroom and help create a sense of community within the halls. In addition, hall living can also be a cultural learning experience because you will be living and interacting closely with a variety of students. This interaction helps to dispel myths and stereotypes about people and their backgrounds. There are many opportunities for student governance, including hall council, inter-residence hall council and residence life conduct board.

Students who take advantage of the full experience offered by residence hall living will learn about themselves as they gain hands-on experience in applying what they learn in class, develop communication and leadership skills, and create lifelong friendships.

A detailed description of the residence life program, facilities and residence hall rules and regulations is included in The Student Handbook.

### ***Specialty Housing***

Residence life offers students the opportunity to live in a community consisting of students who share interests or concerns for similar issues. Current special interest housing, offered when there is sufficient demand, includes wellness, quiet, limited visitation, single gender and the University Honors Program.

### ***Residence Life Staff***

Each residence hall is supervised by a professional residence hall director, who assures that students' experience with the "suite life" is comfortable, safe and contributes to their personal development and academic success. This director is supported by community assistants, undergraduate or graduate student leaders who live on each floor of the halls.

### ***Safety and Security***

While safety requires the cooperation of all members of the residence hall community, the University uses several strategies to promote a secure living environment. In addition to the live-in staff that is available through a 24-hour on-call schedule, residence hall desks are staffed or monitored 24 hours a day. Hall access is controlled through main doors near the desk, with other doors alarmed for emergency use only. The residence halls are locked at all times. Only residents using their CalCards have unrestricted access. Guests must call from the entrance and be signed in and escorted at all times. A state-of-the-art sprinkler, fire and smoke detection system ensures prompt response to fire emergencies. Digital video cameras are positioned at all entrances and exits, as well as inside the halls on each wing door. All halls have emergency phones outside the entrances.

### ***Inter-Residence Hall Council***

This body represents the interests of students who live in the residence halls on the lower campus. The council provides a forum for residence life issues and sponsors various activities.

### ***Tech Support***

California University provides a computer lab with a printer in each residence hall for residence hall student use. The labs are fully integrated into the University's network. Students have access to any of the network services on campus, including Manderino Library, other State System libraries, students' email and Web space, the Internet and other services. All labs are available 24 hours a day, seven days a week, during the school

term. They are accessed by using your room key. The residence hall labs are for residents and their guests with a valid ID (residents have priority). Rules posted by staff must be followed. Each lab has a laser printer, but you must supply your own paper. If you bring your own computer, all residence hall rooms have Cat-6 connections for hookup to the network. This service is provided at no additional cost. There is no need to use a modem or have a contract with an outside Internet provider. You need an Ethernet cable and 10BaseT Ethernet card installed and working. The University does not provide or install the Ethernet card or cable. All students living in the residence halls must have their computer scanned for the proper antivirus software for service and review the acceptable use policies. For more information, contact the help desk at [helpdesk@calu.edu](mailto:helpdesk@calu.edu).

### ***Upper-Campus Housing: Vulcan Village***

Vulcan Village is located one mile from the lower campus and next to the University's sports complex. The property has 10 three-story buildings that primarily house 768 upper-class students in 199 separate apartment units. Vulcan Village offers a variety of apartment configurations to meet your needs, including four-bedroom apartments with a private bath for each resident (4x4), four private bedrooms and two shared baths (4x2), and two private bedrooms with private baths (2x2). Each resident is responsible for his/her own individual lease. Vulcan Village is staffed by five full-time office staff, including a live-in professional; 12 student community assistants; three full-time maintenance staff; and a part-time groundskeeper. The staff is available to attend to the needs of the residents, which includes responding to maintenance requests and developing social and educational opportunities for residents to attend.

Each apartment has a full-size stove, microwave, refrigerator, dishwasher, garbage disposal, and washer and dryer. High-speed wireless Internet (as well as hard-wired Ethernet), local telephone service and cable TV service are all included in the rent and are available in each bedroom and the common area/living room. All other utilities are included with the rent as well (i.e., water, sewer, electric, garbage). Each unit is equipped with interconnected smoke detectors and a sprinkler system. There is a fully equipped fitness center on the property along with a computer lab. Additionally, the clubhouse includes a recreation room with a large screen TV, pool table, table tennis, digital cable and a video game system. Other amenities include outdoor volleyball and basketball courts as well as an outdoor swimming pool. There is also a convenience store (The Mighty Bite) located in the clubhouse. Parking is available at each building and regular bus service is provided by the Mid Mon Valley Transit Authority to the lower campus. The bus service is available at no charge with a valid CalCard. For more information about Vulcan Village, call 724-938-8990 or visit the website at [www.vulcanvillage.com](http://www.vulcanvillage.com).

### ***Off-Campus Housing***

The Office of Off-Campus Housing works with students, landlords and borough officials to educate and promote the safety and welfare of all students residing in off-campus facilities. The office also assists students in their search for off-campus housing by providing an off-campus housing list and various resource and educational materials. For more information, call 724-938-4444 or visit [www.calu.edu/current-students/housing/housing/off-campus-housing/](http://www.calu.edu/current-students/housing/housing/off-campus-housing/) for an up-to-date listing of available off-campus housing and other information.

### ***Disclaimer***

The information contained in the off-campus list is provided as a service to students. The data collected or transcribed may at times be inaccurate. The University, its employees or students are not responsible for any claims or damages that may be incurred. The Office of Off-Campus Housing makes no warranty on the conditions, terms, prices or other information contained therein. This information is to be used as a guide to help students locate off-campus housing and is not to be taken as approved or sanctioned off-campus housing. This does not create an enforceable obligation to any party from California University of Pennsylvania, the Pennsylvania State System of Higher Education or the students of California University.



## **Intercollegiate Athletics**

The University sponsors a comprehensive athletic program for both men and women. The athletic program is regulated by the policies of the NCAA, PSAC, University and athletic forum and administered by the director of athletics. It is governed by the Office of Student Affairs with the vice president as the senior administrative officer.

