

SAN DIEGO STATE COLLEGE

BULLETIN

Circular of Information

ANNOUNCEMENT
OF COURSES



FOR THE YEAR 1949-1950

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and Director of Education
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(Continued to inside back cover)

BULLETIN

and Announcement of Courses

VOLUME 36

JUNE, 1949

SAN DIEGO STATE COLLEGE
SAN DIEGO, CALIFORNIA

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CALENDAR 1949-1950

SUMMER SESSION, 1949

Term I —June 20-July 29

Term IIA—August 1-19

Term II —August 1-September 2

FALL SEMESTER, 1949-1950

- August 1 Applications for admission must be filed on or before this date.
- August 10 or 27 Qualifying examinations for all entering students. (August 10, 12.30-4.30 p.m.) (August 27, 8.30 a.m.-12.30 p.m.)
- September 10 First day of orientation program. All entering freshmen are required to be on the campus from 8.30 a.m. until 3 p.m. All other new students are strongly urged to attend.
- September 10 Fundamentals test (8.30 a.m. to 12 m.).
- September 12 General culture test (1 p.m. to 4.30 p.m.).
- September 12 Second day of orientation program. All entering freshmen are required to be on the campus from 8.30 a.m. until 3 p.m. All other new students are strongly urged to attend.
- September 13-14 Registration and payment of fees.
- September 15 Instruction begins. Late registration fee becomes effective.
- September 26 Last date for late registration.
- September 29 Applications for admission to teacher education, Little Theatre, 12 m.
- November 4 Last date for withdrawal from classes.
- November 11 Armistice Day—holiday.
- November 24-26 Thanksgiving recess.
- December 9 Last date for filing applications for mid-year graduation.
- December 17 Last day before Christmas recess begins.
- January 3 Classwork resumes.
- January 18-25 Semester examinations.
- January 25 End of first semester.

SPRING SEMESTER, 1949-1950

- January 3 Applications for admission must be filed on or before this date.
- January 14 Qualifying examinations for all entering students (8.30 a.m. to 12.30 p.m.).
- January 31 Orientation program. All entering freshmen are required to be on the campus from 8.30 a.m. until 3 p.m. All other new students are strongly urged to attend.
- January 31 Fundamentals test (8.30 a.m.-12 m.).
- February 1-2 General culture test (1 p.m. to 4.30 p.m.).
- February 3 Registration and payment of fees.
- February 13 Instruction begins. Late registration fee becomes effective.
- February 23 Last date for late registration.
- March 31 Applications for admission to teacher education, Little Theatre, 12 m.
- April 3-8 Last date for withdrawal from classes.
- May 30 Spring recess.
- May 30 Memorial Day—holiday.
- June 1-8 Semester examinations.
- June 8 End of second semester.
- June 9 Commencement.

SUMMER SESSION, 1950

Term I —June 19-July 28

Term II—July 31-August 18

FUNCTIONS OF THE STATE COLLEGES

The state colleges have three major functions, namely: (1) To help the individual student to develop a well-rounded and adjusted personality; (2) to promote civic intelligence and competence; and (3) to create supplies of trained men and women, some to serve as teachers in the elementary and secondary schools, some to fill intermediate places of leadership, and some to transfer to graduate institutions to equip themselves to extend the frontiers of knowledge and to occupy the higher positions of leadership. In terms of publicly supported higher education, the state colleges and the university together make provision for the realization of all the essential objectives of higher education in our State.

To achieve their unique purposes the state colleges have developed and are improving offerings as follows:

1. Teacher education curricula for those students who plan to teach in the elementary school, the junior high school, and in secondary schools.
2. Preprofessional curricula.
3. Curricula of varying lengths in such fields as business, industry, governmental services, homemaking, and social service.
4. General education for students who take work which leads toward the bachelor of arts degree or to the higher professions through graduate work.
5. Guidance services to assist the individual student to plan his educational program and to make his college and life adjustments.
6. Extension courses in appropriate fields.

The state colleges accept the principle that higher education should be available to all capable high school graduates. The preservation and improvement of democracy depends upon the full and unhampered development of all potential citizenship and leadership resources. In keeping with this principle the state colleges maintain flexible entrance requirements. Each applicant is treated individually in terms of his potential capacity and his potential contribution and not in terms of past academic pattern or accomplishment alone.

The state colleges purposely maintain not only flexible entrance requirements, but also, adjustive curricula, and adequate and effective guidance and counseling services to promote the personal and educational development of worthy students. The state colleges modify traditional academic restrictions and provide new curricula and services whenever such modifications and additions seem to serve the legitimate desirable needs of individuals and society.

The promotion of civic intelligence and competence is the underlying aim of all activities on state college campuses. Special emphasis centers on warm personal relationships between instructors and students, on friendly counsel in time of need, and on the day-to-day routine of living in a friendly atmosphere. Because the majority of state college students live at home, it is possible to link together the college, the home, and the community in realistic democratic relationships.

The democratic controls exercised over the state colleges make them readily and effectively responsive to individual and community needs and encourage them continuously to make significant improvements in both curriculum and personal services. The state colleges are thus laboratories in which the facts and theories developed in research, in community living, and in daily association with students are reflected in the instructional program.

The state colleges plan their program of higher education so as to provide educational services inherent in the principle of equality of opportunity.

