

CALIFORNIA STATE COLLEGE

Graduate Bulletin

1974-1976





# THE GRADUATE DEGREE PROGRAMS

.....

## 1974-1976

### MASTER OF EDUCATION PROGRAMS

Biology  
Chemistry  
Elementary Education  
Elementary Guidance  
English  
Geography  
Industrial Arts Education  
Mathematics  
Mentally Retarded  
Reading Specialist  
Social Studies  
Socially and Emotionally Maladjusted  
Speech and Hearing

### MASTER OF ARTS PROGRAMS

English  
Geography  
History  
Mathematics  
Political Science

### MASTER OF SCIENCE PROGRAMS

Biology  
School Psychology

### SUPERVISION CERTIFICATES

Industrial Arts  
Reading

### SCHOOL PSYCHOLOGIST CERTIFICATE

CALIFORNIA STATE COLLEGE  
California, Pennsylvania 15419



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**THIS COLLEGE IS A MEMBER  
OF THE  
AMERICAN ASSOCIATION OF COLLEGES  
FOR TEACHER EDUCATION  
AND IS FULLY ACCREDITED BY  
THE MIDDLE STATES ASSOCIATION OF COLLEGES  
AND SECONDARY SCHOOLS  
AND  
THE NATIONAL COUNCIL  
FOR THE ACCREDITATION OF TEACHER EDUCATION**

**California State College is committed to affirmative action to assure equal opportunity for all persons regardless of race, color, religion, national origin, ancestry, or sex.**

# **I. The College**





# The College

California State College is a state-owned multipurpose institution offering degrees in teacher education and arts and sciences. The College was founded in 1852 and became a state normal school in 1914. In 1929 the school became a four-year degree-granting institution under the name of California State Teachers College. In 1959, the college assumed its present name as a reflection of its expanded purposes. Graduate studies were initiated in 1961. The Arts and Sciences Program was initiated in September, 1962.

California State College is located on the Monongahela River in California, Pennsylvania, a community with a population of approximately 7,500. California is located 40 miles south of Pittsburgh, 25 miles east of Washington, Pennsylvania, and 20 miles northwest of Uniontown. The college can be most easily reached over U. S. Route 40 which comes within four miles of California at Malden or over Pennsylvania Route 88. From the eastern part of the state Interstate Route 70 connecting with the Pennsylvania Turnpike at New Stanton offers easy access to Route 88 at Speers (near Charleroi).



## II. Graduate Study

History  
Objectives  
Admission  
Candidacy



# Graduate Study

## HISTORY OF THE GRADUATE PROGRAM

Graduate work leading to the degree of Master of Education was inaugurated at California State College in the fall trimester of 1961. The initial program included graduate study in the Elementary and Industrial Arts Curriculums.

Beginning with the summer of 1964, the Master of Education programs were extended to include the following areas of specialization: English (Summer, 1964), Biology (Fall, 1964), Social Studies (Spring, 1965), Speech and Hearing and Mentally Retarded (Fall, 1966), Socially and Emotionally Maladjusted (Summer, 1967), Chemistry and Mathematics (Spring, 1967), Elementary Guidance, Geography, and Reading Specialist (Fall, 1968).

In the fall of 1968, the following Master of Arts programs were inaugurated: English, History, and Political Science. Also in the fall of 1968, the Master of Science program in Biology was added to the Graduate Studies Program. In the fall of 1970 the Master of Science degree program in School Psychology was initiated. The Certification program for the School Psychologist was also inaugurated in the fall of 1970.

In the fall of 1971 the Reading Supervisor and Industrial Arts Supervisor Certification programs were added. The Master of Arts in Math and Geography were inaugurated in Summer of 1973.

## OBJECTIVES FOR GRADUATE STUDY

### *Master of Education*

#### AREA OF GENERAL EDUCATION:

1. To present studies of cultural importance for the graduate student to explore for his own appreciation and understanding.
2. To help the student develop modes of inquiry and substantive understandings which will develop a more critical and creative attitude about humanistic principles.

#### AREA OF SPECIALIZATION:

1. To increase the competency of teachers.
2. To provide teachers with an incentive to continue professional growth.
3. To enable teachers to assume more responsible leadership

roles in the educational program.

4. To emphasize basic research techniques and their use for improving instruction.
5. To provide a further understanding of the teaching and learning processes.

#### *Master of Arts and Master of Science*

1. To offer opportunity for graduate students to increase their competence and basic understanding of their disciplines.
2. To emphasize basic research techniques.
3. To offer opportunity for the improvement of skills in presenting the results of research as a thesis.
4. To offer opportunity for graduate students to pursue in depth, selected topics in their fields of specialization.
5. To provide graduate students with an incentive for academic growth beyond the Master's degree.

### REQUIREMENTS FOR ADMISSION TO GRADUATE CLASSES

The following policy established by the Graduate Council governs admission to graduate classes:

1. The applicant shall present a bachelor's degree from a college or university that is accredited by the National Commission on Accreditation or the appropriate regional accrediting agency.
2. The applicant shall present an official transcript of his work showing at least a 2.5 honor point value of his undergraduate work as determined by a grading system based on a four-point scale.
3. Applicants who fail to satisfy the foregoing requirements may be admitted conditionally upon the basis of the Miller Analogies Test.
4. Graduate study does not carry with it admission to candidacy for the Master's degree. Admission to candidacy for the degree can be made only after six semester hours of graduate work have been successfully completed at California State College.
5. For the Master of Education degree in most programs, the applicant must have a teaching certificate with certification in the field in which he wishes to enroll for graduate study. For the Master of Arts and Master of Science

degrees, a major or evidence of adequate undergraduate preparation in the field in which the applicant expects to pursue graduate work is required. The adequacy of preparation will be determined by the individual departments.

6. Additional qualifications are required in certain programs. (Check for details under the description of individual programs.)

### ADMISSION TO CERTIFICATION PROGRAMS BEYOND THE MASTER'S DEGREE

California State College offers the following certification programs which require additional experiences and credits beyond the Master's degree for developing appropriate competencies in the specific areas of specialization: (1) Industrial Arts Supervisor, (2) Reading Supervisor, and (3) School Psychologist.

Applicants for the above certification programs must have completed all the prerequisites for the program and all Special requirements. Applicants for the Industrial Arts Supervisor must have completed the Master's degree in Industrial Arts, and applicants for the Reading Supervisor must have completed the Master's degree and must have a Reading Specialist Certificate. For the School Psychologist certification the applicant must have completed a Master's degree in School Psychology or related fields and must obtain a minimum of thirty (30) additional credits in special experiences and courses in the School Psychology program.

Before beginning any of the above three certification programs, the applicant must file an application with the Graduate Office. The Graduate Office consults with the department concerned. Based on the department's evaluation of the applicant's background and the availability of faculty and facilities, the department and the Graduate Office render a decision concerning the possible admission of the applicant to the requested certification program.

### PROCEDURE FOR ADMISSION TO GRADUATE CLASSES

1. Each applicant will file with the Graduate Office an application for admission to graduate classes as early as possible and preferably not later than three weeks prior to the session in which he wishes to begin his graduate program. Application forms may be obtained by writing to the Dean of Graduate Studies.

2. At the same time the applicant should have official transcripts sent to the Dean of Graduate Studies by the institutions at which he has taken undergraduate and graduate work. It is not necessary to submit a transcript of work taken at California.
3. An applicant may request an appointment with the Associate Dean of Graduate Studies or the Dean of Graduate Studies.
4. For detailed information pertaining to particular programs the applicant should contact the chairman or coordinator of the department responsible for the program.

#### APPLICATION FORMS AND ADDITIONAL INFORMATION

Application forms and additional information concerning the graduate program may be obtained by writing to the Office of the Graduate School, California State College, California, Pennsylvania.

#### REQUIREMENTS FOR ADMISSION TO CANDIDACY FOR THE MASTER'S DEGREE

In order to complete a program of graduate study, leading to the Master's degree, the student must apply for and be admitted to candidacy for the degree. The following policy governs admission to candidacy.

1. The applicant shall file with the Dean of Graduate Studies an official application and a letter applying for admission to candidacy.
2. The applicant shall have completed not less than six (6) semester hours nor more than twelve (12) semester hours of graduate credit at California State College at the time of making application for degree candidacy. Credits completed in excess of twelve (12) semester hours before applying for degree candidacy will not be accepted for inclusion in a degree program.
3. The applicant shall have maintained a grade point average of not less than 3.0 (equivalent to an average of B) in graduate courses.
4. Approval for admission to candidacy for the Master's degree will be determined by individual departments.
5. Admission to candidacy requires the approval of the Dean of Graduate Studies and of the Graduate Council. The college reserves the right to refuse the applicant's request for admission to candidacy for the Master's degree.



### **III. General Information**



# General Information

## STUDENT RESPONSIBILITY

RESPONSIBILITY FOR KNOWING AND FOLLOWING THE ACADEMIC RULES AND REGULATIONS, INCLUDING REQUIREMENTS FOR GRADUATION, RESTS WITH THE STUDENT. FACULTY ADVISERS ASSIST STUDENTS IN PLANNING THEIR ACADEMIC PROGRAMS AND RESEARCH REQUIREMENTS, BUT ARE NOT EXPECTED TO RELIEVE THE STUDENTS OF THEIR RESPONSIBILITY.

## PLANNING A PROGRAM

As soon as the applicant has been admitted to the Graduate Studies Program, he will be referred to the appropriate department for advisement. Each graduate student's program will be planned specifically for him in conference with a schedule adviser. A research adviser will be assigned to aid the student with his research after he has been admitted to candidacy for the Master's degree. The candidate may request a research adviser in his area of study with the approval of the department head.

The student is required to consult with his adviser throughout his graduate program on a regularly scheduled program basis. His program of studies must be approved by his adviser prior to registration.

## COURSE LOAD

Part-time graduate students will be limited to six (6) semester hours of graduate work per trimester.

During the summer sessions a graduate student may earn a maximum of twelve (12) semester hours of graduate work (maximum 6 credits per five-week session).

A full-time graduate student may carry nine (9) to twelve (12) semester hours of graduate work within a sixteen-week period.

## RESIDENCE REQUIREMENT

A minimum of thirty (30) semester hours of work, in addition to the fulfillment of other requirements and conditions stipulated in this bulletin, will be required for the Master's

degree. A total of twenty-four (24) semester hours must be earned in residence at California State College.

Students will be expected to complete part of their degree programs during the summer sessions when full time could be devoted to graduate study under conditions most conducive to study.

### TRANSFER OF CREDIT

A maximum of six (6) semester hours of resident (on main campus) graduate work done at another accredited graduate school may be transferred to the Graduate Program at California State College. Transferred credits must represent courses that fit the program of California State College and which have been passed with a grade of at least "B." Transfer credits to be acceptable must fall within five years of the date of the application for admission to Graduate Studies. Extension credits are not accepted for transfer.

Students already enrolled at California State College, who wish to take work at another institution for transfer to California, must have program approval by the adviser and by the Dean of Graduate Studies before enrolling at the other institution. Applications for transfer of credits, which should be completed and returned to the Graduate Office prior to taking course work elsewhere, are available in the Graduate Office.

### FEES

Application Fee .....	\$10.00
Enrollment Fee (Pa. residents) .....	\$42.00
	(per graduate credit)
Enrollment Fee (Out-of-state) .....	\$46.00
	(per graduate credit)
Enrollment Fee .....	9 or more credits
(Pa. residents) .....	\$375 (per trimester)
(Out-of-state) .....	\$750 (per trimester)
Activity Fee (Summer Sessions only) .....	\$5.00
Graduate Degree Fee .....	\$5.00

### Assessment of Student Union Building Fee

10 or more credits .....	\$10.00
7-9 credits .....	5.00
1-6 credits .....	2.50

Graduate students are also required to pay any fees (activity fee, library fines, etc.) required of undergraduate students.

Checks or money orders must be written in the exact amount of the payment. Make checks or money orders payable to the Commonwealth of Pennsylvania for the following:

Application Fee  
Enrollment Fee  
Graduate Degree Fee  
Student Union Building Fee

Changes in College Fees may be made without notice.

Activity Fee                    } Student Activities  
  } Fund

Candidates who have been approved for the Master's degree are required to purchase or rent from the College Book Store a Master's cap, gown and hood to be worn at the graduation exercises. The fee for these items is nominal.

Three bound copies of the Master's thesis or the research project must be submitted to the College. Additional copies may be bound for the students. Arrangements for binding must be made with the Graduate Office.

Transcripts of one's graduate work may be obtained by contacting the Registrar's Office. The fee for this service is \$1.00 per transcript; there is no charge for the first transcript.

## REFUNDS

If a student withdraws from the college, or from individual courses, the following schedule of refunds and credit have been established:

Sixteen Week Course	
Withdrawal 1st and 2nd week	80% Refund
Withdrawal 3rd and 4th week	60% Refund
Withdrawal 5th and 6th week	40% Refund
Withdrawal after 6th week	0% Refund
Twelve Week Course	
Withdrawal 1st week	80% Refund
Withdrawal 2nd and 3rd week	60% Refund
Withdrawal 4th week	40% Refund
Withdrawal after 4th week	0% Refund
Six Week Course	
Withdrawal 1st week	80% Refund

Withdrawal 2nd week	60% Refund
Withdrawal after 2nd week	0% Refund

#### Three Week Course

Withdrawal 1st week	80% Refund
After 1st week	0% Refund

The student desiring permission for withdrawal must complete the regular withdrawal forms which are available in the Graduate Office. Students who desire a refund must also write a letter to the President of California State College. If the money is to be credited to another trimester, the letter to the President is not necessary.

## WITHDRAWALS

### *Withdrawal from Individual Courses:*

Students are permitted to add courses the first week of a trimester after registration day. The permission is granted by the Dean of Graduate Studies or the Associate Dean of Graduate Studies.

Students may drop courses during the first six weeks without penalty. Permission is granted by the Dean of Graduate Studies or the Associate Dean of Graduate Studies.

After the first six weeks, withdrawals from individual courses are permitted with a grade of "WP" or "WF"; "WP" carries no penalty – "WF" carries penalty.

### *Complete Withdrawal:*

Students are permitted to withdraw completely from college up to the week of the final examination. Permission is granted by the Dean of Graduate Studies or the Associate Dean of Graduate Studies. "WP" or "WF" grades are assigned for all courses.

All withdrawals are subject to the policy established for credit and refunds. Refer to that section of the bulletin entitled "Refunds" immediately above.

Withdrawal forms must be properly filled in by students who desire to discontinue part of their schedules. When students merely stop attending classes without officially withdrawing, "F" (failing) grades are recorded on the permanent records.

Students who find it necessary to leave the college during a trimester should, before discontinuing attendance at classes, confer with the Dean of Graduate Studies. If after such conference it is found that the student should not continue,

official withdrawal forms must be filled in the Graduate Office. Students who leave the college without following this routine, especially the completing of withdrawal cards, jeopardize their status.

### TIME LIMIT

All requirements for the Master's degree must be completed within five years after the date of initial registration for graduate studies at California State College.

### SCHOLARSHIP REQUIREMENT

The graduate student will be required to maintain a "B" grade average in all work after receiving the bachelor's degree. Only grades of "A," "B," or "C" are acceptable toward a Master's degree. Marking system: Grade of "A," 4 quality points; "B," 3 quality points; "C," 2 quality points. An incomplete grade (I) is issued only if because of personal illness (covering two or more consecutive weeks) the student is unable to complete the requirements of the course at the end of the session. The incomplete grade is issued only when circumstances warrant it and when proper evidence is presented. Work for the incomplete grade must be completed during the semester immediately following the semester when the grade was issued. After the lapse of one trimester, if the work is not satisfactorily completed, the incomplete grade automatically becomes an "F" grade, and it cannot be removed without repeating the course.

### COMPREHENSIVE EXAMINATION

Each student who is a candidate for the Master's degree will be required to pass a comprehensive examination in his area or field of specialization. The type of examination may vary in different departments. The purpose of the examination is to evaluate the student's ability to organize his thoughts, to express himself adequately, and to demonstrate a knowledge of his field.

### RESEARCH REQUIREMENT

One of the requisites for fulfilling the requirements for a Master's degree at California State College is the preparation of a research project or thesis. The research project and the thesis may be distinguished in the following manner:

The research project should make a contribution to the

graduate student; it should make him a more understanding and competent teacher. The project may pertain to the teacher's own classroom situation or to some other type of limited research. The project needs the approval only of the adviser, but the adviser may request the meeting of a special committee who would also review and evaluate the proposed study. Two (2) credit hours are given for the research project.

The thesis should make a contribution to the student and to his field; it treats a problem to a deeper degree. Better controls, wider sampling, and further basic research techniques must be employed for a thesis. Before a research proposal can be accepted for a thesis, it must be approved by a committee of three graduate faculty members — the candidate's adviser, a faculty member of the candidate's department, and a member of another department. Four to six (4–6) credit hours are given for a thesis.

The research project and thesis may differ in the nature of research and in details, but they should follow the same format and regulations as prescribed in the bulletin, *Preparation of Theses and Research Projects*, which is available in the Graduate Office.

A research paper (1 credit) is another research option available to English majors.

*A Manual for Writers of Term Papers, Theses, and Dissertations* by Kate L. Turabian is the adopted style sheet for the graduate program at California State College except as special requirements of individual departments demand the use of another style sheet.

Any letters or questionnaires concerning the proposed research project or thesis which are sent for the purpose of seeking information and data from off-campus sources must be approved by the adviser and by the Graduate Office.

The Graduate Division of the College has a cooperative arrangement with University Microfilms for the publication of theses abstracts and for microfilming of theses. The cost for this service to the graduate student is payable to University Microfilms, Inc. University Microfilms will make a permanent microfilm copy of the thesis and send one copy of the microfilm to the Library of Congress in Washington, D.C. University Microfilms, Inc., will also publish the abstract in their abstract journal of Master's theses. Copies of the thesis in microfilm or Xerography are available at a nominal cost on a per page basis. Abstracts of theses are limited to 150 words or less. Details and instructions concerning the microfilming of



theses and abstracts are available in the Graduate Office or in the Office of the Director of Research.

### STEPS IN SATISFYING THE RESEARCH REQUIREMENT

1. Completion of the course, "Methods of Research."
2. Admission to Candidacy for the Master's degree.
3. Selection of an adviser.
4. Overview for the proposed research project or thesis.
5. Rough draft of the research project or thesis.
6. Final draft of the study.
7. Presentation of three copies of the final draft of the research study for committee's evaluation.
8. Oral examination on the research study.
9. Preparation of an abstract of the study.
10. Binding of the final approved copies of the study.

(The detailed procedures and deadline dates for the completion of the above steps are available in the Graduate Office.)

The Graduate Council reserves the right to modify the requirements for graduate study without notice.

### NOTICE OF ANTICIPATION FOR GRADUATION

It is the responsibility of the student to check with the Graduate Office at least three months before the date of his anticipated graduation. The Graduate Office prepares a list of prospective graduates several months before each commencement. It is the student's responsibility to see that his name is included on the graduation list and to indicate the way his name should appear on the diploma. If the degree candidate fails to check with the Graduate Office and fails to complete the application for graduation, it will be necessary to postpone his graduation until the next regular commencement. The application for graduation must be signed by the student's adviser, indicating that all requirements have been completed.

### UNDERGRADUATE CREDIT FOR GRADUATE COURSE

Undergraduate students may enroll in graduate courses for undergraduate credit if they meet the necessary requirements for those courses. Individual departments shall decide what the prerequisites for each course shall be. Graduate status may be a prerequisite for admission to some courses.

## GRADUATE CREDIT FOR SENIORS

Undergraduate students in their last term *on campus* who have completed, or are completing all the requirements for an undergraduate degree, may enroll in graduate courses for graduate credit. With the exception of the undergraduate degree and teaching certificate requirements, they must meet all other Graduate School entrance requirements. *No double counting of credits.*

## HOUSING FACILITIES

Housing in the College dormitories for the summer sessions is available to graduate students. Students desiring housing facilities are requested to write to the Vice President of Student Affairs and Services.

The housing fee which includes room and board, is \$19.00 per week, Meals — \$9.00, Room — \$10.00 (Fees are subject to change).

The availability of living accommodations in the college dormitories depends upon the enrollment and demand for housing. Interested students are urged to make the necessary arrangements as early as possible.

## PERMANENT CERTIFICATION

The provisional college certificates issued after October 1, 1959, shall require for validation for the permanent form of the certificate, the completion of twelve (12) semester hours of post-baccalaureate work and at least three full years of successful teaching experience. Provisional College Certificates issued after October 1, 1963, shall require for validation for the permanent form of the certificate the completion of 24 semester hours of approved post-baccalaureate or graduate work at a regionally accredited institution.

By enrolling in the graduate program teachers may complete their twelve (12) or twenty-four (24) credit hours of post-baccalaureate work which are required for permanent certification and at the same time begin work on the Master's degree.

## THE LIBRARY

The J. Albert Reed Library, opened in August of 1961, houses a collection of 170,000 volumes for reading and research, carefully selected and expanded to meet the needs of the graduate program. Special encouragement is given by the librarian to graduate ordering, particularly in the field of education.

Microfilm editions of current and out-of-print material are rapidly attracting student use. New quarters for the half-million-unit micromedia collection now contain twenty-eight microfilm readers, together with portable microfiche readers available for home or dormitory use. Microfilmed theses supplement shelves of bound theses in the reserve area, both of which serve as examination samples and as source materials. For the students' convenience, book copiers and microfilm reader-printers provide copying service at a nominal cost.

Four members of the library faculty have been assigned as reference assistants to the individual student, and class instruction in research resources is available to professors on request. Professional librarians monitor the collections in arts and sciences and in education, to which a curriculum materials center of increased depth and diversity lends support.

Open stacks foster an atmosphere of independent study and contribute to serious acquaintance with books on the part of the graduate student. Interlibrary loan service is offered for the completion and extension of research; privately placed carrels make library hours more productive, and a generous library budget supplies every reasonable request for materials intended to broaden and deepen the mastery of chosen subject fields. The influence of the graduate program has filtered through all institutional policy making and has had an invigorating effect on the scope and progress of the Library.

#### Library Hours

Monday through Friday	8:00 a.m. to 10:00 p.m.
Saturday	8:00 a.m. to 4:00 p.m.
Sunday	2:00 p.m. to 10:00 p.m.

Holiday hours will be announced.

#### THE COMPUTER CENTER

Computer services are available for graduate students who are conducting research studies. A full-time staff member is employed to assist students in utilizing the computer facilities for educational purposes.

The computer center is open daily (Monday through Friday) from 8:00 a.m. to 11:00 p.m. but students who want staff assistance should make arrangements with the Assistant Director of the Data Center.

Students desiring special training in elementary use of the

computer may register for a graduate course, GEE 537 Computer Science.

### GRADUATE ASSISTANTSHIPS

A limited number of graduate assistantships have been established by the Commonwealth of Pennsylvania. Assistants are awarded with the one-half (1/2) time or the one-fourth (1/4) time stipend plan. On the one-half (1/2) plan the assistant received a stipend of \$2705 for the fall and spring trimesters. On the one-fourth (1/4) plan the assistant receives a stipend of \$1352.50 for the two trimesters. Course fees are waived for graduate assistants. The maximum number of credits permitted for a graduate assistant is nine (9) credit hours. Students planning to carry less than six (6) credits must receive approval from the department concerned and the Graduate Office. The graduate assistant is expected to devote full time to his studies and to his work related to the assistantship. Recipients of graduate assistantships on the one-half (1/2) time plan will be required to assist in the department to which they are assigned for twenty (20) hours per week. Assistants on the one-fourth (1/4) time plan will be required to assist in the department to which they are assigned for ten (10) hours per week.

The graduate assistants are assigned to regular faculty members to assist in research, instruction, and other professional duties. They work under the direct supervision of full-time faculty members.

Only full-time graduate students are eligible for assistantships. Applications and information concerning graduate assistantships are available in the Graduate Office.

### VETERANS' AFFAIRS

Veterans' Financial affairs are dealt with in the Office of the Registrar in the Administration Building. A veterans' clerk is available to answer questions pertaining to financial matters.

The Graduate Office welcomes all veterans for consultation on admission to the Graduate School and available programs of study.

### CHANGE OF ADDRESS OR NAME

It is the responsibility of the graduate student to file with the graduate office the change of address or name. Appropriate forms are available in the graduate office.

## IV. The Graduate Programs

Introduction  
Biology – M.Ed.  
Biology – M.S.  
Chemistry – M.Ed.  
Elementary Education – M.Ed.  
Elementary Guidance – M.Ed.  
English – M.Ed.  
English – M.A.  
Geography – M.A.  
Geography – M.Ed.  
History – M.A.  
Industrial Arts Education – M.Ed.  
Mathematics – M.A.  
Mathematics – M.Ed.  
Mentally Retarded – M.Ed.  
Political Science – M.A.  
Reading Specialist – M.Ed.  
School Psychology – M.S.  
Social Studies – M.Ed.  
Socially and Emotionally  
Maladjusted – M.Ed.  
Speech and Hearing – M.Ed.