Eighteen varsity sports are available to students who desire to participate in intercollegiate athletics and who meet the academic standards of the University, the PSAC and the NCAA. For men, California offers baseball, basketball, cross country, football, golf, soccer, and indoor and outdoor track and field; for women, California offers basketball, cross country, golf, soccer, softball, swimming, tennis, indoor and outdoor track and field, and volleyball. Freshman students must apply to the NCAA Eligibility Center to be eligible to compete in intercollegiate athletics during their freshman year. Specific requirements may be obtained from high school guidance counselors, the University athletic director or compliance officer, and the admissions office.

Academic progress for athletes is monitored by the athletic compliance officer and the director of academic support for student-athletes. A professional staff of athletic trainers is always available to work with student-athletes on medical clearances, day-to-day practices and rehabilitative services. The athletic strength and conditioning program provides sport-specific fitness training to student-athletes.

All students are encouraged to participate in the athletic CHAMPS/Life Skills leadership program at some time during their athletic careers. The program develops skills in student-athletes in areas of communication, career services, resume writing, manners, etiquette and diversity. All student-athletes are encouraged to sign up for Career Athletes, which is designed to allow students to sharpen their career skills, network with alumni and explore internships as they prepare for their careers after college.

The Student Athlete Advisory Committee (SAAC) is an advisory board made up of representation of all sports teams that meets regularly to discuss issues pertaining to student-athletes. This recommending body votes on policies and makes recommendations to the conference and to the NCAA on proposed future changes in legislation.

## **International Student Services Office**

World culture is ever-present with students from 24 countries currently studying at California University. The International Student Services Office, located in Carter Hall, Room G35, strives to assist international students as they experience challenges as visitors to the United States and as students at Cal U. Each day international students spend with the California University community contributes to an experience that will benefit them in their life pursuits. The International Student Services Office also provides a host of social activities for international students and their friends from the University and local communities. Such activities include the International Club and the Annual International Dinner, held each spring. Additional information on the services provided to international students or how to become involved with activities can be obtained by calling 724-938-5505.

## **Student Exchange Programs**

California University is affiliated with both the National Student Exchange (NSE) and Cultural Experiences Abroad (CEA) organizations. NSE ([www.NSE.org](http://www.NSE.org)) enables students to exchange domestically to their choice from nearly 200 schools throughout the United States. CEA ([www.GoWithCEA.com](http://www.GoWithCEA.com)) offers exchange to multiple locations throughout 15 countries worldwide.

The Student Exchange Program Office provides guidance to students on how to participate, determine available funding and obtain full-time credit while on exchange. A successful candidate for exchange has a willingness to undertake exposure to unfamiliar environments and is able to demonstrate academic integrity.

### ***National Student Exchange (NSE)***

Students can exchange to other NSE member campuses located throughout the United States and its territories without having to pay the high cost for out-of-state tuition. Since its establishment in 1968, NSE has grown to nearly 200 member campuses. Students may study at the NSE member institution of their choice for up to a full academic year, undertaking courses approved for application to their degree program at California University through approval of their academic advisers. Students have the choice to pay either California University tuition/fees or in-state tuition/fees at the institution to which they exchange. For further information, contact the student exchange program director at 724-938-5505 and log on to the NSE website at [www.NSE.org](http://www.NSE.org).

### ***Cultural Experiences Abroad (CEA)***

CEA provides students with the opportunity to experience international education and cultural exchange through offerings at institutions located in 24 cities within Argentina, Australia, Chile, China, Costa Rica, Czech Republic, England, France, Germany, Ireland, Italy, Mexico, South Africa and Spain. CEA has been chosen to collaborate with California University in large part due to its practice of special attention to students in customer service, cultural immersion, academic services and the well-being of participants. Students undertake courses approved for application to their degree programs at California University through approval of their academic advisers. CEA offers partial student scholarships to qualified students. Log on to the CEA website at [www.GoWithCEA.com](http://www.GoWithCEA.com). Information on how you can become a participant and how to gain approval of course work for credit toward your degree program can be obtained from the student exchange program director by calling 724-938-5505.

### ***Intramurals***

The intramural program is designed to provide students with a flexible yet structured environment in which to participate in sports. Activities are administered in league format with various divisions serving men's, women's and open coed recreational teams. Teams and individuals must formally register for activities. The program is open to all current students, faculty and staff. For more information, contact Tom Hasbrouck at 724-938-5456.

### ***Student Conduct***

Student Affairs is responsible for administering the conduct system and developing behavioral standards. The Office of Student Conduct investigates allegations of violations of behavioral standards for on- or off-campus behavior; explains options and rights to students; takes disciplinary action on allegations through administrative or board conduct hearings; maintains all University disciplinary records; and serves as a resource to faculty, staff and students for behavioral problems. The Office of Student Conduct also offers alternative conflict resolution options, such as mediation, restorative justice practices and conflict coaching, that can be used to resolve certain issues outside the conduct system.

The Statement of Student Rights and Responsibilities: Student Code of Conduct outlines the behavioral standards students are expected to abide by in order to create a positive community, based on the University's Rights and Responsibilities. The Office of Student Conduct and designated hearing officers are responsible for resolving any alleged violations of these behavioral standards through the process described in the statement, which is available in the Student Planner and on the University's website. The University reserves the right to impose sanctions, such as declining readmission and removal from University housing and/or the University, following appropriate University conduct procedures. Immediate actions may be taken on an interim basis for actions deemed to create a danger to the University community.

### ***Multicultural Student Programs***

The Office of Multicultural Student Programs provides programs and activities that support the ideals of a culturally diverse learning community. It serves as an advocate for students from diverse backgrounds and offers consultation to other members of the

University community when planning programs and events. For more information, contact LaMont Coleman at 724-938-5697 or [coleman\\_lm@calu.edu](mailto:coleman_lm@calu.edu).

### **Web/Mobile Development**

The SAI student Web/mobile development team, located in the Multimedia Access Center, consists of student employees and volunteers who develop and maintain websites, and Web and mobile applications for clubs and organizations and other areas within Student Affairs and SAI.

### **END V (Violence) Center**

The END V (Violence) Center works proactively to raise awareness and educate the campus community on the issues of sexual violence, intimate partner violence and stalking. In addition, the center offers survivors and their loved ones advocacy and support on their journey to healing. The END V Center is located in Carter Hall, Room G45. For information, contact the center at 724-938-5707 or [greendot@calu.edu](mailto:greendot@calu.edu).

### **Recreational Services**

The mission of the Department of Recreational Services is to provide recreational facilities, programs and developmental opportunities for the University community. Recreational Services provides exposure to a variety of activities that contribute to individual physical fitness. The department also creates opportunities for cooperative and competitive play in game form. Seven service areas fall within the department: extramurals, fitness, informal recreation, instructional programs, intramural sports, sports clubs and wellness. For more information, contact Chuck Bohn, director of recreational services, at [bohn@calu.edu](mailto:bohn@calu.edu) or 724-938-5925.

### **Social Fraternities and Sororities**

A sorority or a fraternity is an organization whose members have chosen to establish a close affirmation and friendship with each other. Membership helps to provide leadership opportunities and career preparation. Every chapter encourages and expects above average scholarship and participation in various activities that offer valuable experience. Community service is also encouraged. For more information, contact the Fraternity and Sorority Life Office at 724-938-4303.

### **Student Activities Board (SAB)**

Many diverse forms of cultural and contemporary entertainment are offered to students primarily through the Student Activities Board (SAB). This organization is composed entirely of full-time undergraduate and graduate students who meet weekly to view and discuss the possibilities of hosting different entertainment and cultural programs for the entire University community. The types of programs that SAB sponsors include weekly movies shown in the Vulcan Theater; spoken word and singer/songwriter performances; novelty events, such as "Make Your Own Street Signs," a "Funny Freakin' Friday's" comedy event once a month; and off-campus trips such as Pittsburgh sporting events, Cleveland Cavaliers games, snow tubing trips, performances at the Pittsburgh Public Theater, and opportunities to see national and local recording artists in concert venues in the Pittsburgh area. The organization is composed of various committees, including concerts, day-time programming, evening and weekend programming, and publicity.

For more information about SAB, the types of entertainment and programs it provides, and how to become a member, call 724-938-4303, email [studentactivities@calu.edu](mailto:studentactivities@calu.edu) or visit the office, located on the third level of the Natali Student Center near the SAI business office.

### **Student Association Inc.**

The Student Association Inc. (SAI) serves Cal U's diverse student body by providing activities and programs and by supporting facilities on campus. The nonprofit corporation – owned and operated by students – promotes the University core values, provides

leadership opportunities and serves as an advocate for Cal U students. It's been at work strengthening Cal U since 1937.

Every enrolled student is a shareholder in the corporation through their student activities fee. The executive director serves as the liaison between SAI and the University. Programs provided by SAI are determined by the Student Congress and by the SAI Board of Directors. SAI supports the activities of student clubs and organizations. SAI also provides partial funding for intercollegiate athletics. SAI owns Roadman Park, the 98-acre recreational area currently leased to the University. Facilities include tennis courts, baseball, football, soccer, softball, rugby and intramural fields and a picnic area. A newly acquired 94-plus acre farm was purchased by SAI in May 2010 adjacent to Roadman Park. For more information, visit the website at [www.calu.edu/current-students/get-involved/student-association-inc/index.htm](http://www.calu.edu/current-students/get-involved/student-association-inc/index.htm).

### **Student Congress**

Student Congress is the official student governing body. It is composed of the Student Senate (60 senators); Student House of Representatives (representatives from each club); and Student Cabinet. Congress represents and serves the entire student population. It provides for a student forum, establishes channels for the communication of students' concerns to the proper administrative and faculty personnel, implements programs and activities that enrich campus life, and creates opportunities for students to exercise and develop leadership skills.

Students are encourage to attend a Student Senate meeting, Mondays at 4:15 p.m. in Rooms 206/207 of the Natali Student Center, to find out how they can become active in Student Congress. Students may also call 724-938-4303 or visit the Student Government office on the third floor of the Natali Student Center.

### **Student Health Services**

The Student Health Center is located in the Wellness Center in Carter Hall on the ground floor. The goal of the Student Health Services department is to provide high quality health care to our students; to direct students to other health care providers when appropriate; to provide emergency care for all members of the University community; to address the specific health needs of those members of the student population with special problems; and to conceive, develop and implement relevant health education programs for the University community. All students must complete a pre-entrance health form that is kept on file. All medical records are strictly confidential.

The Student Health Center is open 24 hours a day when the University is in session. A staff of registered nurses are on duty during operating hours. A physician and certified nurse practitioner are on duty Monday through Friday during specified hours. The RN/Physician/CRNP may refer students to local hospitals in emergencies and for treatment beyond the capabilities of the Student Health Center. The Student Health Center does not assume responsibility for doctor bills, hospital bills or prescription costs accrued by the students for treatment beyond the capabilities of the Student Health Center. The final choice in hospital selection is the student's decision.

### **Medical Absences**

Students who are unable to attend classes because of illness should contact their professors, explain their absences and arrange for completion of any work that may have been missed. Student Health Services will provide a written notification to the professors in the following circumstances (provided the student initiates the request):

- When a student consults a health care professional at Student Health Services and the health care professional determines that the student has or had sufficient medical reason not to attend class.
- When a student has consulted a private physician who has determined that the student has or had sufficient medical reason not to attend class.

- When a student is confined for longer treatment or care at Student Health Services or requires extended recovery with bed rest.