# The Graduate Programs

## INTRODUCTION

The Graduate Division of California State College offers three types of advanced degrees: Master of Education (M.Ed.), Master of Arts (M.A.), and Master of Science (M.S.).

The Master of Education Program is intended primarily for qualified in-service teachers and other applicants who meet the standards for graduate study which were established by the Graduate Council. The following Master of Education Programs are offered: Biology, Chemistry, Elementary Education, Elementary Guidance, English, Geography, Industrial Arts Education, Mathematics, Mentally Retarded, Reading Specialist, Socially and Emotionally Maladjusted, Social Studies, and Speech and Hearing.

The areas of specialization for the Master of Arts Program are English, Geography, History, Mathematics, and Political Science. The Biology and Psychology Departments offer Master of Science programs.

The Master of Arts and the Master of Science degrees are offered for applicants who have a major or adequate background preparation in the area in which they wish to matriculate. The students have an opportunity to study in depth in their areas of specialization and become more proficient in their discipline.

In those graduate programs that lead to initial certification, individual departments will determine the competency of the student for certification. It should be noted that receiving a Master's degree is not synonymous with initial certification. The areas for which certification is given on the graduate level at California State College are: Elementary Guidance, Reading, School Psychology, and Socially and Emotionally Maladjusted.

Graduate work at California is especially designed to include classroom, laboratory, clinical, and research experience that will add breadth and depth to the educational background of the students. The program for each person admitted to the graduate division will be planned in cooperation with the adviser and will be based upon the previous training and experience of the student.

A minimum of thirty (30) semester hours is required of all degree students. The curriculum pattern differs for the various areas of specialization.

Since standards of proficiency described elsewhere must be met, it should be understood that the requirement listed in the preceding paragraph constitutes a minimum requirement and does not guarantee graduation.

The graduate program is not merely an extension of work at the undergraduate level. More vigorous standards are applied and a degree of independence in the pursuit of knowledge is required. Special emphasis is placed on the cultivation of scholarly attitudes and methods of research.

## BIOLOGY

### *MASTER OF EDUCATION*

This degree is for certified teachers.

Admission to the biology program requires an undergraduate biology major, with a 2.5 undergraduate Quality Point Average or a satisfactory on the Miller's Analogy Exam. It should be noted that national trends are toward requiring higher scores to meet job competition.

The student's record is reviewed by a departmental committee, who may require additional courses in biology or related fields to remedy deficiencies. After taking 9 to 12 credits with a 3.0 minimum Quality Point Average, a comprehensive candidacy examination covering general biology must be passed.

At least one course in Organic Chemistry is required for the Master of Education program and deficiency must be remedied as undergraduate credit before the candidacy examination is taken.

Ancillary graduate level courses up to 6 credits in fields closely related to the major program may be substituted for biology courses upon approval of the adviser and a majority vote of the department faculty.

#### I. PROFESSIONAL EDUCATION – 10 credits

		<u>Credits</u>
*EDP 600	Statistical Methods	2
*EDP 620	Curriculum and Methods of Teaching Biology in High School	2
	Other courses in PE	6
*Required		

#### II. BIOLOGICAL SCIENCE

Field of specialization – 14 credits in Biology when submitting a Master's Thesis or 16 credits when submit-



ting a Research Project, to be selected from the Biology courses which are listed under the Master of Science degree.

III. RESEARCH — four or six (4 or 6) credits. The student must submit either a Master's Thesis or a Research Project.

		<u>Credits</u>
*BIO 800	Methods of Research in Science	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4
*Required		
**Either Required		

## BIOLOGY

### MASTER OF SCIENCE

This degree is directed toward professional and research biology, but also may be used by teachers.

Admission to the biology program requires an undergraduate biology major, with both a 2.5 overall Quality Point Average and a 2.75 average in the natural sciences, or a satisfactory on the Miller's Analogy exam.

The student's record is reviewed by a departmental committee, who may require additional courses in biology or related fields to remedy deficiencies. After taking 9 to 12 credits with a 3.0 minimum Quality Point Average, a comprehensive candidacy examination covering general biology must be passed.

At least two courses in Organic Chemistry are required for the Master of Science program and deficiency must be remedied as undergraduate credit before the candidacy examination is taken. Ancillary graduate level courses up to 6 credits in fields closely related to the major programs may be substituted for biology courses upon approval of the adviser and a majority vote of the department faculty.

I. BIOLOGICAL SCIENCE — Twenty-four (24) credits, to be selected from the biology courses:

BIO 700	Cellular Ultrastructure	3
BIO 705	Cellular Physiology	4
BIO 706	Bacteriology	4
BIO 707	Mycology	4
BIO 708	Microbial Ecology and Physiology	4
BIO 715	Tissue Culture	4
BIO 716	Cytogenetics	4
BIO 717	Population Genetics	3
BIO 718	Advanced Problems in Genetics	3-8
BIO 721	Biochemistry I	4

BIO 722	Biochemistry II	4
BIO 725	Molecular Biology	4
BIO 730	Animal Systematics	4
BIO 735	Comparative Vertebrate Anatomy	4
BIO 736	Animal Development	3
BIO 737	Animal Behavior	3
BIO 738	Herpetology	3
BIO 745	Entomology	4
BIO 746	Parasitology	4
BIO 747	Limnology	4
BIO 750	Terrestrial Ecology	4
BIO 755	Field Botany	4
BIO 756	Field and Laboratory Techniques	4
BIO 757	Plant Systematics	4
BIO 758	Plant Anatomy and Morphogenesis	4
BIO 760	Advanced Plant Physiology	3
BIO 766	Biometry	3
BIO 767	Lab Instrumentation for Biology	4
BIO 768	Techniques in Electron Microscopy	4
BIO 770	Conference on Electron Microscopy	4
BIO 775	Radiation Biology	4
BIO 776	Radioisotope Techniques	4
BIO 778	Organic Evolution in 20th Century	3
BIO 789	Special Problems in Biology	1-3
BIO 795	Seminar in Biology	2
MSC 700	Marine Science Consortium – Graduate Biology Courses	V/A

II. RESEARCH – Six (6) credits

*BIO 800	Methods of Research in Science	2
*RES 849	Master's Thesis	4
*Required		

## CHEMISTRY

### MASTER OF EDUCATION

I. GENERAL EDUCATION – Two (2) semester hours to be selected from the following courses:

GEE 506	Philosophy and Philosophers	2
GEE 508	Science and Technology	2
GEE 515	Science Biographies	2

II. PROFESSIONAL EDUCATION – Four (4) semester hours:

EDP 600	Statistical Methods	2
EDP 635	CBA and Chemistry Materials	2

III. CHEMISTRY – Field of Specialization – Minimum of eighteen (18) semester hours to be selected from the following courses:

*CHE 701	Advanced Inorganic I	3
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CHE 702	Advanced Inorganic II	3
CHE 705	Inorganic Preparations	2
*CHE 711	Advanced Analytical I	3
CHE 712	Advanced Analytical II	3
*CHE 721	Advanced Organic I	3
CHE 722	Advanced Organic II	3
CHE 725	Qualitative Organic Analysis	3
CHE 726	Organic Preparations	2
*CHE 731	Advanced Physical Chemistry I	3
CHE 732	Advanced Physical Chemistry II	3
CHE 735	Quantum Mechanics	3
CHE 745	Mathematics for Chemists	3
BIO 721	Biochemistry I	4

IV. RESEARCH — Four to six (4–6) semester hours to be selected from the following:

*RES 800	Methods of Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4

\*Required  
 \*\*Either Required

## ELEMENTARY EDUCATION

### *MASTER OF EDUCATION*

Admission to graduate study does not presume admission to candidacy for the Master's degree. In order to complete a program of study leading to the Master of Education degree, the student must apply for and be admitted to candidacy for the degree. The student entering the program must apply for candidacy for the Master's degree after completing not less than six (6) hours, nor more than twelve (12) hours of graduate work at California State College. The student must have successfully completed these hours within the Professional Core and/or Cognate Areas. Prior to the completion of the program, the student must satisfactorily complete a written comprehensive examination plus a research project or thesis.

I. GENERAL AND PROFESSIONAL EDUCATION — Four to eight (4–8) semester hours to be selected from the following courses. (At least 2 credits from GEE and at least 2 credits from EDP).

GEE 500	Comparative Studies in Literature	2
GEE 505	Great Works in Drama	2
GEE 506	Philosophy and Philosophers	2
GEE 507	Comparative Music	2
GEE 508	Science and Technology	2
GEE 510	History of Mathematics	2
GEE 515	Science Biographies	2
GEE 516	World Resources and Population Problems	2

GEE 517	American Civilization	2
GEE 518	Comparative Institutions	2
GEE 520	Language in Society	2
GEE 525	Community Problems of Health and Safety	2
GEE 526	Mass Communications	2
GEE 527	Community Resource Problems	4
GEE 537	Computer Science	2
GEE 588	Seminar on Creativity	2
EDP 600	Statistical Methods	2
EDP 606	General History of Education	2
EDP 605	Philosophy of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2
EDP 616	Guidance and Counseling	2
EDP 617	Psychology of the Growth and Development	2
EDP 618	Social Psychology	2
EDP 625	Advanced Mental Hygiene	2
EDP 627	Early Childhood Education	2
EDP 628	Psychology of the Disadvantaged Child	2
EDP 636	Advanced Psychology of Learning	2
EDP 638	Selection and Use of Instructional Materials in the Classroom	2
EDP 650	Perception and Motor Development in the Education of Children	2
EDP 685	Seminar in Audio-Visual Techniques	2

II. ELEMENTARY EDUCATION — Five to nine (5–9)  
semester hours of course work to be selected from the  
following courses:

EDE 700	Historical Background of the Elementary School	2
EDE 706	Evaluation and Measurements in the Elementary School	2
EDE 707	Creative Activities in the Elementary School	2
EDE 708	Developmental Reading in the Elementary School	2
EDE 710	Teaching Reading in Content Subjects (Pre: El 704)	2
EDE 717	Geography in the Modern Elementary School	2
EDE 718	Arithmetic in the Elementary School	2
EDE 720	Resource Materials in Elementary Science	2
EDE 725	The Creative Elementary Music Program	2
EDE 726	Art Education for the Elementary Grades	2
EDE 727	Guidance in the Elementary School	2
EDE 728	Problems in Health and Physical Education for the Elementary School	2
EDE 730	Teaching in Kindergarten and the Primary Grades	2
EDE 735	Psychology of the Exceptional Child	2
EDE 736	Organization and Administration of the Elementary School	2

EDE 787	Seminar in Elementary Art Education	2
EDE 738	Children's Literature and Reading	2
EDE 745	Topics in Algebra for the Elementary Mathematics Teacher	2
EDE 746	Topics in Geometry for the Elementary Mathematics Teacher	2
EDE 748	Materials, Recreational Mathematics and Evaluative Techniques in Elementary School Mathematics	2
EDE 750	Classroom Diagnostic Procedures for Reading	3
EDE 755	Seminar: Current Issues and Innovations in Elementary Education	2
EDE 790	Independent Study (Small Scale or Action Research)	1-3

III. PROFESSIONAL CORE – A minimum of nine (9) hours to be selected from the following courses:

*EDE 705	Development and Organization of the Curriculum for the Elementary School	3
EDE 715	Recent Trends in Language Arts	3
EDE 716	Special Problems in Elementary Social Studies	3
EDE 740	Recent Trends in Elementary School Science	3
EDE 747	Trends and Current Research Finding in Elementary Mathematics	3

IV. COGNATE AREAS – A minimum of six (6) semester hours to be selected from the Graduate School Catalogue in consultation with the student's adviser.

V. RESEARCH – Four to six (4-6) hours to be selected from the following:

*RES 800	Methods of Research	2
**RES 829	Research Project	2
**RES 809	Research Project Seminar (prerequisite – Methods of Research)	2
**RES 849	Master's Thesis	4

## ELEMENTARY GUIDANCE

### *MASTER OF EDUCATION*

In addition to the general requirements for admission to graduate studies, applicants who wish to be approved for admission to the Elementary Guidance Program must be certified in an educational area (elementary, secondary, art, music, public school nursing, etc.). Applicants who have an undergraduate degree in any related field (psychology, sociology, etc.) will also be considered.

Graduate study does not carry with it admission to candidacy

for the Master's degree. The student entering the program must apply for candidacy for the Master's degree after completing not less than six (6) hours nor more than twelve (12) hours of graduate work at California State College. Within these twelve hours, the student must have successfully completed EGU 701 – Organization and Administration of Guidance in the Elementary School, EGU 702 – Counseling Theory, and be enrolled in or completed EGU 711 – Practicum I. Approval for admission to candidacy for the Master's degree will be determined by the Guidance Staff. A meeting with the Staff may be required.

The Elementary Guidance Program at California State College makes a distinction between the completion of the Master's Degree in Education and the approval for certification in Elementary Guidance. A Master's Degree connotes the assimilation and understanding of the didactic requirements of the Elementary Guidance Program. Certification in Elementary Guidance is based on the ability to demonstrate competence in counseling and consulting in the practicum requirements of the guidance program. Therefore, it is possible for the student in Elementary Guidance to obtain a Master's degree in Education without obtaining certification in Elementary Guidance.

The Master of Education degree in Elementary Guidance requires a minimum of thirty-two (32) hours of credit. Of these, sixteen to eighteen (16–18) hours are to be approved Guidance courses. EGU 701 – Organization and Administration of Guidance in the Elementary School and EGU 702 – Counseling Theory should be taken as the first courses in the Guidance Program.

I. BEHAVIORAL SCIENCE AND ELEMENTARY EDUCATION – Eight to ten (8–10) credit hours to be selected from the following:

EDP 617	Psychology of Growth and Development	2
EDP 625	Advanced Mental Hygiene	2
EDP 627	Early Childhood Education	2
EDP 628	Psychology of the Disadvantaged	2
EDP 636	Advanced Psychology of Learning	2
ANT 705	Cultural Institutions	2
GEE 535	Sociology of the Family	2
EDE 705	Development and Organization of Curriculum for the Elementary School	2
EDE 708	Developmental Reading in the Elementary School	2
EDE 735	Psychology of the Exceptional Child	2
PSY 721	Tests and Measurements	2

II. COUNSELING – Sixteen to eighteen (16–18) credit hours to be selected from the following:

*EGU 701	Organization and Administration of Guidance in the Elementary School	2
*EGU 702	Counseling Theory	2
*EGU 703	Consulting Theory	2
*EGU 705	Developmental Group Counseling	2
EGU 709	Independent Study	2
*EGU 711	Practicum I	2
*EGU 712	Practicum II	2
*EGU 713	Practicum III	2
EGU 787	Integrated Seminar	2

III. RESEARCH — Six to eight (6–8) credit hours to be selected from the following:

*EDP 600	Statistical Methods	2
*RES 800	Methods of Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4

\*Required

\*\*Either Required

## ENGLISH

### *MASTER OF ARTS*

The applicant should present at least eighteen semester hours of superior work on the undergraduate level in English language and literature and submit evidence of having completed at least two years of college work in a foreign language. Applicants who have not had two years of a foreign language, but who otherwise have outstanding qualifications for graduate study, may apply.

Upon satisfactory completion of six hours of graduate work in the English department, the student may apply for admission to candidacy.

The candidate choosing to write a Master's Thesis will take a minimum of thirty (30) semester hours of credit, including twenty-six (26) in approved English courses and four (4) in the thesis.

The candidate electing the Thesis Option, a thoroughly researched paper of from 30–50 pages developed either from a graduate course or independently, will take a minimum of thirty-three (33) semester hours of credit, including thirty-two (32) in approved English courses, with one credit being given for the Research Paper.

All candidates should elect ENG 800, Methods of Research, in the first term of residence.

Information on the comprehensive examination is available

from all graduate English advisers.

I. LINGUISTICS — Minimum of six (6) semester hours to be selected from:

ENG 705	Introduction to Old English	3
ENG 706	Middle English	3
ENG 707	Linguistics	3
ENG 708	Advanced Linguistics	3
ENG 710	History of the English Language	3

II. LITERATURE — Minimum of eighteen (18) semester hours to be selected from:

ENG 715	Chaucer (may be counted as either Linguistics or Language)	3
ENG 716	English Drama Before Shakespeare	3
ENG 717	Shakespeare	3
ENG 718	Sixteenth Century Non-Dramatic Literature	3
ENG 725	Non-Dramatic English Literature 1600—1660	3
ENG 726	Jacobean and Caroline Drama	3
ENG 727	Milton	3
ENG 735	English Literature 1660—1700	3
ENG 736	English Literature 1700—1744	3
ENG 737	English Literature 1744—1798	3
ENG 738	Eighteenth Century English Novel	3
ENG 745	Romantic Poetry	3
ENG 746	Victorian Poetry	3
ENG 747	Nineteenth Century Non-Fiction Prose	3
ENG 748	Nineteenth Century English Novel	3
ENG 755	Colonial American Literature	3
ENG 756	American Renaissance	3
ENG 757	Rise of Realism	3
ENG 758	Modern American Poetry	3
ENG 760	Cultural Backgrounds of American Literature	3
ENG 765	Modern American Novel	3
ENG 766	Modern British Novel	3
ENG 767	History of Literary Criticism	3
ENG 768	Modern British Poetry	3
ENG 770	Modern Drama	3
ENG 790	Seminar in Literary Criticism	3
ENG 795	Seminar in English Literature	3
ENG 796	Seminar in American Literature	3

III. RESEARCH — From three to six (3—6) semester hours:

*ENG 800	Methods of Research	2
ENG 819	Research Paper	1
ENG 849	Thesis	4

\*Required

ENGLISH

MASTER OF EDUCATION

In addition to the present requirement that a candidate for



admission to the program have a certificate to teach English or Communication, he should present a transcript showing satisfactory completion of at least 12 semester hours in upper-division courses in English.

Upon satisfactory completion of six hours of graduate work in the English department, the student may apply for admission to candidacy.

The comprehensive examination for the Master of Education will be set on the individual's course work and will be on set texts; but since the Master of Education candidate's interest will be pedagogical, the questions will relate to teaching as well as to literary history and criticism.

Apart from the sequence of two required courses in methodology and research (see below), no thesis or research project is required. The Master of Education degree requires a minimum of thirty-six (36) hours of credit.

The Master of Education program is very flexible; it is important, therefore, that a student's course selection be coherent. Consequently, he should, with an adviser, draw up a proposed course of study at the beginning of his graduate work and adhere to it as closely as possible.

I. RESEARCH — (See also V):

*ENG 801	English Education Research Methods (to be scheduled within the first nine hours)	3
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II. ENGLISH — Minimum of eighteen (18) semester hours to be distributed as follows:

A. Linguistics — Minimum of six (6) semester hours to be selected from:

ENG 705	Introduction to Old English	3
ENG 706	Middle English	3
ENG 707	Linguistics	3
ENG 708	Advanced Linguistics	3
ENG 710	History of the English Language	3

B. Literature — Minimum of twelve (12) semester hours to be selected from:

ENG 715	Chaucer (may be counted as either Linguistics or Language)	3
ENG 716	English Drama Before Shakespeare	3
ENG 717	Shakespeare	3
ENG 718	Sixteenth Century Non-Dramatic Literature	3

ENG 725	Non-Dramatic English Literature 1600–1660	3
ENG 726	Jacobean and Caroline Drama	3
ENG 727	Milton	3
ENG 735	English Literature 1660–1700	3
ENG 736	English Literature 1700–1744	3
ENG 737	English Literature 1744–1798	3
ENG 738	Eighteenth Century English Novel	3
ENG 745	Romantic Poetry	3
ENG 746	Victorian Poetry	3
ENG 747	Nineteenth Century Non-Fiction Prose	3
ENG 748	Nineteenth Century English Novel	3
ENG 755	Colonial American Literature	3
ENG 756	American Renaissance	3
ENG 757	Rise of Realism	3
ENG 758	Modern American Poetry	3
ENG 760	Cultural Backgrounds of American Literature	3
ENG 765	Modern American Novel	3
ENG 766	Modern British Novel	3
ENG 767	History of Literary Criticism	3
ENG 768	Modern British Poetry	3
ENG 770	Modern Drama	3
ENG 790	Seminar in Literary Criticism	3
ENG 795	Seminar in English Literature	3
ENG 796	Seminar in American Literature	3

III. PROFESSIONAL EDUCATION – Minimum of six (6) semester hours to be selected from:

EDP 600	Statistical Methods	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2
EDP 616	Guidance and Counseling	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2
EDP 685	Seminar in Audio-Visual Aids	2

IV. COGNATES – Minimum of six (6) semester hours in cognate fields (such as history, sociology, psychology); some or all of these may be chosen from II or III above.

V. RESEARCH (see also I):

*ENG 802	Research Practicum/Research Project (To be scheduled within the last nine hours)	3
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\*Required

**GEOGRAPHY**  
**MASTER OF ARTS**

A minimum of thirty semester hours will be needed for graduation. This total will include eighteen to twenty (18–20) semester hours of Geography; two to six (2–6) semester hours of supporting courses in his area of interest from outside the field of geography including Statistical Methods; seven hours of research including a Master's Thesis; seven hours of research including a Master's Thesis; and a Comprehensive Examination.

**CURRICULUM FOR THE MASTER OF  
ARTS DEGREE IN GEOGRAPHY**

**I. GEOGRAPHY — FIELD OF SPECIALIZATION —**  
Eighteen to twenty (18–20) semester hours from the following:

**A. Required courses:**

GEO 700	Philosophy of Geography	3
GEO 785	Graduate Seminar in Geography	3

**B. Students who have not had an adequate background as an undergraduate in "Field" or Cartography will be required to take one or more of the following courses:**

GEO 765	Field Methods or GEO 766 Field Problems	3
GEO 767	Advanced Cartography	3
GEO 768	Aerial Photo Interpretation	3

**C. Required — One or more of the following according to the students' interest and/or to fill gaps in the undergraduate program:**

GEO 710	Cultural Geography	3
GEO 730	Economic Geography	3
GEO 750	Physical Geography	3
GEO 760	Regional Geography	3

**D. Required: One of the following:**

GEO 775	Readings in Geography	3
GEO 776	Research in Geography	3

**II. RESEARCH REQUIRED**

GEO 800	Methods of Geographic Research	3
GEO 849	Master's Thesis	4

**III. SUPPORTING COURSES — Two to six semester hours to be selected upon the advice of the instructor supervising the graduate work of the particular student.**

A. Required courses:

EDP 600 Statistical Methods	2
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IV. COMPREHENSIVE EXAMINATION

The student will be required to pass a comprehensive examination.

GEOGRAPHY

MASTER OF EDUCATION

I. PROFESSIONAL EDUCATION – Nine to ten (9–10) semester hours:

EDP 640 The Curriculum and Teaching of Geography	3
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*Two semester hours from the following:*

EDP 606 General History of Education	2
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EDP 605 Philosophy of Education	2
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*Two semester hours from the following:*

EDP 600 Statistical Method	2
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EDE 702 Evaluation and Measurements	2
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One additional professional course with the advice and consent of the adviser in the geography department. 2 or 3

II. Supporting Course Two to Three (2–3) semester hours to be selected from outside the offerings in geography (i.e., general education or graduate social studies course) with the advice and consent of the geography department.

III. GEOGRAPHY – FIELD OF SPECIALIZATION – Fifteen to eighteen (15–18) semester hours from the following:

*GEO 700 Philosophy of Geography	3
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GEO 710 Cultural Geography	3
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GEO 730 Economic Geography	3
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GEO 750 Physical Geography	3
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GEO 770 Regional Geography	3
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**GEO 775 Field Methods	3
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**GEO 776 Field Problem	3
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GEO 777 Advanced Cartography	3
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GEO 778 Aerial Photo Interpretation	3
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\*Required

\*\*Either Required

IV. RESEARCH – Four to six (4–6 semester hours):

GEO 785 Readings in Geography	3
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GEO 786 Research in Geography	3
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GEO 798 Graduate Seminar in Geography	3
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*GEO 800	Methods of Geographic Research	3
**RES 829	Research Project	2
**RES 849	Master's Thesis	4
*Required		
**Either Required		

## HISTORY

### MASTER OF ARTS

In addition to the general requirements for admission to graduate studies, applicants who wish to be approved for admission to the History program must also meet the following requirements: (1) a major or evidence of adequate undergraduate preparation in the field in which the applicant expects to pursue graduate work is required. The adequacy of preparation will be determined by the Graduate History faculty of the Social Science Department; (2) the applicant must have earned at least a "B" average in the appropriate undergraduate area of specialization. If the applicant is unable to meet this requirement, he or she must take the Miller Analogies Test.

The Master of Arts in History will consist of nine approved courses in history (27 hours) plus a research requirement. Methods of Research, to be taken at the beginning of the student's program, and American Historiography will be required of all students.

After the completion of from nine to twelve graduate hours of approved courses in history (hours which must include the course in the Methods of Research), the student should make application for status as a degree candidate. Admission to candidacy will not be granted to any student whose quality point average is under 3.00. No candidacy test will be required of the student.