When there is an absence of three or more days, excuses are sent through interoffice mail to a student's professors (provided that Student Health Services is made aware of the absence).

Upon notification from Student Health Services or any other health care professional, the professor may decide whether to consider the notification as a valid excuse from class or other academic obligations.

### **Health Education Awareness Resource Team (HEART)**

HEART is a team of students promoting health and wellness and providing opportunities for the campus community to learn about healthy lifestyles through programs and events, and through information available to students in the wellness education room, located in Carter Hall, Room G82. HEART students can provide information on many different subjects, including but not limited to nutrition, weight management, physical fitness, sexually transmitted diseases, stress management and the hazards of tobacco products. The HEART peer educator group invites Cal U students interested in providing wellness information to their peers to join the team.

### **Civic Engagement**

The Center for Civic Engagement serves as a catalyst for students to connect with, build and sustain meaningful service initiatives in partnership with communities surrounding California University, as well as national organizations. The center enhances student learning and leadership development by engaging students in educationally purposeful and diverse co-curricular experiences. The Center for Civic Engagement is located in Carter Hall, Room G35. For more information contact Diane Williams at 724-938-4794 or email [volunteer@calu.edu](mailto:volunteer@calu.edu).

### **Student Leadership Development**

The Emerging Leaders Program fosters ethical leadership development and encourages involvement in leadership opportunities to enhance a student's capacity for dealing effectively with complex problems, real-life leadership situations and cross-cultural issues. Programs are designed to promote an understanding of leadership theory and research, skills, and competencies that support leadership effectiveness; a more fully developed code of personal ethics; and an enhanced sense of lifelong commitment to social responsibility and citizenship. The Emerging Leaders Program equips potential student leaders with skills, including public speaking, team building, goal setting and event planning. This program primarily focuses on first-year students and is offered during the fall semester. Workshops are offered each week for 10 weeks throughout the semester and focus on a particular area of leadership development. For more information, contact Nancy Skobel at 724-938-5857 or [skobel@calu.edu](mailto:skobel@calu.edu).

### **Office for Students with Disabilities (OSD)**

California University of Pennsylvania welcomes otherwise qualified students with disabilities. The University recognizes its responsibility to these students and is committed to providing reasonable accommodations to insure equal access and full participation as guided by Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA/AA).

Students with disabilities follow the same admission procedures and standards as required by California University of Pennsylvania's admissions offices for all students. Questions regarding admission procedures and/or acceptance status should be directed to the Undergraduate Admissions Office at 724-938-4404 or to the School of Graduate Studies and Research at 724-938-4187.

Accommodations for students with disabilities are approved through the Office for Students with Disabilities (OSD). It is the responsibility of the student to adhere to OSD

procedures for self-identifying, providing documentation to substantiate requests and requesting reasonable accommodations in a timely manner. Students must meet the academic/technical standards of the classes/programs for which they are applying and/or in which they are enrolled. In those instances where class/program requirements simulate responsibilities of in-service personnel, students must meet the essential functions of the job.

Parking spaces for persons with disabilities are marked as such on campus. These spaces are solely for the use of persons who have the required state DOT-issued ADA parking credentials displayed. Persons who wish to request a temporary disabled parking permit (six weeks or less) must submit appropriate documentation to Department of Parking and Transportation at 724-938-4677. Persons with disabilities needing to obtain required DOT-issued credentials can make application to the respective state Department of Transportation in which the vehicle is licensed. Additional information regarding parking on campus can be found at [www.calu.edu/parking](http://www.calu.edu/parking).

Inquiries regarding disability access for students should be directed to the Office for Students with Disabilities, Azorsky Hall, Room 105; phone 724-938-5781; email [osdmail@calu.edu](mailto:osdmail@calu.edu); OSD website [www.calu.edu/current-students/student-services/disability](http://www.calu.edu/current-students/student-services/disability), or use the search word "disability" on the Cal U website [www.calu.edu](http://www.calu.edu).

### **Veterans Affairs**

The Office of Veterans Affairs, located in Carter Hall, Room G35, is open from 8 a.m. to 4 p.m. Monday through Friday. Evening hours and appointments at the Southpointe campus may also be requested. The phone number is 724-938-4076. All matters pertaining to veterans, active duty service members and those entitled to veteran's benefits are handled in this office. The staff processes all VA forms and enrollment certifications for eligible students. All veterans, active duty service members, Reservists and National Guard service members, and other eligible dependents applying for entrance to the University, should contact the Office of Veterans Affairs at an early date in order to ensure VA paperwork is processed in a timely fashion. Undergraduate veterans are also advised to take advantage of the University's program to award college credits for military service schools and experience.

Reservists or members of the National Guard must contact the Office of Veterans Affairs in the event of activation. The director of Veterans Affairs is the University's designated point of contact to coordinate withdrawal due to military activation.

The on-campus Veterans Club sponsors both the Col. Arthur L. Bakewell Veterans Scholarship and the American Legion Post 790 National Guard Scholarship. These scholarships are available to current students enrolled at California University of Pennsylvania. For more information, contact the Office of Veterans Affairs at 724-938-4076 or [veterans@calu.edu](mailto:veterans@calu.edu).

### **WCAL (California Radio Station)**

Owned and operated by the Student Association Inc. (SAI), WCAL is a 24-hour-a-day, 3300-watt FM station with a coverage radius of 40 miles. WCAL's typical audience member is in the 15-45 age bracket, residing in the five-county region (Washington, Fayette, Greene, Westmoreland and Allegheny), with secondary listeners in parts of Maryland and West Virginia. WCAL has a mission of providing students with hands-on radio experience while broadcasting to a regional audience news, sports, public service information and the best in popular musical entertainment from a variety of genres. Students who successfully complete a training program are able to become on-air DJs. For more information, contact J.R. Wheeler at 724-938-5823 or [wheeler@calu.edu](mailto:wheeler@calu.edu).

### **Multimedia Access Center**

Located on the first level of the Natali Student Center, the Multimedia Access Center houses an Apple computer lab that gives students access to the latest multimedia software

applications, audio/video equipment and color printing, including large-format printing. There is also a large collaborative work area for group projects. The lab employs a variety of student experts who are available to answer questions. The lab is open 8:00 a.m. to 4:00 p.m. Monday through Friday. Evening hours are 4:00 p.m. to 9:00 p.m. Monday through Thursday. The Student Association Inc. supports and maintains the computer lab.

### **Women's Center**

The Women's Center is working to create a community that promotes and nurtures the contributions and experiences of women. The center offers services and programs for women, advocates for greater equity, and provides an atmosphere to empower each individual for the maximum development of personal, academic and professional success. The center, open 8 a.m. to 4 p.m. Monday through Friday, serves as a gathering place, resource center and meeting space for independent campus organizations. The center is located in Carter Hall, Room G45. For further information, call 724-938-5857 or email [womenscenter@calu.edu](mailto:womenscenter@calu.edu).

### **Office of Social Equity**

The Office of Social Equity supports the University's goal of creating and maintaining a learning environment in which the rights of all are respected. This office encourages the entire University to become personally involved in enriching the campus through support of enhanced diversity and pluralism. The Office of Social Equity reaffirms the University's commitment to equity and diversity through the promotion of understanding, tolerance and respect for others, and ensures that the University community understands and complies with federal and state laws and California University policies with respect to equal opportunity and affirmative action.

### **Services**

The Office of Social Equity helps students resolve concerns and complaints regarding harassment, discrimination and disability. As ombudsperson, the director serves as an advocate for students from diverse backgrounds, offering consultation and support in equity and diversity issues. The Social Equity Office strives to help individuals explore their attitudes and behavior regarding equity issues and is available to any student who needs information, assistance or has a concern about justice, fairness and equal opportunity. Support services are provided in the following areas:

- **Equal Opportunity, Diversity, Compliance and Equity**

This area offers access to a resource library consisting of videos, books, pamphlets and other information related to equity and diversity issues. In addition, the special assistant strives to enhance diversity in the University community through work with the Women's Consortium, President's Commission on the Status of Women, Frederick Douglass Institute, END V Center, SAFE Zone, and the following standing committees of the California University Forum: Safety and Social Equity Committee and Core Values Committee.

- **Social Equity Complaints**

The responsibility for investigating complaints is vested in the Office of Social Equity under the direction of the special assistant to the President. Complete information regarding policies, procedures, and the informal and formal complaint processes can be found in the policy statement and compliance procedures on equal employment opportunity and social equity available from this office.

- **Ombudsperson**

As ombudsperson, the director offers consultation, assistance and support in equity and diversity issues. All members of the University community have the right to seek advice and information from the special assistant to the President, who will maintain such consultation in confidence to the greatest extent possible.

- **Sexual Harassment Education Sessions**

As part of Cal U for Life new student orientation, the Office of Social Equity provides an education session on sexual harassment awareness. The required student success session is designed to review the California University policy on sexual harassment, discuss issues regarding sexual harassment, notify students whom to contact if they should experience sexual harassment, and inform students that they can seek help and advice without fear of reprisal. In addition to the personal small group training format, the Office of Social Equity offers online training in sexual harassment awareness. All members of the University community have 24-hour access to the program at [www.newmedialearning.com/psh/cup](http://www.newmedialearning.com/psh/cup).

**Location and Hours**

The Office of Social Equity is located in South Hall, Room 112. Office hours are 8 a.m. to 4 p.m. Monday through Friday, and evenings and weekends by appointment. For services or information, visit the office or call 724-938-4014.

The Web address is [www.calu.edu/faculty-staff/administration/social-equity](http://www.calu.edu/faculty-staff/administration/social-equity).

**Policies**

1. **Equal Opportunity**

Our statement is on page ii of the catalog. A copy of the policy is available from the Office of Social Equity and is also available on the website above.

2. **Sexual Harassment**

Sexual harassment is reprehensible conduct that will not be tolerated at California University. The University is committed to providing a harassment-free atmosphere for all members of the University community. The University is committed to the human rights and dignity of all individuals; therefore, it is the policy of the University to prevent and eliminate sexual harassment within the University community. In addition, it is the policy of the University that any practice or behavior that constitutes sexual harassment is unacceptable and will not be tolerated. The Office of Social Equity has an established process to investigate and address any complaints of sexual harassment. A complete copy of the complaint procedure is available from this office and on the website.

3. **ADA/504**

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA), California University of Pennsylvania provides reasonable accommodations for otherwise qualified students to ensure equal access to University programs and activities.

**Office for Students with Disabilities (OSD)**

California University of Pennsylvania welcomes otherwise qualified students with disabilities. The University recognizes its responsibility to these students and is committed to providing reasonable accommodations to ensure equal access and full participation as guided by Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA/AA).

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Accommodations for students with disabilities are approved through the Office for Students with Disabilities (OSD). It is the responsibility of the student to adhere to OSD procedures for self-identifying, providing documentation to substantiate requests and requesting reasonable accommodations in a timely manner. Students must meet the academic/technical standards of the classes/programs for which they are applying and/or in which they are enrolled. In those instances where class/program requirements



simulate responsibilities of in-service personnel, students must meet the essential functions of the job.

Parking spaces for persons with disabilities are marked as such on campus. These spaces are solely for the use of persons who have the required state department of transportation-issued ADA parking credentials displayed. Persons who wish to request a temporary disabled parking permit (six weeks or less) must submit appropriate documentation to Department of Parking and Transportation, 724-938-4677. Persons with disabilities needing to obtain required department of transportation-issued credentials can make application to the respective state department of transportation in which the vehicle is licensed. Additional information regarding parking on campus can be found at [www.calu.edu/parking](http://www.calu.edu/parking).