The student must successfully complete a thesis (4 hours) or a Research Project (2 hours) and Independent Studies (1 hour). The research requirement must be approved by the Graduate History faculty. The student must pass an oral examination of the thesis before the Graduate History faculty and other interested persons.

#### I. REQUIRED COURSES:

HIS 800	Methods of Research	3
HIS 805	American Historiography	3
**HIS 829	Research Project	2
**HIS 849	Master's Thesis	4
**Either Required		

II. AMERICAN HISTORY, CHRONOLOGICAL AREAS:  
9 semester hours to be selected from the following:

HIS 700	The Colonial Era	3
HIS 705	The Revolution & Early National Period	3
HIS 706	The Middle Period in U. S. History, 1820—60	3
HIS 715	The Civil War and Reconstruction	3
HIS 716	The Era of Reform, 1873 until World War I	3
HIS 717	The 1930's in the United States	3
HIS 718	The United States Since World War II	3

III. AMERICAN HISTORY, TOPICAL AREAS: 9 semester  
hours to be selected from the following:

HIS 720	Studies in Am. Constitutional History	3
HIS 736	Studies in American Urban History	3
HIS 725	Studies of the Afro-American in American History	3
HIS 726	Studies in American Economic History	3
HIS 727	Studies in the Social & Intellectual History of the United States	3
HIS 728	Studies in American Labor History	3
HIS 737	Studies in Pennsylvania History	3
HIS 735	Studies in American Diplomatic History	3

IV. NON-AMERICAN: 3 semester hours to be selected from  
the following:

HIS 755	Studies in the History of England	3
HIS 760	Studies in the History of Contemporary Europe	3
HIS 770	Studies in the History of Eastern Asia	3
HIS 775	Studies in the History of the Middle East	3

V. INDEPENDENT STUDY:

HIS 779	Independent Studies in History	1—2
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## INDUSTRIAL ARTS

### *MASTER OF EDUCATION*

The applicant must meet all the general requirements for admission to the graduate school. The applicant should hold an Instructional I teaching certificate or its equivalent. The program provides opportunity for those with the qualifications to prepare for the industrial arts supervisory program, the master of education degree as a terminal degree, or as a program for those pursuing advanced degrees. A minimum of sixteen hours of course work in industrial arts is required of all students; the completion of a thesis or research project and a satisfactory score on a comprehensive examination related to courses — including the philosophy of industrial arts.

I. GENERAL EDUCATION – Two to six (2–6) semester hours to be selected from the following courses:

GEE 500	Comparative Studies in Literature	2
GEE 505	Great Works in Drama	2
GEE 506	Philosophy and Philosophers	2
GEE 507	Comparative Music	2
GEE 508	Science and Technology	2
GEE 510	History of Mathematics	2
GEE 515	Science Biographies	2
GEE 516	World Resources and Population Problems	2
GEE 517	American Civilization	2
GEE 518	Comparative Institutions	2
GEE 520	Language in Society	2
GEE 525	Community Problems of Health & Safety	2
GEE 526	Mass Communications	2
GEE 527	Community Resource Problems	4
GEE 588	Seminar on Creativity	2
GEE 537	Computer Science	2

II. PROFESSIONAL EDUCATION – Two to six (2–6) semester hours to be selected from the following courses:

*EDP 600	Statistical Methods	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2
EDP 616	Guidance and Counseling	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2
EDP 625	Advanced Mental Hygiene	2
EDP 628	Psychology of the Disadvantaged Child	2
EDP 636	Advanced Psychology of Learning	2
EDP 638	Selection and Use of Instructional Materials in the Classroom	2
EDP 685	Seminar in Audio-Visual Techniques	2

Four to ten (4–10) semester hours to be selected from the combined areas of General Education and Professional Education.

\*Required

III. INDUSTRIAL ARTS – FIELD OF SPECIALIZATION  
– Sixteen to twenty-two (16–22) semester hours to be selected from the following areas:

PROFESSIONAL AREA – Four to six (4–6) semester hours to be selected from the following courses:

IAR 700	Organization & Administration of I.A.	2
IAR 706	Curriculum Development in Industrial Arts	2
IAR 707	History & Philosophy of I.A. Education	2
IAR 708	Planning the Industrial Arts Laboratory	2
IAR 715	Supervision of Industrial Arts Education	2

LABORATORY AREAS — Three to nine (3–9) semester hours to be selected from the following courses:

*Arts and Crafts Area*

IAR 718	Advanced Ceramics	3
IAR 720	Advanced Crafts	3

*Wood Area*

IAR 730	Research in the Problems of Woodworking	3
IAR 735	Studies in Industrial Patternmaking Techniques	3

*Metal Area*

IAR 740	Studies in Metals Technology	3
IAR 745	Research in the Problems of Metal Machining	3

*Electricity-Electronics Area*

IAR 756	Adv. Studies in Transistor Circuit Theory and Applications	3
IAR 757	Design and Application in Radio and Television Circuits	3
IAR 758	Digital and Analog Computer Circuits as Applied to Industrial Arts Programs	3
IAR 785	Seminar in New Electrical Practices	2

*Graphic Arts Area*

IAR 760	Research In and Development of Graphic Arts Techniques	3
IAR 765	Design Problems Relating to Graphic Arts Reproduction	2
IAR 766	Research in Photographic Techniques	3
IAR 767	Visual Communication Techniques	3

*Plastics Area*

IAR 770	Industrial Plastics and Their Application to Industrial Arts	3
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IV. SPECIAL PROBLEMS AND WORKSHOPS — One to six (1–6) semester hours may be selected from the following:

IAR 709	Special Problem in I.A.	1–2
IAR 786	I.A. & Ind. Practices Workshop	2

V. RESEARCH — Four to six (4–6) semester hours to be selected from the following:

*RES 800	Methods of Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4

\*Required

\*\*Either Required



## *SUPERVISORY CERTIFICATE IN INDUSTRIAL ARTS*

The industrial arts supervisory certificate program extends beyond the Master of Education's degree. Applicants to the program need to hold an Instructional II certificate in industrial arts or its equivalent, and a Master of Education's degree from an accredited college or university. The student is required to apply for admission to the program by writing to the Dean of the Graduate School. The courses for the program are divided into two divisions.

### Division One:

All students in the program will need the background provided by the following five courses. These courses may be taken in the Master of Education's degree program, or the student may present evidence of competence related to the course. If neither situation occurs, the student is required to take the course as part of his supervisory program.

IAR 700	Organization and Administration of Industrial Arts	2
IAR 706	Curriculum Development in Industrial Arts Education	2
IAR 707	History and Philosophy of Industrial Arts Education	2
IAR 708	Planning the Industrial Arts Laboratory	2
IAR 715	Supervision of Industrial Arts Education	2

### Division Two:

The following courses (12 credits) are especially designed with purpose of increasing the competencies of the prospective supervisor and are required by all who desire the industrial Arts Supervisory Certificate.

EDP 680	Improvement of Instruction through Supervision	2
EDP 685	Group Dynamics	2
IAS 780	Developing Teaching Techniques and Curriculum Materials	2
IAS 785	Seminar in Industrial Arts Supervision	2
IAS 791	Practicum I – Industrial Arts Supervision	2
IAS 792	Practicum II – Industrial Arts Supervision	2

After completion of the courses the student will meet with a certification jury who will make final recommendations to the Dean of the Graduate School for the Supervision Certificate.

**MATHEMATICS**  
**MASTER OF ARTS**

The applicant must meet all the requirements of the graduate school for admission. The applicant must present a record in mathematics showing evidence of good to superior work on the undergraduate level. There is no language requirement to be admitted to the program.

The Master of Arts degree in Mathematics requires a minimum of thirty (30) hours of credit. Of these 30 hours, 27 are to be in approved Mathematics courses and three (3) hours credit will be given for the thesis which is required. A minimum of six (6) credits will be taken from each of the four (4) areas: Analysis, Algebra, Geometry and Applied.

Upon satisfactory completion of nine (9) hours of graduate work in the Mathematics Department, the student will apply for candidacy for the Master of Arts degree in Mathematics. If the student is admitted to candidacy he will then be assigned an adviser, who shall be responsible for directing his thesis in the field of Mathematics as well as his total program.

**I. AREA OF ANALYSIS — minimum of six (6) semester hours from the following:**

<b>MAT 705</b>	<b>Partial Differential Equations</b>	<b>3</b>
<b>MAT 706</b>	<b>General Topology</b>	<b>3</b>
<b>MAT 707</b>	<b>Topics in Applied Analysis</b>	<b>3</b>
<b>MAT 711</b>	<b>Functions of a Real Variable I</b>	<b>3</b>
<b>MAT 712</b>	<b>Functions of a Real Variable II</b>	<b>3</b>
<b>MAT 713</b>	<b>Functions of a Complex Variable I</b>	<b>3</b>
<b>MAT 714</b>	<b>Functions of a Complex Variable II</b>	<b>3</b>

**II. AREA OF ALGEBRA — minimum of six (6) semester hours from the following:**

<b>MAT 722</b>	<b>Abstract Algebra II</b>	<b>3</b>
<b>MAT 724</b>	<b>Linear Algebra II</b>	<b>3</b>
<b>MAT 728</b>	<b>Group Theory</b>	<b>3</b>
<b>MAT 730</b>	<b>Advanced Topics in Algebra</b>	<b>3</b>
<b>MAT 736</b>	<b>Algebraic Topology</b>	<b>3</b>

**III. AREA OF GEOMETRY — minimum of six (6) semester hours from the following:**

<b>MAT 743</b>	<b>Projective Geometry I</b>	<b>3</b>
<b>MAT 744</b>	<b>Projective Geometry II</b>	<b>3</b>
<b>MAT 746</b>	<b>Differential Geometry</b>	<b>3</b>
<b>MAT 748</b>	<b>Algebraic Geometry</b>	<b>3</b>
<b>MAT 750</b>	<b>Linear Geometry</b>	<b>3</b>

IV. AREA OF APPLIED MATHEMATICS – minimum of six (6) semester hours from the following:

MAT 762	Mathematical Statistics II	3
MAT 771	Computer and Information Science I	3
MAT 772	Computer and Information Science II	3
MAT 775	Distribution Theory	3
MAT 776	Stochastic Processes	3
MAT 777	Statistical Inference	3
MAT 780	Advanced Topics in Computer Science	3

V. RESEARCH – Three (3) credit hours:

*RES 849	Master's Thesis	3 or 4
*Required		

It may be necessary for some students to take some course(s) in preparation for the above courses. Mathematics courses in the Master of Education degree program may be taken but not counted toward the required 27 credits.

## MATHEMATICS

### MASTER OF EDUCATION

Only the courses in the specialization area will be counted toward the "B" average in considering approval for Candidacy for the Master of Education degree.

I. PROFESSIONAL EDUCATION – Minimum of ten (10) semester hours:

*EDP 600	Statistical Methods	2
EDP 605	Philosophy of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 610	Educational Sociology	2
*EDP 626	Current Methods and Philosophy in Mathematics Education	2
EDP 636	Advanced Psychology of Learning	2
EDP 637	Development & Organization of the Curriculum for the Secondary School	2
EDP 638	Selection and Use of Instructional Materials in the Classroom	2
*EDP 680	Seminar in Mathematics Education	2

II. MATHEMATICS – Field of Specialization – Minimum of sixteen (16) semester hours. A minimum of four (4) semester hours from each of the four (4) areas:

*Area A: Analysis*

MAT 701	Mathematical Analysis I	2
MAT 702	Mathematical Analysis II	2
MAT 703	Differential Equations I	2

MAT 704	Differential Equations II	2
<i>Area B: Algebra</i>		
MAT 721	Abstract Algebra I	2
MAT 723	Linear Algebra I	2
MAT 725	Theory of Numbers	2
MAT 727	Theory of Matrices	2
<i>Area C: Geometry</i>		
MAT 741	Foundations of Geometry I	2
MAT 742	Foundations of Geometry II	2
MAT 745	Vector Geometry	2
MAT 747	Advanced Analytic Geometry	2
<i>Area D: Miscellaneous</i>		
MAT 761	Mathematical Statistics I	2
MAT 765	Mathematical Logic	2
MAT 766	Set Theory	2
MAT 767	History of Mathematics	2
MAT 768	Theory of Arithmetic	2

III. RESEARCH: Minimum of four (4) semester hours:

*MAT 800	Methods of Mathematics Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4
*Required		
**Either Required		

Mathematics courses taken from the Master of Arts program may replace the courses listed above.

## MENTALLY RETARDED

### MASTER OF EDUCATION

I. GENERAL AND PROFESSIONAL EDUCATION –  
Four to eight (4–8) semester hours to be selected from the following courses. Minimum of two (2) semester hours from General Education and a minimum of two (2) semester hours from Professional Education.

GEE 500	Comparative Studies in Literature	2
GEE 505	Great Works in Drama	2
GEE 506	Philosophy and Philosophers	2
GEE 507	Comparative Music	2
GEE 508	Science and Technology	2
GEE 510	History of Mathematics	2
GEE 515	Science Biographies	2
GEE 516	World Resources and Population Problems	2
GEE 517	American Civilization	2
GEE 518	Comparative Institutions	2
GEE 520	Language in Society	2
GEE 525	Community Problems of Health and Safety	2
GEE 526	Mass Communications	2

GEE 527	Community Resource Problems	4
GEE 588	Seminar on Creativity	2
EDP 600	Statistical Methods	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2
EDP 616	Guidance and Counseling	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2
EDP 625	Advanced Mental Hygiene	2
EDP 627	Early Childhood Education	2
EDP 628	Psychology of the Disadvantaged Child	2
EDP 636	Advanced Psychology of Learning	2
EDP 638	Selection and Use of Instructional Materials in the Classroom	2
EDP 685	Seminar in Audio-Visual Techniques	2

II. MENTALLY RETARDED – Field of Specialization –  
Eighteen to twenty-two (18–22) semester hours of  
work to be selected from the following courses:

ESP 701	Introduction to Behavioral Analysis	2
ESP 702	Techniques of Behavior Management	3
ECM 700	Administration and Supervision of Special Education Programs	2
ECM 705	Development and Organization of Curriculum for the Mentally Retarded	2
ECM 707	Education of Children with Retarded Development in Elementary Schools	2
ECM 708	Education of Children with Retarded Development in Secondary Schools	2
ECM 715	Occupational Education for the Mentally Retarded	2
ECM 717	Current Trends in Advanced Psychology of Exceptional Children	2
ECM 718	Tests and Remedial Work for the Mentally Retarded	2
ECM 720	Practicum	3
ECM 725	Teaching Reading to the Mentally Retarded	2
ECM 726	Programs for Children with Severe Mental Retardation (Trainable)	2
ECM 729	Independent Research Problems	2–6
ECM 735	Creative Activities in Special Class for Mentally Retarded (Music, Drama, and Art)	2
ECM 736	Industrial Arts for Special Education	3
ECM 786	Seminar in Psychology of Mental Deficiency	3
ECM 787	Seminar on Social, Economic and Cultural Factors Affecting the Mentally Retarded	3

III. RESEARCH – Four to six (4–6) semester hours to be

selected from the following:

*ECM 800	Methods of Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4
**RES 819	Research Paper	1
*Required		
**Either Required		

## POLITICAL SCIENCE

### MASTER OF ARTS

The Master of Arts in Political Science consists of thirty (30) hours of graduate work in political science. The student shall take one course in the Methods of Political Science and the student shall take at least one course in four of the five following areas: (1) Area Studies; (2) Domestic Political Institutions; (3) International Studies; (4) Political Parties and Interest Groups; and (5) Theory. The remaining hours may be taken in any of the political science areas which the student may choose.

In addition to the general requirements for admission to graduate studies, applicants who wish to be approved for admission to the Political Science program must also meet the following requirements: (1) A major or evidence of adequate undergraduate preparation in the field in which the applicant expects to pursue graduate work is required. The adequacy of preparation will be determined by the Social Science Department; (2) The applicant must have earned at least a "B" average in his undergraduate area of specialization; (3) Applicants who do not meet the above requirement will be required to take a test approved by the Social Science Department and the Graduate Council.

#### I. POLITICAL SCIENCE – Minimum of twenty-one (21) hours to be selected from the following:

##### AREA STUDIES

POS 706	Government and Politics in Western Europe	3
POS 708	Politics of African Nationalism	3
POS 710	Comparative Communist Systems in Eastern Europe	3
POS 715	Politics of the German Speaking Peoples	3
POS 716	Problems of the Soviet Political System	3
POS 728	Politics of Underdeveloped Nations	3

##### DOMESTIC POLITICAL INSTITUTIONS

POS 745	The Legislative Process	3
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POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Process	3
POS 748	Problems in Public Administration	3
POS 755	Urban Studies	3

#### INTERNATIONAL STUDIES

POS 717	Nationality Problems in the Soviet Union and Eastern Europe	3
POS 718	Problems in International Organization	3
POS 740	American Defense Policy	3

#### POLITICAL PARTIES AND INTEREST GROUPS

POS 756	Modern Political Parties	3
POS 757	The Political Process	3

#### THEORY

POS 705	History of Political Theory	3
POS 730	Comparative Government	3

#### INDEPENDENT STUDY

POS 779	Independent Studies in Political Science	1-3
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## II. RESEARCH – Nine (9) semester hours:

POS 800	Methods of Political Science	3
RES 869	Master's Thesis	6

## READING SPECIALIST

### *MASTER OF EDUCATION*

Qualified teachers from all academic disciplines, as well as elementary teachers, may apply for admission to the program. The only certification requirement will be that the applicant holds at least the college provisional or Instructional Level I Certificate.

A minimum of thirty-three (33) graduate credits is required for the Master of Education degree as a reading specialist.

## I. READING AND LANGUAGE ARTS – Sixteen (16) semester hours required:

*RSP 701	Fundamentals of Reading Instruction (K-12)	3
*RSP 702	Diagnosis and Treatment of Reading Problems	3
*RSP 703	Practicum – Diagnostic Case Studies	3
*RSP 704	Practicum – Remedial Case Studies	3
EDE 710	Teaching Reading in Content Subjects	2
EDE 715	Recent Trends in Language Arts	2
RSP 730	Problems in Secondary Reading	2
EDE 738	Children's Literature and Reading	2
RSP 739	Independent Study	1-3
EDE 780	Seminar in Reading and Language Arts	2

II. PSYCHOLOGY – Four (4) semester hours required:

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 628	Psychology of the Disadvantaged Child	2
*EDP 636	Advanced Psychology of Learning	2
EDE 735	Psychology of the Exceptional Child	2

III. EDUCATIONAL RESEARCH – Eight (8) semester hours required:

*EDP 600	Statistical Methods	2
*EDE 706	Evaluation and Measurements	2
*RES 800	Methods and Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4

IV. RELATED COURSES – Five (5) semester hours required:

GEE 506	Philosophy and Philosophers	2
GEE 520	Language in Society	2
GEE 526	Mass Communications	2
GEE 588	Seminar in Creativity	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
**EDP 637	Development and Organization of the Curriculum for the Secondary School	3
EDP 650	Perception and Motor Development in Education of Children	2
EDE 700	Historical Background of Elementary School	2
**EDE 705	Development and Organization of the Curriculum for the Elementary School	3

\*Required

\*\*Either Required

NOTE: Research Project or Thesis will be done in Reading or in some other phase of Language Arts.

CURRICULUM REQUIREMENTS FOR  
READING SUPERVISORS PROGRAM

RSU 680	Improvement of Instruction through Supervision	2
RSU 685	Group Dynamics	2
RSP 731	Supervision and Administration of a Reading Program	2
RSP 732	Reading Curriculum and Instructional Materials	2
RSP 733	Reading Internship	4



## SCHOOL PSYCHOLOGY

### MASTER OF SCIENCE

#### ADMISSIONS

In addition to the regular requirements for admission to graduate study, applicants for the School Psychology Program must also meet the following requirements: (1) Applicants must have a Bachelor's Degree; (2) Applicants must have an adequate background in psychology, such as courses in General Psychology, Educational Psychology, and Child Psychology, and others; (3) Adequacy will be determined by the admission committee of the Psychology Department. The applicant must have at least a 2.75 grade average in his undergraduate work and at least a "B" average in his psychology courses to be considered for admission to the graduate school Psychology Program; (4) Applicants who fail to satisfy the above-mentioned grade requirements will be required to take the Miller Analogies Test. Other applicants with less than a "B" grade average in their Psychology courses may, at the discretion of the Psychology Department, be required to take the Miller Analogies Test; (5) Applicants for admission to graduate study may be required to be interviewed by members of the admission committee; (6) Student must file an information sheet to accompany the application.

#### CANDIDACY

Candidacy: (in addition to graduate school candidacy requirements): (1) Applicants will be required to submit two letters of recommendation; (2) Applicants will be required to write an autobiography; (3) Oral interview by a committee will be required.

A minimum of thirty (30) graduate credits will be required for the Master of Science Degree. A minimum of sixty (60) graduate credits will be required for certification as a School Psychologist.

#### I. PSYCHOLOGY AND EDUCATIONAL FOUNDATIONS — (4 credits elected with advisement for the Master's degree) (8—16 credits elected with advisement for Certification)

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2

EDP 625	Advanced Mental Hygiene	2
EDP 627	Early Childhood Education	2
*EDP 636	Advanced Psychology of Learning	2
EDP 686	Group Dynamics	2
PSY 700	Advanced Adolescent Psychology	2
PSY 701	Personality Theory	2
*PSY 702	Psychopathology	2
*PSY 703	Psychodynamics	2

II. PSYCHOLOGICAL METHODS AND TECHNIQUES — (14 credits elected with advisement for the Master's degree) (16–22 credits elected with advisement for Certification)

*PSY 721	Tests and Measurements	2
*PSY 722	Individual Psychological Evaluation I (Binet and Infant Scales)	2
*PSY 723	Individual Psychological Evaluation II (Wechsler Scales)	2
*PSY 724	Individual Psychological Evaluation III (Assessment of sensory, motor, perceptual & language impairments in children)	2
*PSY 731	Projective Techniques I (General)	2
PSY 732	Projective Techniques II (Advanced)	2
PSY 733	Seminar in Advanced Projective Techniques	2
*PSY 741	Theories of Counseling & Psychotherapy	2
*PSY 742	Techniques of Counseling & Psychotherapy	2
PSY 796	Research Seminar in School Psychology	2
EDP 630	Counseling Parents of Exceptional Children	2

III. SCHOOL PROGRAMS AND ORGANIZATION — (6 credits elected with advisement for the Master's degree) (10–18 credits elected with advisement for Certification)

*PSY 750	Administration of Pupil Personnel Services	2
ECM 700	Administration & Supervision of Special Education Programs	2
ECM 705	Development & Organization of the Curriculum for Mentally Retarded	2
ECM 707	Education of Children with Retarded Development in Elementary Schools	2
SEM 703	Methods of Teaching Socially-Emotionally Maladjusted Children	2
ECM 717	Current Trends in Advanced Psychology of Exceptional Children	2
ECM 727	Seminar of Social, Economic and Cultural Factors Affecting the Mentally Retarded	3
PSY 745	Psychology of the Gifted Child	2
PSY 746	Psychology of Learning Disabilities	2
PSY 748	Personal Adjustment of Mental Health	2
*PSY 797	Seminar in Problems of School Psychology	2
SPA 708	Neuropathologies of Speech & Language	3
EDP 628	Psychology of the Disadvantaged Child	2

RSP 702    Diagnosis and Treatment of Reading Problems 2  
 EDE 730    Techniques in Diagnosis of Remedial Problems 2

IV. RESEARCH METHODOLOGY — (4 credits elected with advisement for the Master's degree) (4–8 credits elected with advisement for Certification)

\*PSY 760    Experimental Methods in Psychology            2  
 \*PSY 765    Psychological Statistics                            2  
 \*\*EDP 600    Statistical Methods                                 2  
 \*\*RES 800    Methods of Research                                2

V. THESIS — (4 credits—required for the M.S. Degree)

\*\*RES 802    Master's Thesis                                      4

VI. CLINICAL PRACTICUM AND INTERNSHIP (TO BE TAKEN AFTER THE MASTER'S DEGREE) — (15–18 hours for Certification — at least half of this with children in a school setting)

\*\*PSY 771    Clinical Practicum                                 3-6  
 \*\*PSY 772    Internship in School Psychology                12

\*Recommended courses

\*\*Required courses

## SOCIAL SCIENCE

### *MASTER OF EDUCATION*

This program is designed specifically to meet “today's needs” of individuals working in, or interested in, social science education at the secondary level. While the general requirements are largely those of the entire graduate program, there are several exceptions: (1) Applicants must have completed thirty-six (36) undergraduate semester hours in one or a combination of two or more of the social sciences; (2) A “B” average must have been maintained in undergraduate social science courses; (3) Applicants not meeting the above requirements will, in addition to taking the Miller Analogies Test, be reviewed by a Social Science Screening Committee; (4) Only the courses in the major may be counted toward the “B” average in considering approval for candidacy for the degree.