Inquiries regarding disability access for students should be directed to the Office for Students with Disabilities:

Office for Students with Disabilities

Azorsky Hall, Room 105

724-938-5781

[osdmail@calu.edu](mailto:osdmail@calu.edu)

[www.calu.edu/current-students/student-services/disability/index.htm](http://www.calu.edu/current-students/student-services/disability/index.htm)

### **ADA/504 Appeal Process**

If a student considers that a requested accommodation has not been granted or is inappropriate, he or she should immediately discuss the matter with the OSD director, 724-938-5781. If the student is not satisfied with the result of this conference, he or she should contact the ADA Compliance Office, 724-938-4056. This office helps to ensure compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 and provides an avenue of resolution for student problems/ concerns regarding accommodations. If the student does not reach accord at this level, he or she may appeal to the Office of Social Equity. The Office of Social Equity has an established process to investigate and address any complaints of discrimination on the basis of a disability.

#### **4. Affirmative Action Statement**

Integrity, Civility and Responsibility are the official core values of California University of Pennsylvania, an affirmative action/equal opportunity employer. Women, minorities and the physically challenged are encouraged to apply.

#### **5. Nondiscrimination Statement**

California University of Pennsylvania is an academic community dedicated to the ideals of justice, fairness and equal opportunity for all. In compliance with federal and state laws, the University is committed to providing equal educational and employment opportunities for all persons without regard to race, color, sex, religion, national origin, age, disability, ancestry, sexual orientation or status as a disabled or Vietnam-era veteran. The University will not tolerate racial, ethnic or sexual discrimination. Sexual harassment is considered by law to be a form of sexual discrimination and is, therefore, unacceptable. Direct equal opportunity and affirmative action inquiries or complaints to the Special Assistant to the President for EEO/University Ombudsperson, Office of Social Equity, South Hall, Room 112, 724-938-4014. Direct inquiries regarding services or facilities accessibility to the ADA/504 Compliance Officer, Office of Student Development and Services, Carter Hall, Room G52, 724-938-4056. Direct Title IX inquiries to the Senior Women's Administrator/Title IX Coordinator, Department of Athletics, Hamer Hall, Room 248, 724-938-4351.



# *Governance and Administration*

## **Pennsylvania State System of Higher Education**

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John C. Cavanaugh

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Harold C. Shields

Robert S. Taylor

Ronald J. Tomalis

Sen. John T. Yudichak, Secretary of Education

## **California University of Pennsylvania President**

Angelo Armenti, Jr.

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The Hon. Dr. John C. Cavanaugh, chancellor, ex-officio

## **California University of Pennsylvania**

### ***California University of Pennsylvania Office of the President***

Angelo Armenti, Jr., president

Lisa McBride, special assistant to the President for EEEE

Norman G. Hasbrouck, special assistant to the President/director of continuous improvement

Dee Stalvey, executive associate to the President

Daphne Livingstone, development events coordinator

Ron Paul, executive director, Character Education Institute

Doug Philp, University architect

Juanita Timney, executive director, conference services

### *Academic Affairs*

Geraldine M. Jones, provost and vice president, academic affairs  
Bruce D. Barnhart, associate provost and vice president, academic affairs  
Mark Aune, interim director, honors program  
Leonard Colelli, dean, Eberly College of Science and Technology  
William Edmonds, dean, admissions  
Rhonda Gifford, director, career services  
Terrie Greene, director, articulation and transfer evaluation  
Douglas Hoover, dean, library services  
Kevin Koury, dean, College of Education and Human Services  
John Cencich, dean, School of Graduate Studies and Research  
Richard L. Kline, director, institutional research  
Harry M. Langley, associate provost, student retention  
Karen Posa, director, Universitywide mentoring  
Karen Primm, director, internship center  
Jodie Rooney, academic events coordinator/Act 48/Governor's Institute Coordinator  
Heidi Williams, University registrar  
Jennifer L. Sigado, director, welcome center, student orientation programs and University ambassadors  
Chad Smith, director, training services, Southpointe  
Stan Komacek, associate provost and vice president, academic affairs  
Charles E. Talbert, associate director, academic records  
Mohamed Yamba, interim dean, College of Liberal Arts  
Mary Kay Dayner, executive staff assistant to provost  
Ellen Nesser, executive director, Southpointe  
Daniel Engstrom, director, student teaching  
Kathy Gavazzi, executive director, Summer College

### *Administration and Finance*

Robert J. Thorn, interim vice president, administration and finance  
Rosanne Pandrok, assistant vice president, administration/budget director  
Fawn Petrosky, assistant vice president, finance/comptroller  
Rose Granato, administrative assistant to the vice president, administration and finance  
James Ahearn, director, payroll  
Pamela Murphy, interim director of human resources  
Jill Fernandes, director of financial aid  
Sharon Elkettani, director of environmental health and safety  
Robert Downey, Jr., director of public safety and University police  
Betty Kroniser, bursar  
Judith Laughlin, director of purchasing  
Thomas Taylor, director of administrative services  
Michael Peplinski, director of physical plant  
Chris Johnston, director of parking and transportation

### *Student Affairs*

Dr. Lenora Angelone, vice president for student affairs  
Dr. Nancy Pinardi, associate vice president for student affairs/executive director, SAI  
Dr. Timothy Susick, associate vice president for student affairs  
Lawrence Sebek, dean for student services  
Barry Niccolai, dean for residence and off-campus student life  
Brenda DePaoli, executive staff assistant to the vice president  
Debra Anderson, nurse supervisor  
Terri Anderson, nurse  
Nicole Arthur, administrative assistant, SAI  
Shelly Bastin, secretary, Wellness Center  
Cheryl Bilitski, director/assistant professor, Office for Students with Disabilities (OSD)  
Charles Bohn, director, recreational services, SAI