I. SOCIAL SCIENCE — 14 credits

\*SOS 800    Social Science Research Techniques            3  
 SOS 716    Economic, Social, and Political Order         3  
 SOS 717    Analysis of Power Structure                     3  
 SOS 785    Seminar in World Culture                        3  
 ANT 705    Cultural Institutions                              3

**RES 829	Research Project	2
	OR	
**RES 849	Master's Thesis	4
	*Prerequisite in all other courses in the program	
	**Either Required	
II. SOCIAL SCIENCE EDUCATION – Six (6) semester hours to be selected from the following:		
SOS 706	Psychological and Discipline Implications in Selecting and Organizing Teaching Materials	3
SOS 707	Philosophical Trends in Social Studies Curriculum	3
SOC 708	Social Studies and the Community	3
III. ELECTIVES – 9 credits		
GENERAL EDUCATION		
GEE 537	Computer Science	2
EDP 600	Statistical Methods	2
GENERAL FIELD OF SOCIAL SCIENCE – Only six (6) of the hours may be taken in the same discipline and at least three hours must be non-western world in orientation.		
ANTHROPOLOGY		
ANT 705	Cultural Anthropology	2
GEE 536	Archaeology Field School	2-4
ANT 701	Archaeology Field School	3
ANT 702	Archaeology Field School	3
SOCIOLOGY		
SOC 707	The Community	3
SOC 718	Minority Groups	3
SOC 720	Special Problems in Sociology	3
ECONOMICS		
ECO 715	Economics for the Teacher	3
HISTORY		
HIS 700	Colonial America to 1763	3
HIS 705	The American Revolution and the Federal Period	3
HIS 706	The Middle Period in U.S. History 1820-1860	3
HIS 715	The Civil War and Reconstruction	3
HIS 716	The Era of Reform, 1873 to WWI	3
HIS 717	The 1930's in America	3
HIS 718	The United States since World War II	3
HIS 720	Studies in American Constitutional History	3
HIS 725	Studies of the Afro-American in American History	3
HIS 726	Studies in American Economic History	3
HIS 727	Studies in Social and Intellectual History of the United States	3

HIS 728	Studies in American Labor History	3
HIS 729	Studies in Pennsylvania History	3
HIS 735	Studies in American Diplomatic History	3
HIS 736	Studies in American Urban History	3
HIS 755	Studies in the History of England	3
HIS 760	Studies in the History of Contemporary Europe	3
HIS 770	Studies in the History of Eastern Asia	3
HIS 775	Studies in the History of the Middle East	3

#### POLITICAL SCIENCE

POS 705	History of Political Theory	3
POS 706	Government & Politics in Western Europe	3
POS 708	Politics of African Nationalism	3
POS 710	Comparative Communist Systems in Eastern Europe	3
POS 715	Politics of the German Speaking Peoples	3
POS 716	Problems of the Soviet Political System	3
POS 717	Nationality Problems in the Soviet Union and Eastern Europe	3
POS 718	Problems in International Organization	3
POS 728	Politics of Undeveloped Nations	3
POS 730	Comparative Government	3
POS 740	American Defense Policy	3
POS 745	The Legislative Process	3
POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Process	3
POS 748	Problems in Public Administration	3
POS 755	Urban Studies	3
POS 756	Modern Political Parties	3
POS 757	The Political Process	3
POS 779	Independent Studies in Political Science	3

### SOCIALLY AND EMOTIONALLY MALADJUSTED

#### *MASTER OF EDUCATION*

A recommendation by a Screening Committee of California State College is included as one of the factors for approving students for Candidacy for the Master of Education Degree in the education of the socially and emotionally maladjusted. Certification requirements for applicants for admission to the Socially and Emotionally Maladjusted Program will be as follows: (1) Special Education Certification; (2) Elementary Certification; (3) Secondary Certification; (4) School Nurse Certification.

AREA I — CHILD DEVELOPMENT AND PSYCHO-  
EDUCATIONAL INTERPRETATION — Minimum of nine (9)

semester hours to be selected from the following:

EDP 607	Advanced Educational Psychology	2
RSP 730	Problems in Secondary Reading	2
EDP 610	Educational Sociology	2
EDP 617	Psychology of Growth and Development	2
EDP 625	Advanced Mental Hygiene	2
EDP 627	Early Childhood Education	2
EDP 628	Psychology of the Disadvantaged Child	2
EGU 703	Consulting Theory	2
EDP 630	Counseling Parents of Exceptional Children	2
EDP 650	Perception and Motor Development in Education	2
EDE 735	Psychology of the Exceptional Child	2
SEM 719	Independent Study	1
*SEM 700	Psychopathology of Youth	2
*SEM 701	Psychology of the Socially-Emotionally Maladjusted Child	3
ESP 701	Introduction to Behavior Analysis	2

**AREA II – TEACHING PROCEDURES WITH DISTURBED CHILDREN – Seven to nine (7–9) semester hours:**

*SEM 703	Methods of Teaching Socially-Emotionally Maladjusted Children	3
ESP 702	Techniques of Behavior Management and Modification	3
*SEM 702	Psycho-Educational Diagnosis Of Learning Problems	3
*SEM 704	Remediation of Learning Problems (Pre: SEM 708)	2

**AREA III – PRACTICUM – Six (6) semester hours:**

*SEM 720	Practicum	6
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**AREA IV – RESEARCH AND RESEARCH TECHNIQUES – Four to eight (4–8) semester hours:**

EDP 600	Statistical Methods	2
*RES 800	Methods of Research	2
**RES 829	Research Project	2
**RES 849	Master's Thesis	4

\*Required

\*\*Either Required

**NOTE:** For a thesis the minimum requirement is six (6) hours in Area IV (RES 800 and RES 849). For a project the minimum requirement is four (4) hours in Area IV (RES 800 and RES 829). EDP 600 is strongly recommended as an elective in Area IV.

**SPEECH AND HEARING**  
**MASTER OF EDUCATION**

- I. GENERAL EDUCATION — Two (2) semester hours selected from the following:
- |         |                                   |   |
|---------|-----------------------------------|---|
| GEE 500 | Comparative Studies in Literature | 2 |
| GEE 506 | Philosophy and Philosophers       | 2 |
| GEE 518 | Comparative Institutions          | 2 |
| GEE 520 | Language in Society               | 2 |
- II. PROFESSIONAL EDUCATION — Four (4) semester hours selected from the following:
- |         |                                      |   |
|---------|--------------------------------------|---|
| EDP 600 | Statistical Methods                  | 2 |
| EDP 610 | Educational Sociology                | 2 |
| EDP 616 | Guidance and Counseling              | 2 |
| EDP 617 | Psychology of Growth and Development | 2 |
- III. SPEECH AND HEARING — FIELD OF SPECIALIZATION — Eighteen to twenty (18–20) semester hours selected from the following:
- |         |  |     |
|---------|--|-----|
| SPA 700 | Aphasia and Cerebral Palsy               | 3   |
| SPA 705 | Organic Voice Disorders and Cleft Palate | 3   |
| SPA 706 | Profound Language Disorders              | 3   |
| SPA 707 | Stuttering                               | 3   |
| SPA 708 | Neuropathologies of Speech and Language  | 3   |
| SPA 710 | Advanced Clinical Methods                | 1-3 |
| SPA 715 | Experimental Phonetics                   | 3   |
| SPA 716 | Administration of Clinical Procedures    | 3   |
| SPA 720 | Diagnostic Audiometrics                  | 3   |
| SPA 725 | Bases of Aural Rehabilitation            | 3   |
| SPA 749 | Independent Study and Research           | 1-3 |
| SPA 785 | Seminar in Speech Pathology              | 2   |
| SPA 786 | Seminar in Audiology                     | 2   |
- IV. RESEARCH — Four to six (4–6) semester hours selected from the following:
- |           |                     |   |
|-----------|---------------------|---|
| *RES 800  | Methods of Research | 2 |
| **RES 829 | Research Project    | 2 |
| **RES 849 | Master's Thesis     | 4 |
- \*Required  
\*\*Either Required





## **V. Course Descriptions**



# Course Descriptions

## GENERAL EDUCATION

### GEE 500 COMPARATIVE STUDIES IN LITERATURE 2 cr.

From non-dramatic literary classics such as *The Divine Comedy*, *Don Quixote*, *Paradise Lost*, *The Brothers Karamazov*, *The Mahabarata*, *The Iliad*, *Les Miserables*, a number will be chosen and studied in some detail both for the enduring values they offer in themselves and for the conclusions that may be drawn from them regarding their cultures, aesthetics, and philosophies.

### GEE 505 GREAT WORKS IN DRAMA 2 cr.

Study and comparison of a number of plays by authors of various nationalities (for instance Aeschylus, Plautus, Calderon, Racine, Goethe, Ibsen, Chekhov, Shakespeare, Shaw, O'Neill) for the values they represent in themselves and also as a basis for comparisons in aesthetics, philosophy and culture.

### GEE 506 PHILOSOPHY AND PHILOSOPHERS 2 cr.

This course proposes to consider the basic problems of philosophy through the writings of Plato, Aristotle, Kant, Schopenhauer, Bergson, James, Dewey and other thinkers. The guiding aim will be to present diverse views from primary sources. Lecture and discussion will be used. The techniques of the "Great Books" seminars will be used in discussion.

### GEE 507 COMPARATIVE MUSIC 2 cr.

This course is designed to analyze music and its effect on our lives. Discussions will be devoted to such areas as Art and Life, why we like music, how we like music, music as an art, music as a humanity and the spiritual factor in music. Some technicalities will be entered into such as the composer's materials, instruments: the means for making music. Many listening experiences will be derived from records. Modern trends in music and our attitude toward "this modern stuff" will be discussed.

### GEE 508 SCIENCE AND TECHNOLOGY 2 cr.

History of the contributions of Science and Technology to modern culture, with emphasis on the period since the beginning of the Industrial Revolution.

### GEE 510 HISTORY OF MATHEMATICS 2 cr.

A study of the origin and the development of our number system. The development of the fundamental operations of mathematics is stressed. The importance of mathematics to the various stages of civilization is emphasized.

### GEE 515 SCIENCE BIOGRAPHIES 2 cr.

A selected series of projects involving the lives of the men of science and the nature of their contributions to science. Emphasis is placed upon the discoveries rather than the lives. Experiments duplicating the pioneer work are utilized wherever possible.

### GEE 516 WORLD RESOURCES AND POPULATION PROBLEMS 2 cr.

A resume of the world's resources with emphasis upon soils, vegetation (particularly forests), waters, minerals, and human resources. The availability and possible development of these resources in relationship to the

world's under-populated and over-populated areas. The availability of a reasonable standard of living in various regions as determined by potential resource development.

**GEE 517 AMERICAN CIVILIZATION** 2 cr.

A treatment of those elements in American life which have given direction to the unique development of the United States.

**GEE 518 COMPARATIVE INSTITUTIONS** 2 cr.

In this course some of the major institutions of a number of modern societies are compared in terms of philosophic defenses, organization, function, alleged outcomes, real outcomes, human costs, etc. Among the institutions examined are: family organization, economic systems, and governmental systems.

**GEE 520 LANGUAGE IN SOCIETY** 2 cr.

This course will view languages as inventions or creations of men. It is based on the premise that speakers of different languages view their words differently, and therefore, evaluate them differently. It assumes that thinking is relative to the languages learned. It emphasizes the point of view that development in many of the modern sciences has been accelerated by the creation of new systems of representations (languages). It considers also recent evidence that man's creative potential may be seriously impaired by the imposition of prejudices, rigidities, and certainties that are passed along through the languages of all cultures.

**GEE 525 COMMUNITY PROBLEMS OF HEALTH AND SAFETY** 2 cr.

An analysis of the program and problems of the community in health and safety. Dealing with the basic facts and principles of public or community health and safety at the local, state and national levels, including the relationships between public health departments, voluntary health agencies and the school's health and safety program.

**GEE 526 MASS COMMUNICATIONS** 2 cr.

The history, development, function and problems of mass media in America. The various theories of mass communication based on the organization of different societies: authoritarian, libertarian and communist. The social responsibility theory of each and the impact of each on their respective societies.

**GEE 527 COMMUNITY RESOURCE PROBLEMS** 4 cr.

To help elementary, junior, and senior high school teachers improve classroom instruction through the identification and proper utilization of community resources. Emphasis is upon the study of systematic ways for making new knowledge available through utilization of community resources in a form that can be readily integrated into the curriculum. To help the teachers gain a better understanding of the economics, cultural, and governmental life of their community. To help develop a functional relationship between education and other segments of community life. To produce teaching materials for use in the schools of the area.

**GEE 535 SOCIOLOGY OF THE FAMILY** 2 cr.

An analysis of marriage, the family, and kinship systems with the primary focus on the American culture. Cross-cultural patterns from a historical perspective will also be reviewed. Special attention will be paid to marital interaction and family disorganization.

**GEE 536 ARCHAEOLOGY FIELD SCHOOL** 2-4 cr.

To instruct students in scientific archaeological field and laboratory techniques. The basic orientation will be that of research.

**GEE 537 COMPUTER SCIENCE** 2 cr.

In general, this beginning course will attempt to outline the role of the Computer in Education. Emphasis will be placed upon what computers can do and how they perform basic tasks. No prior knowledge of the field will be required.

Basic elementary information which is common to nearly all data processing and information handling systems will be covered. Topics also discussed will be elementary concepts of number systems, computer components and their functions, stored program concepts, problem flow charting, programming techniques and the history of calculating machinery and computers.

**GEE 588 SEMINAR ON CREATIVITY** 2 cr.

Individual research into the psychological, sociological, and educational aspects of creativity is carried on under the guidance and supervision of the instructor. Each student prepares a research paper on some phase of creativity and presents his findings to the seminar group for critical examination and discussion. For education majors, emphasis is placed upon discovering educational ways and means for developing the creative capacities of the child through the teaching of one's subject matter field. Appropriate periodic lectures, class discussions, and individual conferences are conducted to guide the student during the course of his research.

**GEE 585 EARTH SCIENCE WORKSHOP**

Earth Science Workshop is a field and laboratory oriented course. The major objective is to give the in-service teacher a broad overview of the several disciplines comprising the field of earth science. This is achieved primarily by acquainting him with the many local points of interest to both the earth science teacher and student, and by his working with the tools and materials of the earth scientist.

## PROFESSIONAL EDUCATION

**EDP 600 STATISTICAL METHODS** 2 cr.

Includes the understanding and application of frequency distribution, series analysis, correlation, normal curve, sampling, collection of data, statistical tables and graphic presentations.

**EDP 605 PHILOSOPHY OF EDUCATION** 2 cr.

An introduction to the discipline of philosophy, and the significant contributions that this discipline makes to education. Major schools of traditional and contemporary philosophy are examined with particular emphasis upon studying the influence these philosophies have had upon educational theory and practice over the years.

**EDP 606 GENERAL HISTORY OF EDUCATION** 2 cr.

Examines the concepts of modern education as they are found in the historical development of the school.

**EDP 607 ADVANCED EDUCATIONAL PSYCHOLOGY** 2 cr.

Current issues and recent evidence in the areas of educational psychology

including growth, personality, heredity and environment, intelligence, learning, transfer of learning, emotion, motivation, and teaching methods.

**EDP 608 COMPARATIVE EDUCATION 2 cr.**

Historical foundations, rise and development of national educational systems of Western Europe and nations of the Western hemisphere. Postwar development and extension of educational opportunities in England, Norway, Sweden, Denmark, Holland, Germany, France, Russia, Mexico, and the Republics of Central and South America.

**EDP 610 EDUCATIONAL SOCIOLOGY 2 cr.**

Deals with the role of the school in child socialization, inter-group education, the integration of school and community, group processes and the teacher, teacher problems in human relations, and educating for leadership.

**EDP 616 GUIDANCE AND COUNSELING 2 cr.**

For teachers, teacher-counselors, administrators, and other non-specialists in guidance to further the guidance work for which they are responsible. Consideration to guidance programs, the interview, interpretation of test data, observations, case study, and other counseling techniques; to guidance in the classroom and club; to group discussion and committee work; to counseling with pupils and parents regarding study, discipline, health, social, emotional, educational, and vocational problems.

**EDP 617 PSYCHOLOGY OF GROWTH AND DEVELOPMENT 2 cr.**

This course is designed to provide insight into how people grow and develop from infancy to old age. Maturation, learning, and their interrelationships are studied. Physical growth patterns are noted along with emotional, intellectual, and social development with implications for the school, community, and home.

**EDP 618 SOCIAL PSYCHOLOGY 2 cr.**

A study of the effects of group membership upon individual behavior with particular emphasis on social attitudes, collective behavior, and social problems.

**EDP 620 CURR. & METH. OF TEACHING BIOL. IN H.S. 2 cr.**

The primary object of this course is to acquaint teachers-in-service with the thinking and philosophy which went into the building of the BSCS courses of study. The three versions will be studied, and an attempt to evaluate each version against the various school backgrounds will be made. Laboratory projects will be pursued which will serve as source material in the teacher's own classes. Two class hours and two lab hours per week. Prerequisite: Certification to teach biology.

**EDP 625 ADVANCED MENTAL HYGIENE 2 cr.**

This course is concerned with study of disorders due to physical causes — whether the symptoms are somatic, psychic, or behavioral. Preventive and psychological adjustments of children in a deprived society are analyzed in order to improve their harmonious relationships in group improvement and development.

**EDP 626 CURRENT METHODS AND PHILOSOPHY IN MATHEMATICS EDUCATION 2 cr.**

This course deals with the methods, materials and philosophy of two of the leading groups of modern mathematics. These two bodies have and will

continue to influence textbook publications in modern mathematics in the secondary schools.

**EDP 627 EARLY CHILDHOOD EDUCATION 2 cr.**

This course deals with the growth and development of early childhood education. The emphasis is placed on the child's behavior and how it affects his educative process. Physical, social, emotional, mental development and earlier deficiencies will be systematically observed, tested, and interpreted.

**EDP 628 PSYCHOLOGY OF THE DISADVANTAGED CHILD 2 cr.**

Emphasis will be placed on insight into the psychology of disadvantaged children. Analysis of research, direct experimentation, and naturalistic observation will be utilized in this study. These tools will be used as methods for compensating earlier deficiencies in the child's environment.

**EDP 630 COUNSELING PARENTS OF EXCEPTIONAL CHILDREN 2 cr.**

The family as a social system; parental reactions to the child who is defective whether mentally retarded, physically handicapped, sensorily handicapped, emotionally disturbed or gifted; the helping process including principles of interviewing; the initial interview, the terminal interview and the role of the special class teacher in helping the parent to a more realistic acceptance of the child's handicap.

**EDP 635 CBA AND CHEMISTRY MATERIALS 2 cr.**

This course will cover the methods of chemical bond approach and chemical materials approach to the teaching of high-school chemistry.

**EDP 636 ADVANCED PSYCHOLOGY OF LEARNING 2 cr.**

A treatment of selected, well known learning theories. These are related to the learning process, derived from rational and empirical source, with the object of showing relationships to teaching and clarifying the developmental processes in conceptual and perceptual areas.

**EDP 637 DEVELOPMENT & ORGANIZATION OF THE CURRICULUM FOR THE SECONDARY SCHOOL 2 cr.**

Modern practices and procedures in curriculum development will be studied. The students will have opportunities to study objectives, methods, and materials designed to help the secondary teacher. Emphasis will be placed on practical day-to-day problems in the classroom and to long-range curriculum development.

**EDP 638 SELECTION AND USE OF INSTRUCTIONAL MATERIALS IN THE CLASSROOM 2 cr.**

Designed for teachers, and for instructional materials specialists. Major emphasis is on the improvement of instruction through the informed selection and effective use of instructional materials and equipment. Deals with a broad range in the evaluation of materials including motion picture films, filmstrips, slides, transparencies, flat pictures, recordings, audio tapes, feltboard materials, and study displays.

**EDP 640 IMPROVEMENT OF INSTRUCTION THROUGH SUPERVISION 2 cr.**

A study of the theory, research, practice and evolving concepts which have practical implications for supervision in the school environment. It views supervision as only a part of a larger entity . . . the operation of the educational system. Supervision is defined as a relationship in which

supervisory personnel assist professional and para-professional employees within a specific department to develop effective practices which will improve the quality of instruction and result in individual pupil progress.

**EDP 645 ISSUES AND INNOVATIONS IN SECONDARY EDUCATION 3 cr.**

The course will emphasize an analytical approach to current issues and innovations in Secondary Education. The major effort will focus on whether the innovations are possible for schools located in Western Pennsylvania. Innovations such as free electives, modular scheduling, open high school, pass-fail grading and career education will be analyzed. The seminar approach will be utilized and participants will be expected to do extensive reading in the above areas.

**EDP 646 CONTEMPORARY TRENDS IN SECONDARY EDUCATION 3 cr.**

The purpose of the course is to survey the current curricular practices, trends and innovations in secondary education.

**EDP 647 THE MIDDLE SCHOOL; ITS PHILOSOPHY AND MODES OF OPERATION 3 cr.**

The course will emphasize the differences between the philosophy of the Junior High School and the Middle School. The nature of the Middle School Program, types of students, expected teacher behavior and Middle School Physical Plants will be the major topics. Field trips to new middle schools and sessions with middle school principals will be arranged.

**EDP 648 LEGAL DECISIONS AFFECTING SECONDARY EDUCATION 3 cr.**

The course will focus on court decisions, state and federal, which have brought about changes in the typical role of secondary school teachers. Student rights, teachers' rights, tenure problems, legality of negotiations and the related problems created by the issues will be the major topics.

**EDP 650 PERCEPTION AND MOTOR DEVELOPMENT IN EDUCATION OF CHILDREN 2 cr.**

The purpose of this course is to provide the teacher with fundamental knowledge, through practical program demonstrations and readings, as to the role of the motor cortex in learning.

**EDP 685 SEMINAR IN AUDIO-VISUAL TECHNIQUES 2 cr.**

This course is concerned with the more important aspects of developing and expanding audio-visual programs in the elementary and the secondary schools. Demonstrations, lectures, and group discussions will include the utilization, preparation, and administration of audio-visual materials.

**EDP 686 GROUP DYNAMICS 2 cr.**

This course is designed to bring together the recent research on teacher behavior with the theories and research of social psychology and group dynamics. It aims to give the student some understanding of group processes and some personal experience helpful in developing a repertoire of ideas and behaviors that will be pertinent in supervision and in the classroom.

**EDP 687 GUIDANCE AND COUNSELING SEMINAR: SECONDARY TEACHERS 3 cr.**

The course is designed to permit in-service secondary personnel to become familiar with the scope of the guidance function especially as it relates to



the classroom. Through a number of varied experiences, the student will become aware of the areas on which he may use guidance techniques in his everyday teaching and/or supervisory capacity. All students will consider the information from form "core" areas; (1) Counseling (2) Individual Appraisal Techniques (3) Informational Services and the Homeroom and Guidance. In addition, each student will give individual in-depth consideration to any problem area of his choice. These independent studies will then be shared with the class. Class activity and evaluation will vary according to class and individual requirements.

## RESEARCH

### RES 800 METHODS OF RESEARCH 2 cr.

This course gives a general introduction into the reasons and the procedures for research in education. Types of research, selection of a research problem, the use of the library, collection and application of data, and the research report are studied. The course provides a background for the preparation of a research project or of a thesis.

### ENG 800 METHODS OF RESEARCH 2 cr.

Basically, this course is an introduction to the graduate study of English and to methods of bibliographical research (in the sense of acquaintance with the basic reference sources of literary history). The aim of the course is not merely to acquaint the student with the standard reference books in the field but to give him a brief overview of some of the principal methods and preoccupations of the literary critic and scholar.

### GEO 800 METHODS OF GEOGRAPHIC RESEARCH 2 cr.

Consideration of purpose, scope, and procedures of geographic research including problem sensing, data collection, and statistical analysis. Prerequisites: GEO 700; Recommended: GEO 790 and EDP 600.

### HIS 800 HISTORICAL METHODOLOGY 3 cr.

Basic methods of historical research are surveyed; proper use of sources, bibliography, annotation; brief analysis of the practical and technical approach of leading historical scientists.

### POS 800 METHODS OF POLITICAL SCIENCE 3 cr.

Basic methods of political science research are surveyed; proper use of sources, bibliography, annotation; brief analysis of the practical and technical approach of leading social scientists.

### SOS 800 METHODS IN SOCIAL SCIENCE 3 cr.

Basic methods of social science research are surveyed; proper use of sources, bibliography, annotation; brief analysis of the practical and technical approach of leading social scientists.

### RES 829 RESEARCH PROJECT 2 cr.

A written report of a scientific investigation is required. It is suggested that the report be based on an actual classroom problem. The report may cover the available literature in the field or it may be based on a classroom experiment. A knowledge of research techniques and scientific reporting is required.

**RES 849 MASTER'S THESIS**

4 cr. (certain areas 6 cr.)

A thesis is the written report of an exhaustive research made to derive findings and arrive at conclusions in a specific field of investigation. The thesis subject must have the prior approval of a special graduate committee composed of the faculty adviser and two other professors recommended by the Dean of Graduate Studies. The student may expect special guidance in this work from his adviser and other members of his graduate committee.

**BIOLOGY****BIO 700 CELLULAR ULTRASTRUCTURE** 3 cr. (lecture)

The fine structure of cellular organelles as revealed by the electron microscope is discussed in relation to organelle and cell function. Ultrafine structure of the cell membrane, cell wall, nucleus, mitochondria, Golgi apparatus, locomotor organelles, etc., are included. This course does not include instruction in the techniques of electron microscopy.

**BIO 705 CELLULAR PHYSIOLOGY** 4 cr. (3 hrs. lecture, 2 hrs. lab)

The physiology of the cell with emphasis on the relationship of cell structure and function. Includes physical and chemical aspects of cells, the relation of cells to their environment, energy conversions in cells, membrane permeability, photosynthesis, and enzyme action. Prerequisite: Organic Chemistry.

**BIO 706 BACTERIOLOGY** 4 cr. (3 hrs. lecture, 2 hrs. lab)

A critical analysis of the biology of the bacteria is undertaken, correlated with their role in public health, medicine, and industry where applicable. Physiological and biochemical properties of the bacteria are discussed and experimentally tested as a basis of the rationale of control. Staining techniques, isolating, culturing, counting, and identification are performed during the progression of these investigations. Prerequisite: Organic Chemistry.

**BIO 707 MYCOLOGY** 4 cr. (3 hrs. lecture, 2 hrs. lab)

An extensive examination of the fungi is undertaken with emphasis on the filamentous form. The cytology, physiology, and morphology of the fungi are studied to determine their place in nature. Techniques in isolating, culturing, counting, photographing, and identifying fungi will be pursued in the laboratory. Prerequisites: Botany I, Microbiology, and consent of instructor.

**BIO 708 MICROBIAL ECOLOGY AND PHYSIOLOGY**  
4 cr. (3 hrs. lecture, 2 hrs. lab)

Detailed analyses of the anabolic and catabolic activities of bacteria, fungi, and algae are studied. The microbiological processes of nitrification, denitrification, chemosynthesis, bacterial and algal photosynthesis, fermentation, and antibiosis will be examined, with reference to ecological interactions with man and other organisms. Prerequisites: Microbiology and Organic Chemistry.

**BIO 715 TISSUE CULTURE** 4 cr. (3 hrs. lecture, 2 hrs. lab)

This course deals with methodology of cell and tissue culture. Basic cell structure, behavior of cells in culture; cells and their environment; media for culturing cells are discussed. Laboratory work also been practiced on

preparation of apparatus, glassware, etc.; sterilization procedure and aseptic technique; primary explantation techniques; cell line establishment; trypsinization; preparation of culture media, solutions, chick plasma and embryo extracts; and chromosome preparation from tissue culture.

**BIO 716 CYTOGENETICS** 4 cr. (3 hrs. lecture, 2 hrs. lab)

This course aims at a comprehensive understanding of mitosis, meiosis, crossing over, chromosome morphology and karyotyping. Special emphasis also on human cytogenetics including sex determination, sex chromatin, congenital malformations associated with anomalies of autosomes and sex chromosomes, mutagenic effects of drugs, radiation, etc., and the most recent technique of chromosome banding and mapping.

**BIO 717 POPULATION GENETICS** 3 cr. (lecture)

This course is based upon the Hardy-Weinburg law of population genetics, the recent works of Theodosius Dobzhansky when at Columbia University and of Bruce Wallace of Cornell. The role of the Hardy-Weinburg formula in explaining trends in population and the significance of heterozygosity in the retention of unfavorable genes in the population will be emphasized. The algebra and statistics of genetics will be used to clarify evolutionary trends, including the Hardy-Weinburg equation, chi-square, probability, and analysis of variance. A class project will be run on *Drosophila* population studies. Prerequisite: Advanced Genetics.

**BIO 718 ADVANCED PROBLEMS IN GENETICS** 3 cr. (lecture)

This course is essentially molecular and microbial genetics. The topics covered will vary somewhat from year to year but will usually include protein structure, function, and structural determination, nucleic acids and protein synthesis, mutation rate and mechanisms, mechanism of recombination found in microbial transformation, transduction, and conjugation. Prerequisite: Genetics.

**BIO 721 BIOCHEMISTRY I** 4 cr. (3 hrs. lecture, 2 hrs. lab)  
(taught in Chemistry Department)

A comprehensive survey of the properties of amino acids, elucidation of protein structure, protein biosynthesis, the Genetic Code, and carbohydrate metabolism. The laboratory will include methods of separation, such as dialysis, gel filtration, adsorption chromatography, ion-exchange chromatography, partition chromatography, thin-layer chromatography, electrophoresis, spectrophotometry, fluorimetry, and qualitative and quantitative determination of carbohydrates and proteins. Prerequisite: Organic Chemistry I and/or instructor's permission.

**BIO 722 BIOCHEMISTRY II** 4 cr. (3 hrs. lecture, 2 hrs. lab)  
(taught in Chemistry Department)

A continuation of Biochemistry I and including fatty acid biosynthesis, fatty acid metabolism, photosynthesis, protein metabolism, vitamins, hormones and immunochemistry. The laboratory will include qualitative and quantitative determination of fats and steroids, and work with nucleic acids, enzymes, vitamins, and hormones. Prerequisite: Biochemistry I and/or instructor's permission.

**BIO 725 MOLECULAR BIOLOGY** 4 cr. (3 hrs. lecture, 2 hrs. lab)

This course will go beyond the content of the biochemistry courses to emphasize macromolecular biological synthesis and function, enzymology, genetic and cellular control systems such as the operon and repressors, cyclic reaction systems such as electron transport, phosphorylations,

pentose shunt, tricarboxylic acid cycle; special techniques such as reaction kinetics, cell fractionation, purifications, and assays for peptides, isoenzymes, DNA, cyclic AMP, NAD, vitamins, etc.; and the biochemistry of natural products, alkaloids, terpenes, pigments, hormones, pesticides, medicinals, and other classes of compounds. Prerequisites: Biochemistry I and II or consent of instructor.

**BIO 730 ANIMAL SYSTEMATICS 4 cr. (3 hrs. lecture, 2 hrs. lab)**

A general survey of the animal kingdom from the taxonomic point of view, with emphasis on morphology and phylogeny as bases for classification. Also, some attention to ecological and geographical distribution of animal life. Prerequisites: 15 credit hours of Biology.

**BIO 735 COMPARATIVE VERTEBRATE ANATOMY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

A comparative study of the Chordata from prochordates to mammals with emphasis on the evolution of the vertebrates, including man. Lectures and class discussions will be held in the laboratory, with selected specimens used for dissection for the purpose of making comparisons quickly and accurately. Prerequisite: Zoology II.

**BIO 736 ANIMAL DEVELOPMENT 3 cr. (lecture)**

A study of the development of the vertebrate embryo, emphasizing the frog, teleost, chick, and pig. Prerequisite: Zoology II.

**BIO 737 ANIMAL BEHAVIOR 3 cr. (lecture)**

Basic neuroanatomy, neurophysiology, and neurochemistry, plus a comparative survey of the behavior of selected animals, together with consideration of basic techniques of ethological analysis. Prerequisite: Zoology II or General Biology.

**BIO 738 HERPETOLOGY 3 cr. (lecture)**

A study of the anatomy, physiology, ecology, and taxonomy of the major groups of amphibians and reptiles. Prerequisite: Zoology II.

**BIO 745 ENTOMOLOGY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

Theoretical and field study of the local classes of insects and related species; taxonomy, collecting and mounting, general and specific morphology, metamorphosis and life cycles, economic importance and control measures. Prerequisite: Not open to those having Biology 362.

**BIO 746 PARASITOLOGY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

A study of symbiotic relationships in the animal kingdom with an emphasis on invertebrate endoparasites of man, his domestic animals, and common wildlife of the area. Morphology, life cycles, host-parasite relationship, etiology, epidemiology, and treatment and diagnosis are stressed.

**BIO 747 LIMNOLOGY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

This course consists of the analysis of the various physical, geological, chemical, and biotic characteristics of fresh water environments. The biotic assemblages of the various aquatic systems will be particularly emphasized. Field work will be conducted in various ponds, bogs, lakes, and streams in Pennsylvania. Prerequisite: one ecology course.

**BIO 750 TERRESTRIAL ECOLOGY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

The course involves selected aspects of terrestrial systems including various qualities of community dynamics such as structure, composition, succes-

sion, phenology, and paleoecology. The biota will be intensively analyzed through field work taken in various communities of the Northern Temperate Forest and Upland regions. Several extended field trips may be required. Prerequisite: one ecology course.

**BIO 755 FIELD BOTANY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

Study and collection of higher plants with emphasis on the local flora. The course should suggest to the serious student problems of a highly speculative and worthy nature and touch on other vital and related subjects such as ecology, genetics, morphology and evolution. The materials collected in the field will be further studied in the laboratory for structure and family relationships and compared with specimens in the California State College Herbarium.

**BIO 756 FIELD AND LABORATORY TECHNIQUES  
IN BOTANY 4 cr. (3 hrs. lecture, 2 hrs. lab)**

The course is designed to meet the needs of those who are working in natural history. For students and teachers who wish to collect, save, and work with specimens available to them, but lack the information for preserving them. It encompasses field study, collection, preservation, and illustration of the major divisions of plant kingdom with consideration of the major habitats, the value of field notes and the tabulation of laboratory data.

**BIO 757 PLANT SYSTEMATICS 4 cr. (3 hrs. lecture, 2 hrs. lab)**

A course designed to explore the history of plant classification and its culmination in present-day taxonomic practices, the evolution of the vascular plants, and a definitive study of their representative modern families. An extensive plant collection will be required of each student. Prerequisites: Botany I and II.

**BIO 758 PLANT ANATOMY AND MORPHOGENESIS 4 cr. (3 hrs. lecture, 2 hrs. lab)**

A study of plant growth and descriptive experimental studies on cells and meristems. How plant correlation, polarity, symmetry, differentiation, regeneration, tissue mixtures and abnormal growth are involved in the distinctive phenomena of morphogenesis. Laboratory work will consist largely of the growth of representative plants from the seeds in the laboratory. Experiments will show the effects of light, temperature, water and various other physical factors together with chemical substances such as growth substances and the various genetic factors.

**BIO 760 ADVANCED PLANT PHYSIOLOGY 3 cr. (lecture)**

Advanced studies of plant processes — photosynthesis, respiration, mineral metabolism, water relations, plant growth substances, and environmental plant physiology, including recent advances in the field. Prerequisites: Elementary Plant Physiology or equivalent; also courses in general physics and organic chemistry.

**BIO 766 BIOMETRY 3 cr. (lecture)**

A study of statistical techniques, applied to experimental design and analysis of biological problems in the field and the laboratory, with emphasis on multivariant situations and on insuring validity of results. Prerequisites: College Algebra or Statistics.

**BIO 767 LAB INSTRUMENTATION FOR BIOLOGY**

4 cr. (3 hrs. lecture, 2 hrs. lab)

A consideration of both theoretical and practical aspects of laboratory instrumentation which apply to continuing study and research in biology. Subject areas include advanced optical microscopy such as phase, fluorescence, and photomicrography; various techniques of chromatography including gas, liquid, gel, thin layer, and paper; electrophoresis; spectrophotometry and colorimetry in the UV, visible, and IR regions; pH and buffering; cell disruption and fractionation techniques; ultracentrifugation, and special assays of interest to the student. Prerequisites: Analytical Chemistry or permission of instructor.

**BIO 768 TECHNIQUES IN ELECTRON MICROSCOPY**

4 cr. (3 hrs. lecture, 2 hrs. lab)

Detailed training in the operation and care of the electron microscope; techniques of specimen preparation for electron microscope visualization, including fixation, embedding, and ultrathin sectioning and special techniques such as replication and shadow casting. Prerequisites: BIO 762 and consent of instructor.

**BIO 770 CONFERENCE ON ELECTRON MICROSCOPY**

4 cr. (3 hrs. lecture, 2 hrs. lab)

Principles and techniques involved in electron microscopy, operation of the electron microscope and techniques of specimen preparation, including ultramicrotomy, staining, and shadow casting. This is a summer course for visiting faculty and graduate students. Prerequisites: Consent of the instructor.

**BIO 775 RADIATION BIOLOGY**

4 cr. (3 hrs. lecture, 2 hrs. lab)

The physics and physical chemistry of ionizing radiations and their interactions with matter; radiation measurement and dosimetry; lab manipulation and safety practices; health physics. Biological effects at the molecular, cellular, organ, organismal, and ecological levels with distinctions between low level, high level, and special condition situations, and between external radiation and internal radioisotopes. Prerequisites: Radiation Biology 430 or permission of instructor.

**BIO 776 RADIOISOTOPE TECHNIQUES**

4 cr. (3 hrs. lecture, 2 hrs. lab)

Practical and theoretical aspects of techniques of handling radioactive materials and conducting isotope tracer experiments; fundamentals of radioactivity; measurement units and instrumentation; radiochemistry; laboratory safety; radioisotope tracer methodology as used in biology; laboratory handling of biological materials; health physics, laboratory and administrative requirements. Prerequisites: Analytical Chemistry or permission of instructor.

**BIO 778 ORGANIC EVOLUTION IN THE  
TWENTIETH CENTURY**

3 cr. (lecture)

An intensive study of the impact of evolutionary thought upon the various disciplines of biology. Emphasis is upon evolution of life from non-life, organic evolution and the genetic basis of evolution. Also emphasis is placed upon the elemental forces of evolution, the sources of variation, the role of natural selection and genetic drift, the result of evolution through adaptation. Evolutionary divergence is studied through an understanding of races and species, isolating mechanisms, the origin of species, and

evolution above the species level. Prerequisite: General Biology.

**BIO 789 SPECIAL PROBLEMS IN BIOLOGY** 1 to 3 cr.

Available each college term for original investigations in biology. The nature of the problem, the credits, and the hours will be adjusted to each individual. These courses provide experience in research procedures in areas of special interest; planning, execution, and analysis of lab experiments, and report preparation. Prerequisites: approval of the student's graduate adviser and of the instructor for the problem.

**BIO 795 SEMINAR IN BIOLOGY** 2 cr. (lecture)

The seminar involves library research, class discussion, and reports by the participants upon topics of special interest. Members of the biology staff are invited to lead some discussions in their major fields of interest.

**MSC 700 MARINE SCIENCE CONSORTIUM**

Seventeen colleges, including California, have two marine laboratories on the Atlantic Ocean near Chesapeake Bay, at Wallops Island, Virginia, and Lewes, Delaware. The Consortium offers field-oriented undergraduate and graduate courses throughout the year, using their own course numbers and titles. See the announcements in the California offices of Mr. Catalano (Biology) and Mr. Anthony (Geography) for current offerings. Biology students may take the Consortium biology graduate courses for credit at California by meeting the course prerequisites and obtaining approval of the graduate adviser and of the biology department faculty by vote. These courses are regular credit, not transfer credit; the registration must be recorded by the Graduate Office.

**BIO 800 METHODS OF RESEARCH IN SCIENCE** 2 cr.

Consideration of the fundamental methods of research in the natural sciences; with emphasis on scientific method, technical library use, collection and interpretation of data, and the format of scientific writing for the thesis and for publication. The Style Manual for Biological Journals will be followed.

## CHEMISTRY

**CHE 701 ADVANCED INORGANIC I** 3 cr.

A study of the geometry of atoms and molecules as related to electronic structure and the relationship between chemical and physical properties electronic structure.

**CHE 702 ADVANCED INORGANIC II** 3 cr.

A study of the nature and properties of coordination compounds.

**CHE 705 INORGANIC PREPARATIONS** 2 cr.

Syntheses of selected inorganic compounds.

**CHE 711 ADVANCED ANALYTICAL I** 3 cr.

Chemical and Physical methods of separation.

**CHE 712 ADVANCED ANALYTICAL II** 3 cr.

Instrumental Analysis and Spectroscopy.

**CHE 721 ADVANCED ORGANIC I** 3 cr.

A survey of the types of chemical bonds, resonance, radicals, carbenes, confirmation analysis, aromaticity and the reactions of some of the important types of organic compounds.

- CHE 722 ADVANCED ORGANIC II** 3 cr.  
A survey of the modern concepts of organic chemistry and their use in the interpretations of data in terms of mechanisms of organic reactions.
- CHE 725 QUALITATIVE ORGANIC ANALYSIS** 3 cr.  
Identification of pure organic compounds and mixtures by classical as well as by instrumental methods.
- CHE 726 ORGANIC PREPARATIONS** 2 cr.  
Application of the theory of reactions to organic synthesis. Emphasis will be placed on the newer synthetic methods and those involving recently discovered reagents.
- CHE 731 ADVANCED PHYSICAL CHEMISTRY I** 3 cr.  
Classical and statistical thermodynamics as applied to chemical systems.
- CHE 732 ADVANCED PHYSICAL CHEMISTRY II** 3 cr.  
Kinetics and electrochemistry.
- CHE 735 QUANTUM MECHANICS** 3 cr.  
An introduction to the concepts of quantum mechanics with applications to chemical systems.
- CHE 745 MATHEMATICS FOR CHEMISTS** 3 cr.  
Differential equations, partial differential equations, boundary value problems, vector analysis, fourier analysis, matrix operations and complex variables with particular reference to specific chemical systems and problems in thermodynamics, statistical mechanics, kinetics and quantum mechanics.

## ELEMENTARY EDUCATION

- EDE 700 HISTORICAL BACKGROUND OF THE  
ELEMENTARY SCHOOL** 2 cr.  
Emphasis is given to historical and philosophical backgrounds as they have been developed in the elementary school. In this course the student will have an opportunity to interpret modern educational issues as influenced by the past.
- EDE 705 DEVELOPMENT AND ORGANIZATION OF THE  
CURRICULUM FOR THE ELEMENTARY SCHOOL** 2 cr.  
The student has an opportunity to study the development of the school curriculum in relationship to the philosophy and objectives of the local school. Special emphasis is placed on recent trends in elementary curriculum development.
- EDE 706 EVALUATION AND MEASUREMENTS IN THE  
ELEMENTARY SCHOOL** 2 cr.  
This course is concerned with the evaluation of pupil progress. The criteria of good evaluating devices are studied. Students have an opportunity to study, administer, score and interpret various types of tests for evaluating pupil behavior.
- EDE 707 CREATIVE ACTIVITIES IN THE ELEMENTARY  
SCHOOL** 2 cr.  
In this course the student is acquainted with creative teaching techniques. The student is given opportunities to demonstrate his own creativity



through various projects and special assignments, with emphasis on art, music, writing, and drama.

**EDE 708 DEVELOPMENTAL READING IN THE  
ELEMENTARY SCHOOL 2 cr.**

Emphasis is placed on reading trends and various procedures for teaching reading. Through research findings, current literature and discussions the student will be able to organize, administer, and evaluate a developmental reading program.

**EDE 710 TEACHING READING IN CONTENT SUBJECTS 2 cr.**

Developing the basic vocabularies and concepts needed in the fields of arithmetic, social studies, geography and science. Interpreting and using symbols, pictures, tables and graphic materials. Developing an awareness of and proficiency in the various reading skills needed in the selection, interpretation, organization, and presentation of data obtained through reading textbooks and resource materials in these fields. Prerequisite: EDE 708.

**EDE 715 RECENT TRENDS IN LANGUAGE ARTS 2 cr.**

A study of recent trends and research findings for teaching language arts in the elementary school is made. The students examine, use, and evaluate current textbooks and materials that are available in the Language Arts Field. Modern methods of teaching language arts are studied through laboratory techniques — observations and discussions.

**EDE 716 SPECIAL PROBLEMS IN ELEMENTARY  
SOCIAL STUDIES 2 cr.**

This course is organized around current problems of teaching social studies — planning a social studies program, methods of teaching, available materials and textbooks. Opportunities for developing units of learning and making independent studies of trends in teaching Elementary Social Studies are presented.

**EDE 717 GEOGRAPHY IN THE MODERN  
ELEMENTARY SCHOOL 2 cr.**

The course emphasizes techniques and methods for teaching geography in the elementary school. Proper use of textbooks, maps, and other tools of learning used in teaching geography as studied. The student has an opportunity to work on individual classroom problems or programs. The student becomes acquainted with the various skills that are essential to the study of geography at each grade level.

**EDE 718 ARITHMETIC IN THE ELEMENTARY SCHOOL 2 cr.**

Recent trends and research in teaching arithmetic in the elementary school are studied. The newest techniques for developing basic skills and problem solving are discussed and evaluated. Students have an opportunity to work on individual problems.

**EDE 720 RESOURCE MATERIALS IN  
ELEMENTARY SCIENCE 2 cr.**

This course is designed to acquaint the student with the various resources which might be utilized to advantage in an elementary science program. The resources to be investigated and studied include plant and animal resources, soil and mineral resources, human resources, and the resources of business and industry. Emphasis is placed on the application of these

resources to classroom situations.

**EDE 725 THE CREATIVE ELEMENTARY MUSIC PROGRAM 2 cr.**

This course is designed to show the elementary teacher how to guide the musical activities of his students. Through extensive activities in simulated classroom situations, the teacher learns how to integrate, simultaneously, all aspects of music into a song so that the children may realize a complete and challenging musical experience. These areas include creativeness, rhythmic activity, listening, reading, games, dances, and playing on instruments. Students have many opportunities throughout the course to analyze worthy song material and follow through by planning and teaching to the class appropriate activities in the aforementioned areas.

**EDE 726 ART EDUCATION FOR THE ELEMENTARY GRADES 2 cr.**

A course to provide students who expect to teach in the elementary grades with a basis for ever increasing spiritual and intellectual horizons through the study of art and its historical and contemporary significance as an important creative force in our society. A climate for research and analysis of art forms in the arts will be established to meet the individual needs of students.

**EDE 727 GUIDANCE IN THE ELEMENTARY SCHOOL 2 cr.**

Evaluate instruments and procedures used by the classroom teacher; creation of conditions for mental health; relation of guidance to other phases of instruction. Testing, case studies, and parent-teacher relations are stressed. Prerequisite: Educ. Psychology.

**EDE 728 PROBLEMS IN HEALTH AND PHYSICAL EDUCATION FOR THE ELEMENTARY SCHOOL 2 cr.**

A survey of the problems and research concerning teachers' responsibilities for the health and physical activities of elementary school children.

**EDE 730 TEACHING IN KINDERGARTEN AND THE PRIMARY GRADES 2 cr.**

The students have opportunities to become acquainted with modern methods of teaching the primary grades, activities, learning materials, and needs of the primary-grade children are analyzed and evaluated according to research findings.

**EDE 735 PSYCHOLOGY OF THE EXCEPTIONAL CHILD 2 cr.**

To provide an enlarged and more precise concept of the characteristics and needs of children who are in some respect exceptional. Basic principles of educational practice with systematic instruction in relation to exploratory charts, sociograms and case studies.

**EDE 736 ORGANIZATION AND ADMINISTRATION OF THE ELEMENTARY SCHOOL 2 cr.**

This course reflects the most recent trends in elementary education and presents a comprehensive picture of major phases of organization, administration and supervision, the practical routine aspects of which are placed on a sound theoretical basis. Emphasis is on the importance of cooperation within the school organization and between the school and community.

**EDE 738 CHILDREN'S LITERATURE AND READING 2 cr.**

This course is designed as a vital entity of the total reading program in the elementary school. Permeating all instruction in the course is the

philosophy that children's growth in and through reading is dependent on developing lasting interests and skills in reading; on an understanding of the world and human relationships; and on an appreciation of fine literature which must have its roots enmeshed in the elementary reading program. The emphasis on ways in which teachers can use literature in the classroom to meet children's needs and interests, to deepen their insights, and to heighten their appreciations of an extensive range of prose and poetry of literary quality will be a prime focal point.

**EDE 740 RECENT TRENDS IN ELEMENTARY SCHOOL SCIENCE 2 cr.**

This course is designed to acquaint elementary school teachers with representative samples of the newer elementary science curricula developed within the past ten years. Emphasis will be placed upon the inquiry approach to teaching science, which actively involves children with science materials. The philosophical foundations of such elementary science programs as the Science Curriculum Improvement Study, Science — A Process Approach, and the Elementary Science Study will be considered. The implications of the most modern psychological studies will be included in relation to the newer elementary science curricula. Teachers will engage in actual laboratory activities that exemplify these recent approaches to teaching elementary science.

**EDE 745 TOPICS IN ALGEBRA FOR THE ELEMENTARY MATHEMATICS TEACHER 2 cr.**

A presentation of Algebraic Structures which will serve as a mathematical guide in the teaching of Arithmetic.

**EDE 746 TOPICS IN GEOMETRY FOR THE ELEMENTARY MATHEMATICS TEACHER 2 cr.**

A presentation of an axiomatic treatment of both Euclidean and Non-Euclidean Geometries which will give elementary school teachers of geometry a better background to teach geometry from an intuitive point of view.

**EDE 747 TRENDS AND CURRENT RESEARCH FINDINGS IN ELEMENTARY MATHEMATICS 2 cr.**

A review of current Elementary Arithmetic Curriculum projects such as: The Madison Project, Patrick Suppes Project (Stanford University), David Page Project (University of Illinois), Nuffield Project, Elementary MSG, Minnemast (University of Minnesota), and others.