Megan Burd, resident services manager, Vulcan Village  
 Chelsey Burk, business manager, Athletics  
 Betsy Clark, residence hall director  
 LaMont Coleman, associate dean, student services/Multicultural Affairs  
 Kelly Collins, director, academic support for student athletes  
 Kimberly Cupplo, senior traditional accountant, SAI  
 Debra Custer, administrative assistant, Student Affairs  
 Pam DelVerne, director, new media services/activities transcript coordinator, SAI  
 Tomas Donovan, assistant director, activities/evening and weekend programming  
 Kay Dorrance, coordinator, END V Center/Women's Center  
 Melissa Dunn, director, student activities  
 Todd Edwards, CalCard administrator  
 Frances Fayish, director, wellness education, nurse practitioner  
 Paul Fazio, associate dean, student services/commuter services  
 Brenda Fetsko, director, wellness and fitness, SAI  
 Donna George, alcohol and other drug education specialist  
 Patricia Godla, secretary, Office for Students with Disabilities (OSD)  
 Cheryl Golembiewski, student center coordinator, SAI  
 Christa Grillo, nurse  
 Lisa Hartley, accounts payable/payroll supervisor, SAI  
 Thomas Hasbrouck, assistant director, recreational services  
 Scott Helfrich, community manager, Vulcan Village  
 Jeff Helsel, director, news/video development and publications, SAI  
 Joy Helsel, director, fraternity and sorority life/special publications, SAI  
 Benjamin Hilborn, equipment manager, Athletics  
 Dr. Karen Hjerpe, associate athletic director/senior women's athletic administrator  
 Donna Hoak, secretary, Women's Center/END V Center  
 Jeremy Hodge, maintenance technician, Vulcan Village  
 Erica Hoover, housing accountant, SAI  
 Laura Jeannerette, assistant coordinator, student activities  
 Tonya Kirkland, accounting clerk, SAI  
 Gene Knight, facility manager, SAI  
 Leigh Ann Lincoln, chief financial officer, SAI  
 Leslie Loase, associate dean, residence education/learning initiatives/coordinator of  
 assessment  
 Dr. John Massella, professional counselor, Wellness Center  
 Christine Matty, nurse  
 Robert Mehalik, residence hall director  
 Dr. Dawn Moeller, clinical psychologist, Wellness Center  
 Robert Morris, maintenance technician, Vulcan Village  
 James Pflugh, associate dean, student conduct  
 Robert Prah, director, Veterans Affairs  
 Daniel Pretz, residence hall director  
 Dr. Tom Pucci, athletic director  
 Doug Robinson, maintenance technician, Vulcan Village  
 Jamison Roth, director, sports clubs  
 Dr. Mary Ann Salotti, clinical psychologist, Wellness Center  
 Ronald Sealy, athletic facilities foreman, SAI  
 Autumn Seybert, residence hall director  
 Jared Shiner, leasing and marketing manager, Vulcan Village  
 Keith Skirpan, senior housing accountant, SAI  
 Nancy Skobel, associate dean, student affairs and leadership  
 Gary Smith, director CUTV operations, SAI  
 Doris Sutch, nurse  
 Carolyn Tardd, administrative assistant, Athletics  
 Marissa Theakston, traditional accountant, SAI

Jacqueline Thorn, Adirondack housing administrator  
Diane Tomi, administrative assistant, housing and residence life  
Shawn Urbine, associate dean, residential facilities/conferences  
John Watkins, assistant dean, international students/NSE/CHOICES  
Melissa Wazny, secretary, Football Office  
Sheleta Webb, residence hall director  
Steven Weiss, assistant community manager, Vulcan Village  
J. R. Wheeler, assistant dean, student services/media  
Edward Whited, director, athletic facilities and recreation services  
Terry Wigle, associate dean, CalCard systems/auxiliary services  
Diane Williams, director, Center for Civic Engagement  
Thomas Zeman, maintenance manager, Vulcan Village  
Launa Zucconi, leasing professional, Vulcan Village

### ***Marketing and University Relations***

Craig Butzine, vice president for marketing and University relations, director of marketing  
Denise King, executive assistant to the vice president  
Greg Sofranko, director, creative services  
Christine Hudson, assistant director, marketing  
Justin Harbaugh, graphic artist  
Christine Kindl, director, communications and public relations  
Wendy Mackall, assistant director, communications and public relations  
Bruce Wald, information writer  
Jeff Bender, PR and web writer  
Christine Russell, director, web services  
John Moore, assistant webmaster  
Steve Zidek, assistant webmaster  
Greg Buretz, social media coordinator  
Doris Wadsworth, secretary

### ***University Development and Alumni Relations***

Ron Huiatt, vice president, University development and alumni relations  
Kathleen Kuharik, executive staff assistant to the vice president  
Lynn Baron, director, donor relations and stewardship  
Lindsey Bennett, major gifts officer  
Christian Caldwell, manager, development and alumni resources and support services  
Cathy Connelly, manager, annual fund  
Gordon Core, director, planned giving  
Montean Dean, administrative support staff  
John Fisler, senior associate vice president, development  
Leslie Fleenor, assistant director, alumni relations  
Howard Goldstein, associate vice president, corporate and foundation relations  
Ryan Jerico, coordinator, student and young alumni programs  
Mary Johnston, administrative support staff  
Mitch Kozikowski, associate vice president, leadership giving  
Amy Lombard, executive director, alumni relations and annual giving  
Tony Mauro, major gifts officer  
Randi Minerva, coordinator, parent and alumni relations  
Sharon Navoney, associate vice president, development  
Marie Spak, administrative support staff  
Rebecca Stotka, administrative support staff  
Staci Tedrow, administrative support staff  
Jessica Urbanik, major gifts officer  
Linda Volek, administrative support staff

# Faculty

(Date of permanent appointment to California University of Pennsylvania)