**EDE 748 MATERIALS, RECREATIONAL MATHEMATICS AND EVALUATIVE TECHNIQUES IN ELEMENTARY SCHOOL MATHEMATICS 2 cr.**

To help in-service teachers: (1) become aware of, implementation of, and understanding of variety and quality of mathematics materials available; (2) to understand the need for, to appreciate mathematical concepts, and to become aware of sources of recreational mathematical materials; (3) to understand role of evaluation in mathematics to understand various methods of evaluation and types of tests available, and to develop proficiency in evaluating and interpreting test results.

**EDE 750 CLASSROOM DIAGNOSTIC PROCEDURES FOR READING 3 cr.**

This course is designed to acquaint the regular classroom teacher with the causes of retardation in reading, to familiarize the teacher with diagnostic

procedures, and to provide the teacher with the skills and techniques of remediation.

EDE 755 TECHNIQUES IN DIAGNOSIS OF REMEDIAL PROBLEMS 2 cr.

The purpose of the course is to provide the guidance counselor and the elementary teacher with experiences in using and evaluating the various tests, tools, and techniques which may be utilized for diagnostic purposes.

EDE 780 SEMINAR IN READING AND LANGUAGE ARTS 2 cr.

Investigation and discussion of problems related to current practices, research and trends in the reading-language arts area. Specific topics vary from semester to semester to meet student needs. Additionally, students are encouraged to pursue an individual problem in an area of special interest.

EDE 785 SEMINAR: CURRENT ISSUES AND INNOVATIONS IN ELEMENTARY EDUCATION 2 cr.

This course is concerned with the perspectives of today's dynamic society. Pertinent issues and innovations in elementary education will be discussed, investigated, and analyzed.

EDE 787 SEMINAR IN ELEMENTARY ART EDUCATION 2 cr.

A course dealing with tools, materials, techniques, and processes suitable for elementary children.

EDE 790 INDEPENDENT STUDY 1-3 cr.

This course will involve working closely with a graduate faculty member or an individual basis entailing small scale or action research. The student may register for 1, 2, or 3 credits.

EDE 809 RESEARCH PROJECT SEMINAR 2 cr.

The purpose of this course is to help the student relate the ideas of Elementary Education and his role as a teacher to specific educational interests. At the conclusion of the course the student will submit three copies of his research project to the graduate college.

## ELEMENTARY GUIDANCE

EGU 701 ORGANIZATION & ADMINISTRATION OF GUIDANCE IN THE ELEMENTARY SCHOOL 2 cr.

The purpose of this course is to provide the guidance counselor with an overview of the necessary competencies for organizing, administering, and evaluating elementary guidance programs. The major function of an elementary school counselor is that of building a better learning climate for all children. In order to develop a program conducive to this end, the prospective counselor must become familiar with the developmental needs of the child as well as his own needs and values. Therefore, a major focus of this course is to increase individual self awareness.

EGU 702 COUNSELING THEORY 2 cr.

This course deals with theories, objectives, principles, and practices of guidance and counseling concerning the child, the family, socioeconomic problems of the community institutions, and agencies.

EGU 703 CONSULTING THEORY 2 cr.

The purpose of this course is to develop an understanding of education as

a social institution. Social institutions will be viewed as a historical product of the particular cultural milieu that they develop in. An attempt will be made to create in the student an understanding of the elements, processes and conditions in learning and socio-educational systems that are optimal for human development.

**EGU 705 DEVELOPMENTAL GROUP COUNSELING 2 cr.**

The meaning, functions, types, and principles of the group approach to elementary guidance and counseling; the dynamics of group interaction; the leadership of groups; role playing; personal development in groups; group guidance and counseling techniques; influence of group processes on individual development.

**EGU 709 INDEPENDENT STUDY 2 cr.**

The student will have an opportunity to do independent study or research in elementary counseling. The student will be guided by a member of the elementary counseling staff.

**EGU 711 PRACTICUM I 2 cr.**

The practicum begins with a review of counseling theory and techniques, then moves to analysis of tape recordings, observations of actual counseling interviews, and counseling experiences. Practicum I should be completed within the first 12 credits of the student's program. Prerequisites: EGU 700 and EGU 701.

**EGU 712 PRACTICUM II 2 cr.**

This is a continuation of EGU 711 with emphasis on counseling and consulting with children, teachers, and parents in a local school district. Both individual and group counseling experiences will be developed. Prerequisite: EGU 711.

**EGU 713 PRACTICUM III 2 cr.**

This is a continuation of EGU 712. This course will serve as a culmination of practicum experiences. The course is flexible so it may meet individual needs of counselor trainees with varying degrees of skills while ensuring the minimum standards of competence in counseling. Prerequisite: EGU 712.

**EGU 787 INTEGRATED SEMINAR 2 cr.**

This course is designed for graduate students in elementary counseling who have completed all course requirements. The purpose of the course is to culminate the students' graduate work by synthesizing previous course work and experiences in counseling.

## ENGLISH

**ENG 705 INTRODUCTION TO OLD ENGLISH 3 cr.**

This course has been designed to enable the student to read the literature in Old English and to understand and learn the grammar and vocabulary of Old English to facilitate that reading. The course (1) provides an introduction to the phonology and morphology; (2) utilizes phonetics by means of related texts (e.g., Clark); (3) introduces the grammar; (4) introduces the literature in the original; and (5) provides an introduction to the bibliography of Old English language and literature.

**ENG 706 MIDDLE ENGLISH 3 cr.**

This course is an introduction to a variety of Middle English literary texts

and types, and to the principal Middle English dialects. Since the course satisfies part of the requirement for the study of the English language and is therefore not simply a course in literature, the texts are inspected very closely for matters of detail in Middle English vocabulary, phonology, morphology, and syntax; but some attention is paid to literary history.

**ENG 707 LINGUISTICS**

3 cr.

This course will use modern, standard, spoken, American English to illustrate and define topics in the general field of synchronic linguistics. The areas surveyed will include articulatory phonetics, phonemic analysis, patterns of intonation and stress, morphemics, inflectional categories, immediate-constituent theory, tagmemics, language typology, and linguistic universals. The topics discussed should provide a broad foundation for further study in terms of linguistic problems, terminology, proposed solutions, and useful results.

**ENG 708 ADVANCED LINGUISTICS**

3 cr.

This course provides a rapid overview of traditional grammatical theory from the anomaly-analogy disputes of the Hellenistic Greeks to the Latin-oriented systems of fairly recent scholars. Then it will survey the emergence and advance of American structural linguistics as represented by its acclaimed proponents: Bloomfield, Fries, Trager, Smith, Francis, Hill, and Sledd. Finally, the analytic approach of Harris and the generative proposals of Chomsky will be discussed. The major emphasis in the course will be placed on the theory and practice of generative-transformational grammar.

**ENG 710 HISTORY OF THE ENGLISH LANGUAGE**

3 cr.

The purpose of this course is to give the graduate student of English a basic knowledge of modern linguistic procedures, necessarily structural. These procedures once mastered, the student applies them to English 700–1100; 1100–1500; 1500–1968 (or today). The student is thus given a view of change in sounds, forms, syntax (grammar); the structural changes from 700 A.D. to the present. He is also introduced to the change in vocabulary and its meanings. The problem of a standard dialect, then and now is introduced; this is the element of dialect geography. Finally, from the beginning of the course to the end, the details of the use of the Latin alphabet to record English (theory and nature of spelling) is emphasized so that the student can actually read the evidence from earlier periods and understand the problems of the present. He is introduced to the major political-historical events which affected the growth and structure of British and American English.

**ENG 715 CHAUCER**

3 cr.

This course will survey the works of Geoffrey Chaucer, from *The Book of the Duchess* through the *Canterbury Tales*, but most of the course will be devoted to *Troilus and Criseyde*. Some attention will be given to the phonology, morphology, and syntax of Chaucer's English, but principally the goal of the course will be literary understanding.

**ENG 716 ENGLISH DRAMA BEFORE SHAKESPEARE**

3 cr.

This course is designed to introduce the student to the drama of the Middle Ages and Early Renaissance in England and at the same time to acquaint him with its international character. The liturgical drama precedes the scriptural cycles; then the morality play and interlude follow. Evolution and continuity of development are carefully shown so that the student may see the vital nature of the early drama.

ENG 717 SHAPESPEARE 3 cr.  
This course will provide for the careful examination of three or four of Shakespeare's plays and will include the careful consideration of recent trends in Shakespeare criticism.

ENG 718 SIXTEENTH CENTURY NON-DRAMATIC LITERATURE 3 cr.

A study of the literary and intellectual traditions in non-dramatic English Literature from 1485—1603. Among the authors and works studied will be: Skelton, More, Ascham, Elyot, Wyatt, Surrey, Tottel's *Miscellany*, *Mirror for Magistrates*, Foxe, Hooker, the Courtly Makers, Sidney, Gascoigne, Nashe, Lyly, Lodge, the Sonneteers, Spenser.

ENG 725 NON-DRAMATIC ENGLISH LITERATURE 1600—1660 3 cr.

The primary purpose of Seventeenth-Century English Literature is to provide the student with a representative survey of the non-dramatic literature of the century. The course is intended to provide representative works not merely of literary art, but of the full written expression of the political, religious, and scientific thought of the century. The course is also intended to provide for the student literary representations contributing to the development of the prose and poetry of the century.

ENG 726 JACOBAN AND CAROLINE DRAMA 3 cr.

The methods and types of the drama (exclusive of Shakespeare) from 1590 to the closing of the theaters in 1642. Plays will be selected from among those by the following authors: Lyly, Jonson, Dekker, Beaumont and Fletcher, Massinger, Chapman, Webster, Middleton, Ford, Marston, Shirley, Tourneur.

ENG 727 MILTON 3 cr.

This course is designed to be a comprehensive study of John Milton's poetry and to survey the major prose works. Special emphasis will be directed to the major poems, *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, and to the major criticism relevant to these works.

ENG 735 ENGLISH LITERATURE 1660—1700 3 cr.

The course will stress the cultural attitudes and developments that continue into the eighteenth century: the doctrine of correctness, stress upon manners and wit, rejection of emotion in both art and religion, and the dominance of rationalism. The works of major figures (Dryden, Milton, Bunyan, Locke, and the playwrights) as well as minor figures (Butler, Pepys, Marvell, Shadwell, and Behn) will be examined.

ENG 736 ENGLISH LITERATURE 1700—1744 3 cr.

The course will undertake to make understandable some of the appellations usually applied to the eighteenth century, such as "The Age of Reason" and "The Century of Enlightenment." In the works of Pope, Swift, Gay, and Fielding, the student will see the triumph of reason, while Addison and Steele, Shaftesbury, and the followers of Locke reveal a trend toward greater liberality in political and religious thought. Finally, Defoe, Farquhar, Steele, Lillo, and Young will illustrate the new emphasis on morality and sentimentalism.

ENG 737 ENGLISH LITERATURE 1744 — 1798 3 cr.

The rise of the novel as an art form, the prominence of Johnson and his group, and the eventual domination of sentiment and sensibility all require

attention. Some of the authors to be examined are: Thomson, Gray, Collins, Cowper, Burns, Chatterton, Smart, Crabbe, Goldsmith, Sheridan, the Warton, Burke, Gibbon, and, of course, Boswell.

**ENG 738 EIGHTEENTH CENTURY ENGLISH NOVEL 3 cr.**

The evolution of the novel in eighteenth century England will be traced through the examination of representative works of Defoe, Richardson, Fielding, Sterne, Smollett, the Gothic novelists, Lewis, Austen, and others.

**ENG 745 ROMANTIC POETRY 3 cr.**

An intensive study of the work of the major poets of the Romantic Period — this course will attempt to acquaint the student with both the poetry itself and the critical reaction to that poetry over the last century. Introductory lectures will introduce the critical milieu in which the Romantic poets were spawned, and discuss their eighteenth-century forerunners, the Pre-Romantics. The discussion of each of the major poets will focus on the poetry as a representation of those characteristics which are traditionally associated with Romanticism, as well as those qualities peculiar to that specific poet under discussion. Finally, an attempt will be made to evaluate the effect of these poets on the critical attitudes of the nineteenth and twentieth centuries, through an examination of the work of such men as J. S. Mill, Matthew Arnold, Irving Babbitt, Paul Elmer More, T. S. Eliot and others.

**ENG 746 VICTORIAN POETRY 3 cr.**

This course will attempt an intensive study of the poetry of the Victorian period. Emphasis will be placed on such major figures as Tennyson, Browning, Arnold, Rossetti, Morris, Swinburne, Hopkins, Houseman, and Hardy. The literary contributions of each of these poets will be evaluated through selected readings and against the background of their own lives and the times in which they lived. Discussion will focus on the attempt of each of the poets to deal with those problems particularly relevant to the nineteenth century — the Romantic inheritance, the role of the poet, the function of art — in order to isolate common characteristics which might be helpful in evolving a definition of 'Victorianism.' The literary and aesthetic criticism of the period — notably the prose of Arnold, Ruskin, Swinburne, and Pater — will be used to provide a detailed analysis of each of the particular problems. Significant work by minor poets will be considered insofar as it sheds light on these problems or on the work of any of the major figures.

**ENG 747 NINETEENTH CENTURY NON-FICTION PROSE 3 cr.**

This course will survey the major prose writers of the nineteenth century and emphasize the intellectual and social backgrounds of their ideas as well as the rhetorical analysis of representative samples of their work. Authors to be studied will include: Macaulay, Carlyle, Newman, Mill, Ruskin, Arnold, Pater, Huxley, and Butler.

**ENG 748 NINETEENTH CENTURY ENGLISH NOVEL 3 cr.**

The Victorian novel will be examined both in its relation to the general developments of the novel as a genre and in its viability as a vehicle for the expression of those themes and ideas peculiarly relevant to the nineteenth century. Individuals, novels, and novelists will be discussed in terms of their place in the general tradition of the novel — their dependence on the work of the 18th century novelists, their attempts at experimentation and innovation, their foreshadowing of the interests and techniques of the modern novelists. Secondly, the novels will be discussed in terms of their



growing relevance as a commentary on the problems of the times, and as such, and important manifestation of the great aesthetic problem of the 19th century, the relationship between art and society.

**ENG 755 COLONIAL AMERICAN LITERATURE 3 cr.**

Colonial Literature — an intensive investigation of the developing literature of the American Colonies 1607–1789. Emphasis on the intellectual, political, religious, social and economic forces shaping that literature. Primary readings for the course include large portions of the works of the Mathers, Taylor, Edwards, Franklin, Jefferson, and the Federalists; equal emphasis is placed on works of intellectual history that deal with the period.

**ENG 756 AMERICAN RENAISSANCE 3 cr.**

The American Renaissance — an investigation of American Transcendentalism and the Literature related to it, with emphasis on the development of a definition of American Romanticism. Careful study of the works of Emerson, Thoreau, Hawthorne, Melville, and Whitman; Cooper and Poe at the instructor's option.

**ENG 757 THE RISE OF REALISM 3 cr.**

A critical analysis of literary trends in America from the time of the Civil War to the post-World War I era, with attention to a reasonable broad representation of the works of both major and secondary writers.

**ENG 758 MODERN AMERICAN POETRY 3 cr.**

A course designed to study the nature of poetry and to place within this context an examination of the trends of the twentieth century. Special emphasis put on Pound, Frost, Eliot, Stevens, Jeffers, and Cummings.

**ENG 760 CULTURAL BACKGROUNDS OF  
AMERICAN LITERATURE 3 cr.**

An examination of movements and patterns of thought in American intellectual history that have been influential on the mind and art of the American literary artist, with emphasis on developments particularly germane to the emergence of periods and styles on the American literary scene. The impact of such developments will be studied by treating representative works of literature that bear the imprint of their intellectual-social milieu. Studies treating such subjects as the influence on American Literature of Freud, the teachings of Marx and developments in science, the novel of protest, and the political novel will be examined.

**ENG 765 MODERN AMERICAN NOVEL 3 cr.**

The course will cover the period from the end of WWI to the present, but with emphasis on the fiction of the 20's, 30's, and 40's. Individual representative works will be selected from among such authors as: Anderson, Hemingway, Lewis, Dos Passos, Cather, Fitzgerald, Faulkner, Steinbeck, Updike, O'Connor, Styron, Malamud, and Bellow.

**ENG 766 MODERN BRITISH NOVEL 3 cr.**

Experiments both in style and in subject matter abound in the 20th century British novel. Although novelists expand the language beyond all prior limits as no age has done since the 16th and 17th centuries, they also explore new realms within the conscious and unconscious worlds they inhabit. The course will trace these experiments through the works of such artists as Joyce, Lawrence, Conrad, Ford, Woolf, Chesterton, Beckett, Cary, Bowen, Orwell, Greene, Durrell, Lowry, Golding, and Fowles.

- ENG 767 HISTORY OF LITERARY CRITICISM** 3 cr.  
 This course will be both historical and practical in its concerns. It will be necessary to review the large critical trends important to English and American Literature; and it will be necessary to provide students with an opportunity for exercises in practical criticism.
- ENG 768 MODERN BRITISH POETRY** 3 cr.  
 This course will consider the struggle of the British poet to hold his place in a world where "things," including his empire, "fall apart," where twice the "blood-dimmed tide is loosed," where "innocence" on both personal and national levels "is drowned." Among those poets studied will be: Yeats, Lawrence, Graves, Owen, Auden, Betjeman, Thomas, Larkin, Kinsella, Gunn, and Hughes.
- ENG 770 MODERN DRAMA** 3 cr.  
 The 20th century is an age of unprecedented innovation and technical development in the theater. It is also an age in which two basic themes, alienation of the individual and illusion vs. reality, hold the stage above all others. These innovations and themes will be found and examined in the works of such playwrights as Strindberg, Jarry, Ibsen, Maeterlinck, Gorki, Shaw, Yeats, Pirandello, Lorca, O'Neill, Brecht, Odets, Williams, Beckett, Genet, Ionesco, Pinter, Albee, Bolt, and Weiss.
- ENG 790 SEMINAR IN LITERARY CRITICISM** 3 cr.  
 The study in detail of a particular critical theory, its history and development, and of those critics who in practice best exemplify this tradition. Opportunity will be given the student to show his ability to examine literary texts in the light of his study of the theory.
- ENG 795 SEMINAR IN ENGLISH LITERATURE** 3 cr.  
 This seminar course has been designed to have the student pursue in depth a major figure, movement, or genre in English literature (such as the life and writings of W. B. Yeats). Following the intent of a seminar course, the student must confer with his instructor three or four times during the term. Emphasis is on a highly specific area of independent research. As such, the course is determined by research and writing performance.
- ENG 796 SEMINAR IN AMERICAN LITERATURE** 3 cr.  
 Attention centers on the works of major American authors. In recent years the works of Hawthorne, Melville, and Twain have been carefully examined in individual seminars.
- ENG 800 METHODS OF RESEARCH** 2 cr.  
 Basically, this course is an introduction to the graduate study of English and to methods of bibliographical research (in the sense of acquaintance with the basic reference sources of literary history). The aim of the course is not merely to acquaint the student with the standard reference books in the field but to give him a brief overview of some of the principal methods and preoccupations of the literary critic and scholar.
- ENG 801 ENGLISH EDUCATION RESEARCH METHODS** 3 cr.  
 The purpose of the course is to introduce the student to current research and practices related specifically to the teaching of literature, language, speech, composition, reading, and listening. It will deal comprehensively with research techniques and aids of particular applicability to the junior or senior high school teacher and will also attempt a broad coverage of curriculum and methodological developments in the field.

**ENG 802 RESEARCH PRACTICUM/RESEARCH PROJECT** 3 cr.  
The purpose of the course is to help the student relate the ideas and content of the over-all M.Ed. program to his role as a teacher and to offer guidance in completing a project relevant to the student's specific pedagogical interests. The course will be conducted in the fashion of a seminar.

## GEOGRAPHY

**GEO 700 PHILOSOPHY OF GEOGRAPHY** 3 cr.  
Classical and contemporary development of the principal concepts which define geography as an academic discipline.

**GEO 710 CULTURAL GEOGRAPHY** 3 cr.  
Intensive study of selected topics in cultural geography. Topics considered may include population and settlement, political and historical elements.

**GEO 730 ECONOMIC GEOGRAPHY** 3 cr.  
Intensive study of selected topics in economic geography. Topics considered may include primary, secondary, tertiary, or quaternary production.

**GEO 750 PHYSICAL GEOGRAPHY** 3 cr.  
Intensive study of selected topics in physical geography. Topics considered may include elements of the lithosphere, hydrosphere, or atmosphere.

**GEO 760 REGIONAL GEOGRAPHY** 3 cr.  
Intensive study of a specific region integrating physical and cultural attributes of the area.

**GEO 765 FIELD METHODS** 3 cr.  
Study of techniques used in making geographic observations in the field. Emphasis on study of natural and cultural landscape features at selected localities.

**GEO 766 FIELD PROBLEM** 3 cr.  
Independent supervised study. Formulation of problem, collection data, data analysis, and report writing.

**GEO 767 ADVANCED CARTOGRAPHY** 3 cr.  
Advanced techniques of graphic presentation. Accent on methods of cartostatistical methods of map analysis. Familiarization with modern cartographic techniques.

**GEO 768 AERIAL PHOTO INTERPRETATION** 3 cr.  
The use of aerial photographs as sources of qualitative and quantitative information. The principles of image identification, simple photogrammetric measurements, mapping from aerial photographs and interpretation of the natural and cultural landscape. Prerequisite: GEO 372 Cartography.

**GEO 785 READINGS IN GEOGRAPHY** 3 cr.  
Directed readings in topics selected within the student's interests in geography. Designed to exemplify sense of geographic problem and to develop abilities of critical appraisal. Oral reports and writing of critiques are essential media of expression in this course.

**GEO 786 RESEARCH IN GEOGRAPHY** 3 cr.  
Organization of a research project in the student's area of interest

requiring significant effort in one or more of the techniques generally useful to geographers.

**GEO 798 GRADUATE SEMINAR IN GEOGRAPHY** 3 cr.  
Culmination of the student's course work. Review of the literature applicable to the student's particular field of interest in geography. Presentation of student research conducted within his area of interest.

## HISTORY

**HIS 700 THE COLONIAL ERA** 3 cr.  
Topics concerning the exploration and settlement of America, and the social, political, economic and intellectual life of the American colonies before the Revolution.

**HIS 705 THE REVOLUTION AND  
EARLY NATIONAL PERIOD** 3 cr.  
Topics in the social, political, economic and intellectual life of the American people to 1820.

**HIS 706 THE MIDDLE PERIOD IN U. S. HISTORY, 1820—60** 3 cr.  
The year of Jacksonian nationalism and two-party politics; internal economic developments, territorial expansion and the rise of sectionalism, slavery and the emergence of the Republican party; the sectional controversies of the 1850's and the coming of the Civil War.

**HIS 715 THE CIVIL WAR AND RECONSTRUCTION** 3 cr.  
Causes of the Civil War; the political crisis of 1860—1861; military, political, economic and diplomatic analysis of the war; presidential and congressional reconstruction; social, political and economic developments; the erosion of reconstruction and the Compromise of 1877; long-range results of the Civil War and Reconstruction era.

**HIS 716 THE ERA OF REFORM,  
1873 UNTIL WORLD WAR I** 3 cr.  
A detailed examination of certain key groups and events which influenced America's response to a rapidly industrializing and urbanizing society. The particular focus will be upon the ideology and activities of such groups as the populists, mugwumps, utopian reformers, the new clergy and the progressives.

**HIS 717 THE 1930's IN THE UNITED STATES** 3 cr.  
A comprehensive examination of the cultural, constitutional, political, diplomatic, literary and economic developments of the 1930's which have made that decade a watershed in American history. Special attention will focus on the New Deal, the political leadership of Franklin D. Roosevelt, the role of the United States Supreme Court, social and cultural aspects of the times, such as music and the "radical" literature of the period, the end of isolation, the coming of World War II, and the varied interpretations that historians have drawn from the thirties in America.

**HIS 718 THE UNITED STATES SINCE WORLD WAR II** 3 cr.  
A consideration of the major events, problems and trends in the American experience since the Second World War; domestic and foreign problems will be given equal treatment. Heavy emphasis may be placed on the revolutions in civil rights, space and learning, while special attention might focus on the importance of the United States as a major world power.

- HIS 720 STUDIES IN AMERICAN CONSTITUTIONAL HISTORY** 3 cr.  
 Topics in the formation of the Constitution and its development through amendment, interpretation and practice.
- HIS 725 STUDIES OF THE AFRO-AMERICAN IN AMERICAN HISTORY** 3 cr.  
 Selected topics concerning the Afro-American from the origins of the slave trade through emancipation, "Jim-Crowism," the urban experience, to the Black Revolution of the 1960's. Special emphasis might be given to economic, social or cultural aspects of the black experience in any chronological era.
- HIS 726 STUDIES IN AMERICAN ECONOMIC HISTORY** 3 cr.  
 Selected topics concerned with the evolution of American economic institutions. Emphasis will be given to major sources of economic history and specialized research techniques required in this field.
- HIS 727 STUDIES IN THE SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES** 3 cr.  
 Selected aspects of the social and intellectual thought and their contributions to American civilization will be investigated. Emphasis will be placed on the early evolution of American institutions and on the recent impact of the city on American social and intellectual thought and institutions.
- HIS 728 STUDIES IN AMERICAN LABOR HISTORY** 3 cr.  
 A detailed examination of particular issues in the history of the American labor movement. Special emphasis will be placed on the emergence of industrial unionism and its relation to American politics.
- HIS 729 STUDIES IN PENNSYLVANIA HISTORY** 3 cr.  
 Selected topics in the transition from the "Holy Experiment" to the Keystone State. Emphasis may be placed on the frontier role of Western Pennsylvania, the racial origins, compositions and movements of the population, or the unique economic, political and social development of Western Pennsylvania.
- HIS 735 STUDIES IN AMERICAN DIPLOMATIC HISTORY** 3 cr.  
 A program of major themes in the history of American foreign relations, a single topic to be selected for class investigation at the beginning of the semester. Primary and secondary sources bearing on the chosen subject and of general prominence in the diplomatic field are studied by the class under the guidance of the instructor.
- HIS 736 STUDIES IN AMERICAN URBAN HISTORY** 3 cr.  
 Selected topics on the historical development of urbanism in American life, such as urban demography, ethnic group acculturation, urban politics, the impact of industrialization on urban development and the effect of the city on American thought and social development in a particular period of the nation's history.
- HIS 737 STUDIES IN PENNSYLVANIA HISTORY** 3 cr.  
 Selected topics in the transition from the "Holy Experiment" to the Keystone State. Emphasis may be placed on the frontier role of Western Pennsylvania, the racial origins, compositions and movements of the population, or the unique economic, political and social development of Western Pennsylvania.

HIS 755 STUDIES IN THE HISTORY OF ENGLAND 3 cr.  
Selected topics concerned with the types of, and changes in English social, legal and governmental institutions in relation to political and economic development from the Norman conquest to the present era.

HIS 760 STUDIES IN THE HISTORY OF CONTEMPORARY EUROPE 3 cr.  
Major themes concerned with the evolution of Twentieth Century Europe; problems of stability and change within the European state system, Europe as part of the global system of nation-states; the growth of economic and political community and the countermovements of revitalized Gaullist and Soviet Bloc nationalism.

HIS 770 STUDIES IN THE HISTORY OF EASTERN ASIA 3 cr.  
Selected aspects of Chinese, Japanese and Korean civilizations. The development of native institutions and the impact of foreign ideas on traditional cultures.

HIS 775 STUDIES IN THE HISTORY OF THE MIDDLE EAST 3 cr.  
Selected themes concerned with the process of western intrusion, dominance and continued influence in areas of Western Asia and North Africa, predominantly Islamic in culture. Developing political and intellectual movements and their influence on changing patterns of political, economic and social life in that area.

HIS 779 INDEPENDENT STUDIES IN HISTORY 1-2 cr.  
An opportunity for the student to do independent reading or research in history; the student will be advised by a member of the history department; the nature and scope of the study and the assigned credit hours will be decided on an individual basis.

HIS 800 METHODS OF RESEARCH 2 cr.  
This course will encompass major aspects of the historical process as a literary and scientific endeavor including techniques for gathering, collating and evaluating historical evidence; the importance of creative historical thinking and effective expository writing.

HIS 805 AMERICAN HISTORIOGRAPHY 3 cr.  
A critical study of the styles, methods and philosophies of leading American historians of the past and present, as well as an examination of the major interpretations of the different eras of the American experience. Emphasis might be placed on the different "schools" of American historiography, the development of standards for critical evaluation, comparative history and historiography, and perhaps a look into major debates concerning contemporary American historians, such as the question of whether the American experience has been one primarily of conflict or consensus.

HIS 849 THESIS 4 cr.  
The investigation of an historical problem by the Master's candidate and subsequent departmental approval of a Master's thesis resulting from that investigation.

## INDUSTRIAL ARTS

**IAR 700 ORGANIZATION AND ADMINISTRATION  
OF INDUSTRIAL ARTS** 2 cr.

A critical analysis of the administrative and organizational problem related to the various types of industrial arts programs, i.e., general shop, unit shop, and unit general shop. The role of the administrator and teacher in developing and organizing the industrial arts program as an integral part of the total school program is stressed. Experience is provided in the use of administrative techniques and devices peculiar to the field of industrial arts.

**IAR 705 THE HISTORY AND PHILOSOPHY OF  
CONTEMPORARY INDUSTRIAL DESIGN** 2 cr.

Industrial design is presented as a distinct and significant part of American industry and of contemporary American culture. The development of industrial design is traced from the outset of the industrial revolution to the present. The historical and philosophical roots of industrial design are studied in order to better understand its aesthetic impact upon the American culture.

**IAR 706 CURRICULUM DEVELOPMENT IN  
INDUSTRIAL ARTS** 2 cr.

An investigation is made into the significant aspects of our culture which affect the curriculum. Key concepts in curriculum study are related to practice in establishing a curriculum consistent with accepted educational objectives and philosophies. The complete development of an industrial arts curriculum including preparation of courses of study, course outlines, unit organization, and lesson planning constitutes a major phase of the course.

**IAR 707 HISTORY AND PHILOSOPHY OF  
INDUSTRIAL ARTS EDUCATION** 2 cr.

A study of the evolution and development of industrial education from primitive times to the present is pursued. The establishment of the early European systems of the Renaissance of the development of sloyd, manual training, and eventually industrial arts in this country, represent the major divisions of the course. The educational philosophies and methods of such leaders as Comenius, Locke, Rousseau, Pestalozzi, Froebel, Dewey, and Woodward are contrasted to current philosophies, methods, and objectives of industrial arts education.

**IAR 708 PLANNING THE INDUSTRIAL  
ARTS LABORATORY** 2 cr.

Design experience is provided in laboratory planning in which the most recent developments in building materials and fixtures are used. Principles of school plant design are utilized to establish a relationship between the industrial arts laboratory and the total school plant. Consideration is given to the problem of statutory demands and limitations, architectural techniques, acoustics, machine utilization, area planning, storage, and planning methods.

**IAR 709 SPECIAL PROBLEM IN I. A.** 1-2 cr.

Original investigations in the field of industrial arts. The nature of the problem will determine the class and laboratory hours. The course is expected to provide evidence of the ability of the student to make independent studies into the materials, methods, and principles of

industrial arts as well as the ability of the student to report his findings effectively.

**IAR 710 RESEARCH IN TECHNICAL DRAWING PROBLEMS 3 cr.**  
Research is conducted to determine current and proposed technical advances in industrial drafting methods and techniques and their possible assimilation into secondary school and college drafting courses. Pilot courses are developed utilizing new concepts and techniques developed in industry.

**IAR 711 REPRESENTATIONAL DRAWING I 2 cr.**  
Refinement in the technique of rendering the essential appearance of an actual or imaginary product is stressed. Freehand sketching in a variety of media, including pastels, pen and ink, and wash drawing is explored.

**IAR 712 REPRESENTATIONAL DRAWING II 2 cr.**  
Emphasis is placed on experiencing more advanced graphic media in the technique of freehand sketching. Extensive experience is provided in air brush rendering. Experimentation in the use of graphic media is encouraged in order to achieve unusual but effective visual effects in representational drawing.

**IAR 715 SUPERVISION OF INDUSTRIAL ARTS EDUCATION 2 cr.**  
An analysis is made of current research in supervision as related to curriculum improvement in industrial arts. Emphasis is placed on methods of coordination and upgrading teaching techniques, safety education, inventory control, requisitioning methods, evaluative criteria, and student planning methods.

**IAR 716 PROBLEMS IN ARCHITECTURAL DESIGN 3 cr.**  
Emphasis is placed on new concepts and techniques in architectural design and drafting. Current developments in building materials and fabrication methods are applied to residence, commercial and industrial structures. The organic approach to architectural design is utilized to evolve functional designs in the various types of structures.

**IAR 717 PROBLEMS IN INDUSTRIAL ARTS DESIGN 2 cr.**  
A problem solving approach to design is emphasized. Students completely plan and develop products that are original in conception and aesthetic in appearance. The individual is encouraged to work experimentally and independently. Final products are crystallized with the aid of representational drawings, working drawings, and detailed plans.

**IAR 718 ADVANCED CERAMICS 3 cr.**  
Advanced techniques in the art and craft of ceramics is provided in this course. Experiences in three and four piece mold making, glaze experimentation, and advanced work on the potter's wheel are included. The technology of ceramics is presented through the process of individual research on some phase of the ceramic industry.

**IAR 720 ADVANCED CRAFTS 3 cr.**  
This course develops a considerable depth and breadth of technique and overall design ability for those who wish to pursue any major craft media. Creative and aesthetic design coupled with technical refinement is stressed. Research in a particular craft medium accompanies the laboratory experience. Any craft area except Ceramics may be selected for advanced work.



**IAR 730 RESEARCH IN THE PROBLEMS OF WOODWORKING 3 cr.**

Research experiences are provided in current industrial developments in the woodworking industries. Emphasis is placed upon research techniques and finding in such areas as wood finishing, production, methods, wood chemistry, machinery maintenance, and safety programming. Special problems relating to wood storage, requisitioning, inventories and budgeting procedures are also presented.

**IAR 735 STUDIES IN INDUSTRIAL PATTERNMAKING TECHNIQUES 3 cr.**

Modern industrial patternmaking practices are explored. Practice is provided in the application of various materials such as wood, wax, ceramics, and metals to pattern fabrication. Patterns applicable to secondary school industrial arts programs are designed and constructed.

**IAR 740 STUDIES IN METAL TECHNOLOGY 3 cr.**

Provides for study of new industrial metalworking techniques and processes through research and field trips. Basic study into physical metal testing and metallurgy designed for introduction into public school programs.

**IAR 745 RESEARCH IN THE PROBLEMS OF METAL MACHINING 3 cr.**

Special problems relating to secondary school metal machining programs such as product design, operational sequences, personnel organization, instructional sequences, special jigs and fixtures, and new industrial machining methods are studied. Individual research on a selected metal machining problem is required.

**IAR 756 ADVANCED STUDIES IN TRANSISTOR CIRCUIT THEORY AND APPLICATION 3 cr.**

A study is made of the circuit theory and application of transistors as used in power supplies, amplifiers, oscillators, detectors and radio receivers. The course is designed primarily to develop individual depth and experiences in this area for the industrial arts teacher.

**IAR 757 DESIGN AND APPLICATION IN RADIO AND TELEVISION CIRCUITS 3 cr.**

Experiences are provided in the design, development and operation of radio and television receivers. Special emphasis will be placed upon individual study and designing of the basic circuits incorporated in a superheterodyne receiver and portions of the television receiver.

**IAR 758 DIGITAL AND ANALOG COMPUTER CIRCUITS AS APPLIED TO INDUSTRIAL ARTS PROGRAMS 3 cr.**

An intensive study of the theory of operation of digital and analog computer circuits and their application to modern trends in Industrial Arts Education. Opportunity for the student to work experimentally will be provided. The individual is encouraged to develop practical computer applications for teaching within the industrial arts area.

**IAR 760 RESEARCH IN AND DEVELOPMENT OF GRAPHIC ARTS TECHNIQUES 3 cr.**

Research experiences are provided in the development of the materials, methods, and processes currently employed in the printing industry. A study of research findings is conducted in the reproduction phases of

printing and allied graphic arts. Problems relating to offset lithography, photo lithography, intaglio methods, advanced book binding, letterpress, photography, hand-cut silk screen, and photographic silk screen provide activities for individual research.

**IAR 765 DESIGN PROBLEMS RELATING TO GRAPHIC ARTS REPRODUCTION 2 cr.**

The basic elements of commercial graphic design, such as shape, color, texture, scale, and balance are studied. Practical work includes designing of book covers, title pages, book jackets, trade-marks, colophons, posters, and show card work.

**IAR 766 RESEARCH IN PHOTOGRAPHIC TECHNIQUES 3 cr.**

View composition, developing and printing constitute the major phases of this course. The mechanics of both miniature and professional photographic equipment are studied. Contact and enlargement printing, the making of zinc cuts, halftones and photographic plates are stressed.

**IAR 767 VISUAL COMMUNICATION TECHNIQUES 3 cr.**

Involves exploring and developing ways of expressing ideas, presenting information and making instruction more challenging and meaningful through the production and reproduction of visual communication materials. Emphasis is placed on instruction in the various methods used in producing visuals, such as: transparencies, exhibits, slides, posters, duplicating techniques, and photographic visuals employing the latest products of industry.

**IAR 770 INDUSTRIAL PLASTICS AND THEIR APPLICATION TO INDUSTRIAL ARTS 3 cr.**

An intensive study of the changing field of plastics and its application to modern trend and progress of Industrial Arts Education.

**IAR 785 SEMINAR IN NEW ELECTRICAL PRACTICES 2 cr.**

The latest commercial electrical equipment and technical methods are presented by local power companies, manufacturers, and other agencies related to the electrical industry. This cooperative venture is designed to bring the student abreast of current practices, trends, and research in the electricity-electronics area.

**IAR 786 INDUSTRIAL ARTS AND INDUSTRIAL PRACTICES WORKSHOP 2 cr.**

This workshop is designed to acquaint the students with industrial plants in the tri-state area. The students will be taken on conducted tours through steel mills, glass factories, paper mills, ceramic plants, and a variety of research and development laboratories. The chief aim is to afford the student an understanding of a variety of important industries and their implications for industrial arts.

## INDUSTRIAL ARTS SUPERVISION

**IAS 780 DEVELOPING TEACHING TECHNIQUES AND CURRICULUM MATERIALS 2 cr.**

The writing and development of new materials to be utilized in the improvement of industrial arts programs. The structuring and demonstration of modern teaching techniques for industrial arts. The potential

supervisor will need to take into consideration the many new teaching methods and techniques. Experiences will be provided so that these materials can be utilized in actual instructional situations. Prerequisite: IA 706.

**IAS 785 SEMINAR IN INDUSTRIAL ARTS SUPERVISION 2 cr.**

Directed intensive study, investigation, or research in selected problems and new techniques related to supervision of Industrial Arts. Reports and other presentations by members will be subject to constructive criticism by the seminar group. (Prerequisite: 6 courses in Supervision Courses and 8 credits in Industrial Arts professional courses.)

**IAS 791 PRACTICUM I – INDUSTRIAL ARTS SUPERVISION 2 cr.**

Supervised school experiences that will provide the prospective supervisor with the opportunity to observe such duties, learn about school organization and procedures essential for successful supervision. The prospective supervisor will perform functions in association with teacher interviewing, budget planning, teacher and student scheduling, evaluation of industrial arts facilities and programs. (Practicum I may be scheduled when initial enrollment is made in the supervisory program.)

**IAS 792 PRACTICUM II – INDUSTRIAL ARTS SUPERVISION 2 cr.**

A continuation of supervisory experiences from Practicum I with more emphasis placed on the supervisory candidate playing the role of an industrial arts supervisor. The candidate will need to demonstrate supervisory competencies through the development, planning, and conducting of an in-service program for industrial arts teachers; public relation activities in terms of news releases and industrial relations; and to participate in inner-city or rural school experiences. (Prerequisite: Admission to Candidacy for the Supervisory Certificate and IAS 791.)

## MATHEMATICS

**MAT 701, 702 MATH. ANALYSIS I AND II 2 cr. each**

These courses develop those ideas which are considered foundations to analysis. These ideas will include limits, continuity, functions of several variables, the calculus of curves and surfaces, and infinite series.

**MAT 703, 704 DIFFERENTIAL EQUATIONS I AND II 2 cr. each**

These courses involve mainly the solution of differential equations of first and second orders with emphasis upon transforms. Applications of these types of equations will be considered.

**MAT 705 PARTIAL DIFFERENTIAL EQUATIONS 3 cr.**

This course deals primarily with solution of differential equation of higher order and degree by power series, solution of partial differential equations, more discussion on Laplace Transforms and Fourier Series.

**MAT 706 TOPOLOGY 3 cr.**

This course shall include point-set theory, properties of metric spaces, properties of topological spaces and properties of topological transformations.

- MAT 707 TOPICS IN APPLIED ANALYSIS I 3 cr.**  
 Introduction to linear spaces; distributions in one dimension; operators in Hilbert space and spectrum of operators; Green's functions; orthogonal expansions and regular boundary value problems. Linear integral equations with Hilbert-Schmidt kernels; Eigenfunction expansions; Rayleigh-Ritz Procedure; singular boundary value problems.
- MAT 711, 712 FUNCTIONS OF A REAL VARIABLE I AND II 3 cr. each**  
 These courses will provide a development of modern analysis. The topics to be covered will be theory of sets, the real number system, limits, continuity, convergence and derivatives of a function, and a comparative study of integration by Riemann, Lebbsgue and Stieltjes.
- MAT 713, 714 FUNCTIONS OF A COMPLEX VARIABLE I AND II 3 cr. each**  
 These courses include a study of the properties and theory of the differential and integral calculus of elementary and analytic functions. Topics such as Cauchy-Goursat Theorem, Power Series, Residues and Poles, Conformal Mapping, Schwarz-Christoffel Transformation, and Analytic Continuation.
- MAT 721, 722 ABSTRACT ALGEBRA I AND II 2, 3 cr.**  
 The material covered in these courses will be a continuation and a more intensive study of the material covered in the undergraduate course such as theory of groups, rings, and fields.
- MAT 723, 724 LINEAR ALGEBRA I AND II 2, 3 cr.**  
 These courses are a continuation and a more intensive study of the undergraduate course including topics of vector spaces and transformations, polynomials, determinants, invariant direct-sum decompositions, rational and Jordan Forms, Inner product spaces and bilinear forms.
- MAT 725 THEORY OF NUMBERS 2 cr.**  
 A presentation of topics necessary to gain understanding of the theory of numbers. The topics included are: properties of integers, divisibility, Euclidean Algorithm, prime numbers, congruences, residues of powers, quadratic residues, and Diophantine problems.
- MAT 727 THEORY OF MATRICES 2 cr.**  
 Topics included are: matrix algebra, rank and equivalence, linear dependence, vector spaces and transformations, unitary and orthogonal transformations, and characteristic equation of a matrix.
- MAT 728 GROUP THEORY 3 cr.**  
 Review of the elements of group properties, fundamental theorems of general groups, abelian groups, prime-power groups, permutation groups, groups of linear transformations.
- MAT 730 ADVANCED TOPICS IN ALGEBRA 3 cr.**  
 Introduction to topics such as commutativity and non-commutativity of certain algebraic structures, extensions of algebraic structures and related theorems, Homological Algebra.
- MAT 736 ALGEBRAIC TOPOLOGY 3 cr.**  
 This course will consider topology from an algebraic point of view. An investigation of properties that are algebraic topological invariants,

various theories such as homotopy, homology and cohomology will be studied.

**MAT 741 FOUNDATIONS OF GEOMETRY I 2 cr.**

This course is a Birkhoff axiomatic treatment of Euclidean Geometry.

**MAT 742 FOUNDATIONS OF GEOMETRY II 2 cr.**

Two approaches to geometry will be considered: studying a body of theorems deduced from a set of axioms, and studying Invariant theory of a Transformation Group.

**MAT 743, 744 PROJECTIVE GEOMETRY I AND II 3 cr. each**

A synthetic and analytic treatment of projective geometry including topics: duality, projection, section, perspectivity, projectivity, harmonic constructions, fundamental theorem of projective geometry, Theorems of Desargue, Pappas, Pascal and Brianchon, conic sections, projective coordinate systems of one, two and three dimensions, and transformations.

**MAT 745 VECTOR GEOMETRY 2 cr.**

This course is primarily a vector space approach to geometry. Topics are: vector algebra, vector spaces, length, angle, area, volume, and matrices of linear and affine transformations.

**MAT 746 DIFFERENTIAL GEOMETRY I 3 cr.**

This course includes Differentiable Properties and their invariant of different structures such as Euclidean n-space particularly curves and surfaces, Matrix Lie Groups.

**MAT 747 ADVANCED ANALYTIC GEOMETRY 2 cr.**

A continuation of analytic Geometry but dealing primarily with three dimensions. The course shall also include an introduction to algebraic geometry.

**MAT 748 ALGEBRAIC GEOMETRY 3 cr.**

Projective spaces, Plane Algebraic curves with emphasis on Bezout's Theorem, Pluckers Formulas, and Noether's Theorem, Transformation of curves and Linear Series.

**MAT 750 LINEAR GEOMETRY 3 cr.**

A vector approach to transformations in the Euclidean, Projective, Affine, and non-Euclidean Geometries.

**MAT 761, 762 MATHEMATICAL STATISTICS I AND II 2, 3 credits**

These courses will include topics that would require the calculus. The topics are: discrete and continuous distributions, sampling distributions and statistical inference, regression, correlation, analysis of variance, and analysis of covariance.

**MAT 765 MATHEMATICAL LOGIC 2 cr.**

This course shall include a review of symbolic logic and the axiomatic method followed by the propositional calculus and the predicate calculus.

**MAT 766 SET THEORY 2 cr.**

Sets and their properties and functions, finite and infinite sets, ordered sets, and point sets.

**MAT 767 HISTORY OF MATHEMATICS 2 cr.**

The subject matter of this course is a historical summary of the development of mathematics, illustrated by the lives and discoveries of



curricular plans developed for readiness levels and primary learners. Included also are diagnostic evaluations of educational problems confronting teachers; consideration of techniques useful in evaluating daily pupil progress; the evaluation of research, materials and instruments.

**ECM 708 EDUCATION OF CHILDREN WITH RETARDED DEVELOPMENT IN THE SECONDARY SCHOOLS 2 cr.**

Methods of teaching mentally retarded children from approximately fourteen years of age until they leave school and of correlating and co-ordinating the program with that of the regular junior and senior high school. Emphasis is placed upon social and economic adjustments to the community; provisions for necessary community experiences, and provision for a gradual transition from a relatively protected school environment to independent status as a contributing member of society.

**ECM 715 OCCUPATIONAL EDUCATION FOR THE MENTALLY RETARDED 2 cr.**

Investigation and analysis are concerned with manual skills at various developmental levels. Research criteria and information are applied to job-performance and adjustment, and to the community, and to job-opportunities. Experience is provided in job-analysis for skills involved, and in surveying job-adjustments of retarded adolescents.

**ECM 717 CURRENT TRENDS IN ADVANCED PSYCHOLOGY OF EXCEPTIONAL CHILDREN 2 cr.**

Learning theories and research are interpreted and applied to regular and special class instruction. Aims and concepts in educational diagnosis are given intense study. Processes of identification, stimulation, and intellectual development are analyzed.

**ECM 718 TESTS AND REMEDIAL WORK FOR THE MENTALLY RETARDED 2 cr.**

Evaluation and experience are provided in the use of diagnostic tests. Includes consideration of causes for educational retardation, remedial techniques for language arts and other curricular areas. Experience is arranged for development of skills in remedial work, in writing, and in interpreting case histories and reports.

**ECM 720 PRACTICUM 3 cr.**

The Special Education Department has attempted to design unique practicum experiences which attempt to meet the individual vocational goals of the graduate student. Each graduate student involved in the practicum experience spends one day per week for 2 consecutive 6 week periods at the practicum site. A total of 96 hours of practicum experience is thus provided.

**ECM 725 TEACHING READING TO THE MENTALLY RETARDED 2 cr.**

Goals and methods for various developmental reading levels are interpreted and applied. Analysis and use of teacher-prepared materials includes story writing related to pupil experiences and interests. The reading method is co-ordinated with other curricular areas which includes special techniques for individual problems of hearing.

**ECM 726 PROGRAMS FOR CHILDREN WITH SEVERE MENTAL RETARDATION (TRAINABLE) 2 cr.**

Workshop for teachers of seriously retarded children; evaluation of

individual abilities; home and community supervision; developing self-care; health habits; play activities; visits to and resources provided by public and private institutions and schools; special consultants and guest lecturers.

**ECM 729 INDEPENDENT RESEARCH PROBLEMS** 2 to 6 cr.

Purpose of the course is to enable each student to investigate intensively a problem or an area in special education according to area of major specialization or interest.

**ECM 735 CREATIVE ACTIVITIES IN SPECIAL CLASS FOR MENTALLY RETARDED (MUSIC, DRAMA, AND ART)** 2 cr.

The purpose of this course is to foster and develop the creative activities of mind and body of the retarded child. Opportunity to develop and adapt appropriate materials that are conducive to creativity will be emphasized.

**ECM 736 INDUSTRIAL ARTS FOR SPECIAL EDUCATION** 2 cr.

A general industrial arts laboratory course designed especially for the special education teacher to supplement daily instructional activities. The course will acquaint the teacher with the basic skills, knowledges, and techniques of various industrial mediums. The areas of instruction will include the following: woodworking, general metal working, drawing and sketching and general craft areas (leather, ceramics, plastics, and others). Emphasis will be placed upon the care and safe use of basic hand tools and machines with projects suitable for the special education classroom.