**Holiday Eve Adair.** (1998) Professor, Psychology. B.A., M.A., Ph.D., University of Akron

**Aref M. Al-Khattar.** (2002) Professor, Justice, Law and Society. B.A., University of Jordan; M.A., Ph.D., Indiana University of Pennsylvania

**David G. Argent.** (2000) Professor, Biological and Environmental Sciences. B.S., Indiana University of Pennsylvania; M.S., Virginia Polytechnic Institute and State University; Ph.D., Pennsylvania State University

**Connie Armitage.** (2005) Assistant Professor, Early, Middle and Special Education. B.S., M.Ed., California University of Pennsylvania; Ed.D., University of Pittsburgh

**Summer J. Arrigo-Nelson.** (2008) Assistant Professor, Biological and Environmental Sciences. B.A., B.S., University of Rhode Island; M.A., Ph.D., Stony Brook University

**Maggie Aston.** (2005) Assistant Professor, Art and Design. B.F.A., Maryland Institute College of Art; M.F.A., West Virginia University

**Mark G. Aune.** (2007) Assistant Professor, English. B.A., Michigan State University; M.A., New York University; Ph.D., Wayne State University

**Dencil K. Backus.** (1983) Assistant Professor, Communication Studies. A.B., Glenville State College; M.A., West Virginia University

**Sylvia J. Barksdale.** (1999) Professor, Social Work. B.A., M.S.W., Ph.D., University of Pittsburgh

**Justin Barroner.** (2005) Assistant Professor, Exercise Science and Sport Studies. P.G.A., B.S., Pennsylvania State University, M.S., California University of Pennsylvania

**Ralph J. Belsterling.** (2001) Associate Professor, Communication Disorders. B.S., M.Ed., M.S., California University of Pennsylvania; M.S., Clarion University of Pennsylvania; Au.D., University of Florida

**Mohamed Benbourenane.** (2001) Associate Professor, Mathematics, Computer Science and Information Systems. B.S., University of Science and Technology of Algeria, Algeria; M.A., Ph.D., University of California, San Diego

**Carol M. Biddington.** (2005) Associate Professor, Exercise Science and Sport Studies. B.S., M.S., Ed.D., West Virginia University

**William B. Biddington.** (1977) Professor, Exercise Science and Sport Studies. B.S., M.S., A.T.C., Ed.D., West Virginia University

**Cheryl L. Bilitski.** (2000) Assistant Professor, Director, Student Services, Office for Students with Disabilities. B.S., California University of Pennsylvania; M.S., University of Dayton

**Angela Bloomquist.** (2008) Assistant Professor, Psychology. B.S., University of Pittsburgh; M.Ed., Ed.S., PA School Psychology Certification; Ed.D., Indiana University of Pennsylvania

**Melanie J. Blumberg.** (2001) Professor, History and Political Science. B.A., Youngstown State University; M.A., University of Akron; Ph.D., Kent State University

**Carol Bocetti.** (2004) Associate Professor, Biological and Environmental Sciences. B.S., University of Florida; M.S., Ph.D., Ohio State University

**David F. Boehm.** (1989) Professor, Biological and Environmental Sciences. B.S., West Liberty State College; M.S., Ph.D., West Virginia University

**Gina M. Boff.** (2003) Assistant Professor, Mathematics, Computer Science and Information Systems. B.S., B.A., M.S., D.Sc., Robert Morris University

**Jane Bonari.** (2000) Assistant Professor, Early, Middle and Special Education. B.S., M.Ed., California University of Pennsylvania

**Barbara H. Bonfanti.** (1994) Professor, Communication Disorders. B.S., Indiana University of Pennsylvania; M.S., St. Francis College of Illinois; M.Ed., California University of Pennsylvania; Ph.D., University of Pittsburgh

**Kaddour Boukaabar.** (1997) Professor, Mathematics, Computer Science and Information Systems. B.S., University of Wهران, Algeria; M.S., Florida Institute of Technology; Ph.D., Bowling Green State University

**James Bové.** (2005) Assistant Professor, Art and Design. B.F.A., West Chester University; M.F.A., Edinboro University

**Sherri Boyle.** (2009) Assistant Professor, Social Work. B.A., University of California; M.S.W., University of Pennsylvania

**Sylvia Braidic.** (2004) Associate Professor, Educational Administration and Leadership. B.S., M.S., Duquesne University; Ed.D., University of Pittsburgh

**Mark E. Bronakowski.** (1984) Professor, Applied Engineering and Technology. B.S., M.Ed., California University of Pennsylvania; Ed.D., West Virginia University

**Burrell A. Brown.** (1989) Professor, Business and Economics. B.S., California University of Pennsylvania; MBA, J.D., University of Pittsburgh

- Gloria Cataldo Brusoski.** (1997) Professor, Counselor Education and Services. B.A., Duquesne University; M.Ed., Gannon University; Ph.D., University of Pittsburgh
- James O. Burton.** (2007) Assistant Professor, Early, Middle, and Special Education. B.A., Fairmont State University; M.A., West Virginia University; Ed.D., West Virginia University
- Paula B. Caffrey.** (2007) Assistant Professor, Biological and Environmental Sciences. B.A., William Paterson College; M.S., Rutgers University; Ph.D., Rutgers University
- Malcolm P. Callery.** (1978) Professor, Theatre and Dance. B.S., California University of Pennsylvania; M.F.A., Southern Illinois University
- Nancy Carlino.** (2000) Assistant Professor, Communication Disorders. B.A., Duquesne University; M.A., University of Pittsburgh
- Anthony Todd Carlisle.** (2002) Assistant Professor, English. B.A., California University of Pennsylvania, M.A., Duquesne University; Ph.D., Indiana University of Pennsylvania
- James O. Carter.** (1990) Assistant Professor, Communication Studies. B.A., Marshall University; M.A., Ohio University
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