**ECM 787 SEMINAR ON SOCIAL, ECONOMIC AND CULTURAL FACTORS RELATED TO MENTAL RETARDATION** 3 cr.

A lecture-discussion course examining the relationship of mental retardation and cultural disadvantage. Theories of the effects of deprivation are covered. Intervention programs are discussed with emphasis on pre-school and early elementary programs.

## SPECIAL EDUCATION

**ESP 701 INTRODUCTION TO BEHAVIOR ANALYSIS** 2 cr.

This course is designed to impart to the future teacher those basic learning principles found effective in classroom management. Among the topics that will be covered are positive and negative, reinforcement, schedules of reinforcement, extinction, discrimination learning, stimulus generalization, and response generalization.

**ESP 702 TECHNIQUES OF BEHAVIOR MANAGEMENT AND MODIFICATION** 3 cr.

An introduction to the principles, techniques, and research in the modification of behavior of exceptional children. Opportunities are provided for the development of skills in systematically observing and recording of behavior, leading to a thorough understanding of behavior modification techniques and classroom management procedures as they relate to educational programs for exceptional children.

**ESP 800 RESEARCH METHODOLOGY** 2 cr.

This course is intended to cover in detail the research methodology employed in intrasubject experimentation. Topics covered include: reliability, validity, baseline determinations, experimental control, evaluation of effects and research design. Prerequisite: ESP 702.



## POLITICAL SCIENCE

- POS 705 HISTORY OF POLITICAL THEORY 3 cr.**  
A study of early and modern political theories; their development and application as controlling factors in the growth of western civilization and American democracy.
- POS 706 GOVERNMENT AND POLITICS IN WESTERN EUROPE 3 cr.**  
An analysis of the major governmental systems of Continental Europe with chief emphasis placed upon France, Germany, Italy and Spain.
- POS 708 POLITICS OF AFRICAN NATIONALISM 3 cr.**  
A comparative analysis of the government and politics of the independent nations of Africa; their international relations and foreign policies, traditional and contemporary forms of political behavior, and the impact of foreign ideologies.
- POS 710 COMPARATIVE COMMUNIST SYSTEMS IN EASTERN EUROPE 3 cr.**  
A comparative study of Eastern European states under communist party domination; internal politics; intra-bloc relations; integrative and disintegrative tendencies.
- POS 715 POLITICS OF THE GERMAN SPEAKING PEOPLES 3 cr.**  
This course focuses on the unique and tragic political and social developments in Austria and in East and West Germany. Although the era since 1848 will be dealt with, the focus will be on the postwar period; the immobilism of multi-party systems and experiments with Grand Coalitions.
- POS 716 PROBLEMS OF THE SOVIET POLITICAL SYSTEM 3 cr.**  
The development of the Communist Party and the Soviet regime are thoroughly examined with emphasis on the functions, social composition and internal relations of the Party as well as the relations between the Party and other Soviet power structures.
- POS 717 NATIONALITY PROBLEMS IN THE SOVIET UNION AND EASTERN EUROPE 3 cr.**  
An analysis of political and cultural problems of different nationalities in Eastern Europe and the Soviet Union.
- POS 718 PROBLEMS IN INTERNATIONAL ORGANIZATION 3 cr.**  
Methods and materials of research in international organizations; special topics such as disarmament, security, procedural problems in the United Nations, economic and social problems, amendment and revision of the Charter.
- POS 728 POLITICS OF UNDERDEVELOPED NATIONS 3 cr.**  
A comparative study of emerging political systems of their attempts to achieve modernity.
- POS 730 COMPARATIVE GOVERNMENT 3 cr.**  
A comparative analysis of political systems their institutional structures.
- POS 740 AMERICAN DEFENSE POLICY 3 cr.**  
An analysis of the forces influencing decision making in the quest for American security.

- POS 745 THE LEGISLATIVE PROCESS 3 cr.  
An analysis of policy determination in the American legislative system.
- POS 746 AMERICAN CHIEF EXECUTIVES 3 cr.  
The role of the Presidency in policy determination in both domestic and foreign affairs.
- POS 747 CIVIL LIBERTIES AND JUDICIAL PROCESS 3 cr.  
The study of the Supreme Court as the principal guardian of libertarian principles.
- POS 748 PROBLEMS IN PUBLIC ADMINISTRATION 3 cr.  
Selected studies in bureaucratic organization in both federal and state governments.
- POS 755 URBAN STUDIES 3 cr.  
This course will focus on the formulation of policy in urban government as well as on administrative operations.
- POS 756 MODERN POLITICAL PARTIES 3 cr.  
A comparative study of the aggregative function of political parties.
- POS 757 THE POLITICAL PROCESS 3 cr.  
The study of interest articulation in the political system.
- POS 779 INDEPENDENT STUDIES IN POLITICAL SCIENCE 1-3 cr.  
The student will have an opportunity to do independent study or research in political science. The student will be guided and advised by a member of the political science department. The nature of the research study and the assigned credit hours will be decided on an individual basis.

## READING

- RSP 701 FUNDAMENTALS OF READING INSTRUCTION 3 cr.  
This course includes a comprehensive discussion on the nature of the reading process and information on current methods and organization of the reading program, K-12. Develop information on classroom practices, research, and current trends. The rate of word perception in reading, with a comprehensive explanation of how children can be taught word-attack skills; development of interpretation skills; development of children's attitudes toward reading; to provide materials and guidance that meets children's personal and social needs; to acquaint children with their literary heritage; and to provide leads to wide personal reading.
- RSP 702 DIAGNOSIS AND TREATMENT OF READING PROBLEMS 3 cr.  
This course will initiate the student to the causes of retardation in reading. It will explore the gap between the reading expectancy level and the actual reading level. Theories of causes of retardation will be offered, introduction to the sophisticated diagnostic techniques will be presented and techniques for prevention of further remedial cases will be given. (Pre: RSP 701)
- RSP 703 PRACTICUM - DIAGNOSTIC CASE STUDIES 3 cr.  
Major emphasis is placed on presenting and discussing the techniques for determining reading difficulties of elementary school children. Practical use of testing devices and their application to individual diagnosis of

reading difficulties are emphasized. The case study technique is utilized. (Pre: RSP 702)

**RSP 704 PRACTICUM — REMEDIAL CASE STUDIES 3 cr.**

The student becomes familiar with the many materials and varied methods to be employed in the correction of reading problems through their applications with a retarded reader in a clinical situation. (Pre: RSP 703)

**RSP 730 PROBLEMS IN SECONDARY READING 2 cr.**

This course is designed to investigate the aspects of reading that influence learning at the secondary level. The sequential development of reading, reading programs, materials, reading disorders as well as other problems related to reading in the content fields are studied. Discussions of problems concerning the bright and gifted, the disadvantaged, the slow learner, and adolescent interests clarify the nature and scope of the reading process.

**RSP 731 SUPERVISION AND ADMINISTRATION OF A READING PROGRAM 2 cr.**

Common problems in the administration and supervision of reading programs are developed and analyzed. These problems tend to include (1) problems of method and materials, (2) problems of administrative grouping, (3) problems of evaluation, and (4) problems of personnel. Emphasis is also placed on the recruitment of qualified teachers; promotion policies; teaching schedules; administering tests and evaluating the results; safeguarding the pupil during the reading program; and reporting student progress.

**RSP 732 READING CURRICULUM AND INSTRUCTIONAL MATERIALS 2 cr.**

This course includes the introduction, selection and evaluation of Reading Curriculum and Instructional Materials K through 12. The developmental sequence of materials throughout the curriculum will be explored. The implementation of those materials will be discussed for strength, weaknesses, and limitations.

**RSP 733 READING INTERNSHIP 4 cr.**

The student is provided with an opportunity for supervised clinical and school experiences in a reading program. The student is provided with actual supervision experiences.

**RSP 739 INDEPENDENT STUDY 2 cr.**

The student will have an opportunity to do independent study or research in Reading. The student will be guided by a member of the Reading staff.

**RSU 680 IMPROVEMENT OF INSTRUCTION THROUGH SUPERVISION 2 cr.**

The purpose of this course is to prepare the holder of a permanent or a Level II Instructional Certificate for a supervisory capacity in specialized areas of the curriculum. It is a requirement for all working toward a supervisory certificate. It deals with theory, research, practice and evolving concepts which have practical implications for supervision in the school environment. It views supervision as only a part of a larger entity . . . the operation of the educational system. Supervision is defined in relationship as to how supervisory personnel assist professional and para-professional employees within a specific department to develop effective practices which will improve the quality of instruction and result in individual pupil

progress . . . The course content will cover basic competencies in the areas of: Authority of the supervisor (development of duties and areas of responsibilities); Relationships with other supervisors; Specific techniques for cooperating with teachers; Developing sound research practices which yield valid data; Direct supervision of actual procedures, i.e., classroom visitations, observations and evaluations; Instruments of evaluation; Evaluation of new materials and programs; In-service programs; Conference techniques; Departmental relationships, i.e., meetings, selecting department heads, selection and assignment of personnel, developing goals and interpreting needs to achieve goals, recognizing inter-departmental conflict; Role playing and simulation; contacts with other facets of the school and community and establishing learning outcomes.

**RSU 685 GROUP DYNAMICS** 2 cr.

The course is designed to bring together the recent research on teacher behavior with the theories and research of social psychology and group dynamics. It aims to give the student some understanding of group processes and some personal experience helpful in developing a repertoire of ideas and behaviors that will be pertinent in supervision and in the classroom.

## PSYCHOLOGY

**PSY 700 ADVANCED ADOLESCENT PSYCHOLOGY** 2 cr.

A course designed to study in depth the personal and social adjustment problems of the preadolescent, early adolescent, and late adolescent youth. Emphasis will be on research pertaining to adolescent development and to the treatment of the adolescent with problems.

**PSY 701 PERSONALITY THEORY** 2 cr.

A presentation of the major theories of personality development. The purpose will be to give the student an overview of each of the theories and methods of studying personality. The course will undertake some measure of integration by making comparisons and showing similarities among the various theories.

**PSY 702 PSYCHOPATHOLOGY** 2 cr.

A comprehensive study of personality and behavior disorders and their clinical manifestations. Attention is directed to understanding and identifying a variety of emotional and social disturbances in children with implications for re-education and treatment.

**PSY 703 PSYCHODYNAMICS** 2 cr.

A course designed to provide the student with a comprehensive knowledge of the psychological factors which underlie abnormal and nonadjustive behavior in children. Stress is placed on developing understanding and applying psychological concepts to both normal and abnormal behavior.

**PSY 721 TESTS AND MEASUREMENTS** 2 cr.

This course is designed to provide a necessary background in the theory and principles of test construction and test use. A survey of representative educational aptitude, achievement, and interest tests is offered with opportunity to administer, score, and interpret some of the most widely used instruments. Information pertaining to the reliability and validity

studies conducted on the test is stressed.

**PSY 722 INDIVIDUAL PSYCHOLOGICAL EVALUATION I  
(BINET AND INFANT SCALES) 2 cr.**

Emphasizes theory and competence in the administration, scoring, and interpretation of the Revised Stanford-Binet Scales. Practical experiences in the administration and clinical interpretation of the tests with school age children will be provided. Some familiarity with other infant and child measures intelligence such as the Cattell and Merrill-Palmer Scales included.

**PSY 723 INDIVIDUAL PSYCHOLOGICAL EVALUATION II  
(WECHSLER SCALES) 2 cr.**

Emphasizes theory and competence in the administration, scoring, and interpretation of the Wechsler Scales: WPSSI, WISC, and WAIS. Attention is directed to the use of the Wechsler Scales both in evaluating intelligence and in clinical personality appraisal.

**PSY 724 INDIVIDUAL PSYCHOLOGICAL  
EVALUATION III 2 cr.**

Stresses the development of clinical skills in the assessment of sensory, motor, perceptual, and language impairment in children. Tests such as the Pender-Gestalt, Human Figure Drawings, IPAT, and other special clinical tests will be covered.

**PSY 731 PROJECTIVE TECHNIQUES I 2 cr.**

An introduction to the theory of projective methods of personality study. Experience given in the administration, scoring, and interpretation of some of the more widely used projective tests such as Sentence Completion, TAT, CAT, and other picture story tests. Attention is directed to an understanding of personality dynamics.

**PSY 732 PROJECTIVE TECHNIQUES II 2 cr.**

A course on the theoretical rationale, administration, scoring, and interpretation of the Rorschach test as a method of personality assessment. Supervised experience is provided in its use. Personality evaluation is studied with special attention given to indications of normal and pathological behavior of children.

**PSY 733 SEMINAR IN ADVANCED PROJECTIVE  
TECHNIQUES 2 cr.**

A study of advanced principles and practices of projective personality evaluation. A study of the major research findings and literature in projective personality testing and theory.

**PSY 741 THEORIES OF COUNSELING AND  
PSYCHOTHERAPY 2 cr.**

A study of the major theories of counseling and psychotherapy emphasizing the psychological bases of each theory. The focus is on the implications of each theory for understanding and treating the problems of school children.

**PSY 742 TECHNIQUES OF COUNSELING AND  
PSYCHOTHERAPY 2 cr.**

A systematic study of the techniques of counseling appropriate to the problems of school children and which can be used by school psychologists. The basic elements of psychotherapy are studied and their application to counseling. Some supervised experience in counseling is

provided the student.

**PSY 745 PSYCHOLOGY OF THE GIFTED CHILD 2 cr.**

A study of the intellectual, social, and emotional development of the gifted child and his adjustment to school and life. Principles of development and learning of the gifted child and their implications for educational programming and curriculum development.

**PSY 746 PSYCHOLOGY OF LEARNING DISABILITIES 2 cr.**

A study of the sensory, motor, perceptual, conceptual, and language factors in the development of learning disabilities in children. Review of research on minimal brain injury and remedial methods for instruction with the learning disabled child. Psychological effects on the child with a learning disability.

**PSY 748 PERSONAL ADJUSTMENT AND MENTAL HEALTH 2 cr.**

A comprehensive study of personal and interpersonal factors related to the school adjustment of children and development of good mental health. Included are the various behavior mechanisms of children, their assessment, and procedures for behavior modification.

**PSY 750 ADMINISTRATION OF PUPIL PERSONNEL  
(CHILD STUDY) SERVICES 2 cr.**

A study of the organization and administration of pupil personnel services in a school system. Information about the various rules and functions of pupil personnel staff members and a concept of the teamwork is stressed. The leadership function of a school psychologist and the development of child study procedures is included.

**PSY 760 EXPERIMENTAL METHODS IN PSYCHOLOGY 2 cr.**

An advanced course in the experimental method as it applies to psychology. The course is concerned with principles, theories, and methods in psychology. Laboratory time will be provided to give the student an opportunity to repeat experimental studies and to develop independent studies.

**PSY 765 PSYCHOLOGICAL STATISTICS 2 cr.**

This course is designed to give the graduate student in psychology a basic background in the various statistical procedures used in the description and interpretation of data gathered in the field of psychology.

**PSY 771 CLINICAL PRACTICUM 6 cr.**

Extensive supervised clinical and field experience is provided in diagnostic, therapeutic, and remedial techniques with children. At least half of the experience is provided with children in a school setting. Forty-five clock hours shall be equivalent to one semester hour of clinical credit.

**PSY 772 INTERNSHIP IN SCHOOL PSYCHOLOGY 12 cr.**

This is provided in conjunction with the clinical practicum experience and provides the student with at least one full semester of supervised clinical experience during the two-year school psychology graduate program.

**PSY 795 ADVANCED SEMINAR IN LEARNING PROBLEMS 2 cr.**

This course is designed to increase the student's knowledge of newer concepts and practices in learning theory and their applications to learning problems of children in school. A discussion of instructional techniques for helping teachers become more effective in working with children with learning problems.

contemporary social science thought will also be undertaken.

**ANT 705 CULTURAL ANTHROPOLOGY** 2 cr.

Primitive educational and enculturation systems are compared cross-culturally with our own American system. The relationships between culture, personality, and education are defined and evaluated. The reaction of North American ethnic groups to Western technology and ideas is used as a basis for the understanding of different value systems.

**ANT 701-702 ARCHAEOLOGY FIELD SCHOOL** 3 cr. each

The field school is designed to acquaint students with basic prehistoric and historical archaeological field and laboratory techniques. Included are instruction in basic field surveying and site layout, methods of excavation and field recording, material culture identification, field photography of artifacts and features, sampling of ecological and geological data, care, restoration, and preservation of archaeological materials, artifact classification, close-up photography and line drawings, ceramic analysis, and museum display.

**ECO 715 ECONOMICS FOR THE TEACHER** 3 cr.

The course is based on the premise that secondary school teachers should be able to effectively teach courses in economics which emphasize concepts, principles, and methods. Therefore this course is built on the following units: Introduction to Economics, Basic Price Theory, The Monetary System, National Income Accounting, and Theory of Income and Employment.

History Courses — See History section for course descriptions.

**SOC 707 THE COMMUNITY** 3 cr.

A study of those groups characterized by a high degree of interaction, contiguity, and unity. Emphasis will be given to those aspects of groups which are smaller than societies which make for uniqueness.

**SOC 718 MINORITY GROUPS** 3 cr.

Sociological principles underlying minority group relations with emphasis upon the United States. Race, Ethnic and religious factors will be examined in the context of power within pluralistic societies. The female as a minority will also be explored.

**SOC 720 SPECIAL PROBLEMS IN SOCIOLOGY** 3 cr.

Select areas in the field of sociology will be investigated, i.e., sociology of education; marriage and the family; rural sociology; etc. Primary attention will be given to the interrelationships of societal institutions and their impact on the individual.

## SOCIALLY AND EMOTIONALLY MALADJUSTED

**SEM 700 PSYCHOPATHOLOGY OF YOUTH** 2 cr.

Emotional development of children with special attention to pathological reactions and implications for re-education and treatment. Will include examination of research literature on biological, psychological, sociological and neurophysiological aspects of emotional disturbance in children.

**SEM 701 PSYCHOLOGY OF THE SOCIALLY-  
EMOTIONALLY MALADJUSTED CHILD** 3 cr.

Examines the nature and traits of children with disorders of emotional

PSY 796 RESEARCH SEMINAR IN SCHOOL PSYCHOLOGY 2 cr.  
A comprehensive review of the research and current literature in school psychology. Critical study and evaluation of research findings applicable to the school age child and classroom learning situation.

PSY 797 SEMINAR IN PROBLEMS OF SCHOOL PSYCHOLOGY 2 cr.

An opportunity for students to study and discuss current problems in the field of school psychology. Problems pertaining to the child, the school, the community as they relate to the role of the school psychologist are discussed. Problems of ethical practices, in-service education planning, and public relations functions are included.

### SOCIAL SCIENCE

SOS 706 PSYCHOLOGICAL AND DISCIPLINE IMPLICATIONS IN SELECTING AND ORGANIZING TEACHING MATERIALS 3 cr.

This will be a laboratory course devoted to familiarization with social studies resource material.

SOS 707 PHILOSOPHICAL TRENDS IN SOCIAL STUDIES CURRICULUM 3 cr.

The philosophies of various social studies educators are examined together with application of their ideas. The course will include visitation by scholars subscribing to these ideas as well as classroom observations of the application of the philosophies.

SOS 708 SOCIAL STUDIES AND THE COMMUNITY 3 cr.

The importance of the relationship of the social studies to the community is stressed.

SOS 716 ECONOMIC, SOCIAL, AND POLITICAL ORDER 3 cr.

Analysis of the enormous diversity of the actual social institutions which guide and shape the economic process. Special emphasis will be given to the major types of systems which enable mankind to solve its economic challenge. Several of the more recent rapid growth economics are used as models.

SOS 717 ANALYSIS OF POWER STRUCTURE 3 cr.

An appraisal of the nature, composition, structure, and function of groups will be undertaken as well as Sociological theory concerning group functioning. Particular emphasis will be placed on decision-making in various levels of government, labor, military, and business.

SOS 785 SEMINAR IN WORLD CULTURE 3 cr.

This course will stress the integration of social sciences. Students will examine selected cultures of the world from social, economic, political, historical, and geographic perspectives and within the frame of reference of that culture.

SOS 800 SEMINAR IN SOCIAL SCIENCE RESEARCH TECHNIQUES 3 cr.

Emphasis will be placed on the techniques involved in both research and writing on the social sciences. This is to include the selection of a topic, acquaintance with research tools (note taking and bibliography preparation), organization of materials, and monograph writing. An overview of



development resulting from biogenic and psychogenic causes. Emphasis is placed upon the effects of emotional disorders on the social and intellectual processes. Practical problems in school and social situations will be examined. Therapy programs and various psychoeducational settings for disturbed children will be discussed.

**SEM 702 PSYCHO-EDUCATIONAL DIAGNOSIS OF LEARNING PROBLEMS** 2 cr.

This course will consist of instruction in the use of standardized tests and informal methods of evaluation used to diagnose the learning problems of emotionally disturbed children; interpretation and correct usage of each test and method will be stressed. An in-depth case study of one child will be required. Prerequisite: SEM 700 or SEM 701.

**SEM 703 METHODS OF TEACHING SOCIALLY-EMOTIONALLY MALADJUSTED CHILDREN** 3 cr.

Educational procedures are viewed with emphasis upon methods of teaching, classroom organization and management, and curriculum planning. Opportunities are provided for the development of appropriate teaching materials and overall program planning. Emphasis is placed on observation of maladjusted children in various educational settings.

**SEM 704 REMEDIATION OF LEARNING PROBLEMS** 2 cr.

Methods and materials used in developmental and remedial teaching will be taught with emphasis on Reading, Math, Spelling and Social Studies. Diagnostic teaching as it applies to emotionally maladjusted children will be stressed. Prerequisite: SEM 702.

**SEM 719 INDEPENDENT STUDY** 1 cr.

The student will have an opportunity to do independent study or research for Socially and Emotionally Maladjusted. The student will be guided by a member of the Socially and Emotionally Maladjusted Department Staff.

**SEM 720 PRACTICUM** 6 cr.

Student teaching and clinical practice will be done in public or private schools, hospitals, and clinics. Concurrently with student teaching there will be weekly seminars incorporating authorities from various disciplines to discuss a wide range of topics relating to student teaching experiences.

## SPEECH AND HEARING

**SPA 700 APHASIA AND CEREBRAL PALSY** 3 cr.

Theories of causation and therapies for Aphasia and Cerebral Palsy.

**SPA 705 ORGANIC VOICE DISORDERS AND CLEFT PALATE** 3 cr.

Theories of causation and therapies for Organic Voice Disorders and Cleft Palate.

**SPA 706 PROFOUND LANGUAGE DISORDERS** 3 cr.

The role of the speech pathologist in team approach in Delayed Speech Development, Developmental Aphasia, Mental Retardation, and brain damaged children.

**SPA 707 STUTTERING** 3 cr.

This course is designed to deal with the prevalent theories and therapies of

stuttering. A student learns therapeutic techniques for both children and adults.

SPA 708 NEUROPATHOLOGIES OF SPEECH AND LANGUAGE 3 cr.

Neuropathological and psychological considerations involved in the acquisition and loss of speech and language.

SPA 710 ADVANCED CLINICAL METHODS 1-3 cr.

Clinical practicum concerning various types of profound speech and/or auditory disorders.

SPA 715 EXPERIMENTAL PHONETICS 3 cr.

Investigation of problems of speech and language as they relate to the experimental process. Instrumentation, research designs, areas of research and significant findings in selected contemporary studies will be examined.

SPA 716 ADMINISTRATION OF CLINICAL PROCEDURES 3 cr.

A seminar involving related disciplines and allied professions.

SPA 720 DIAGNOSTIC AUDIOMETRICS 3 cr.

A study of various audiometric and speech reception tests outlining the dimensions of hearing; experience in test administration and interpretation of tests.

SPA 725 BASES OF AURAL REHABILITATION 3 cr.

Study of perceptive and behavioral problems of the aurally handicapped in society and methods for alleviation and compensation for hearing losses.

SPA 785 SEMINAR IN SPEECH PATHOLOGY 2 cr.

The role of the Speech Pathologist as a diagnostician and therapist in interdisciplinary investigations including counseling procedures and organization of programs for various pathologies of speech.

SPA 786 SEMINAR IN AUDIOLOGY 2 cr.

Emphasis of advanced concepts in audiological diagnosis, aural rehabilitation, and other audiological implications.

SPA 749 INDEPENDENT STUDY 1-3 cr.

Open to graduate students in either speech or hearing for pursuing independent problems.

## VI. Directory



# Directory

## THE BOARD OF TRUSTEES

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Philip Y. Coleman  
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John P. Watkins

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### PROFESSORS

- Jagdish C. Agrawal, Professor; Mathematics**  
B.Sc., Agra University, Agra, India; M.Sc., Agra University, Agra, India; M.S., University of Windsor, Canada; Ph.D., Purdue University
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B.A., University of Louisville; M.S., Purdue University; Ph.D., University of Louisville
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