THE COLLEGE

LOCATION AND ENVIRONMENT

Renowned as a winter resort with a mild but invigorating climate, San Diego has become equally famous for its cool summers. High cultural standards in art, music, literature, and science create a stimulating environment for a college. Many of these advantages are to be found in the heritage resulting from the expositions of 1915-16 and 1935-36, including the buildings themselves, which portray the best types of Spanish colonial art and architecture. Housed in these buildings are the Fine Arts Gallery, exhibits in anthropology, natural history, and American archaeology, which are in many respects unsurpassed. The outdoor organ, the Ford Bowl, and the horticultural gardens make Balboa Park, in which all these facilities are located, world renowned. The Scripps Institution of Oceanography, operated by the University of California at La Jolla, gives opportunity for important cooperation in the biological sciences.

BUILDINGS AND EQUIPMENT

On February 1, 1931, the college was moved to the new campus, located one mile north of the city's principal east-west boulevard, El Cajon Boulevard. The buildings are of Spanish-Moorish architecture which is well suited to the landscape and climate of this region. They include the Academic Building (which houses lecture halls, classrooms and administrative offices); the Science Building; the Library; the Little Theater; the Music Building; the Campus Elementary School; Scripps Cottage (a social clubhouse for women students); the Cafe and Book Store; and the Physical Education Building (a structure with adequate facilities for both men and women). The gymnasium contains a very fine basketball floor with stands that will accommodate 1,500 spectators. A fine concrete stadium, constructed in a natural site, has a seating capacity that is adequate for present needs. The open air theater, seating 4,200 persons, serves as a meeting place for large groups.

FACILITIES FOR THE EDUCATION OF TEACHERS

The college maintains a modern elementary school on the campus where it has developed an extensive program for the education of elementary school teachers. The classroom-laboratory plan which calls for the use of work-rooms, the library, and shops affords unusual opportunities for the induction of students into teaching. By arrangement with the San Diego city and county schools, directed teaching is provided in the elementary and secondary schools.

THE FACULTY

The professional education of the faculty places the college at the 97 percentile position among teacher education institutions of the Country. For listing and further details see the directory.

THE LIBRARY

The library facilities of this college are noteworthy for an institution of its size. The library consists of well over 110,000 books and receives more than 700 different periodicals selected to meet the requirements of a modern educational institution. Professionally trained librarians are available to render assistance to students and faculty in their reading and reference work.

The Campus Elementary School Library, representing a collection of 14,000 volumes, possesses equipment and building facilities that are unique.

ACCREDITATION

San Diego State College is a member of the Northwest Association of Secondary and Higher Schools, the American Association of Colleges for Teacher Education, and the Western College Association.

LIVING ACCOMMODATIONS

Living arrangements for students whose homes are not in San Diego or within commuting distance are made through the offices of the Dean of Women or the Dean of Men. Women students are urged to live in the residence hall adjoining the campus. Careful consideration is given to study conditions, healthful living, and adequate social opportunities. Room and board may be secured for approximately \$275 per semester, payable in four installments. Opportunities to reduce this figure by working a few hours each week are occasionally available. Reservations should be made in advance through the Manager of Quetzal Hall, 5192 College Avenue, San Diego 5, California. Single women students under the age of 21 who find other accommodations more desirable must file with the Dean of Women a statement from the parent or guardian.

VETERANS' EDUCATION AND HOUSING

The college has been approved by various accrediting agencies to offer courses for veterans leading toward the A.B. Degree in some 19 major fields and to the general Secondary Credential upon the completion of a graduate year. A veterans' office is maintained on the campus to facilitate registration, aid in the establishment of benefits, afford special counseling services, and serve as an information center. A joint student-faculty committee on veterans' affairs serves as a clearing house for suggestions relating to policies and procedures affecting veterans.

Through the City of San Diego, 400 family units formerly under the jurisdiction of the Federal Public Housing Authority have been made available to the college for the housing of its married veterans. These units are located some eight miles from the campus proper at Aztec Terrace, midway between Old Town and Loma Portal. Applications for housing at Aztec Terrace are made through the office of the Dean of Men.

STUDENT LIFE

A rich field of extracurricular activities is available to the student throughout his college life. The student is urged to select these activities carefully in order that he may profit by such extra-class experiences without lowering his standards of scholarship. The *Student Handbook*, available at the time of registration, gives information concerning activities which include organizations in every department of the college, and opportunities for individual and group experience in the social, athletic, fraternal, religious and governmental life of the campus.

STUDENT HEALTH SERVICE

The Health Department is maintained for the protection and care of student health. A complete physical examination is required of each student upon admission to college. Careful attention is given to cases undergoing remedial treatment or to cases in which a modification of study load or amount of participation in physical activities seem advisable.

A college physician and school nurse are available for consultation and emergency treatment. Students who have been absent over three days because of illness should receive clearance from the Health Office before returning to classes.

A group plan for accident insurance is in operation for students who desire to participate.

PERSONNEL SERVICES CENTER

The college offers the services of a trained staff to students who wish help in the solution of problems which are personal, social, academic, or occupational in nature. It is a program designed to help students gain the greatest possible advantage of their college experience. Agencies and facilities cooperating in the effort to assist students include the student health service, reading and study laboratory, the speech improvement program, mathematics clinic, the placement and occupational guidance service, and a staff of personal counselors. Students who wish to take advantage of these facilities may do so through the Personnel Services Center.

VOCATIONAL REHABILITATION SERVICE

The Bureau of Vocational Rehabilitation, California State Department of Education, offers its service to students who have an employment handicap resulting from physical disability of any kind. Included are vocational counseling, the payment of tuition and fee, and the providing of textbooks without charge to the trainee. Details of the service may be obtained from the Registrar's Office.

SCHOLARSHIPS

A number of scholarships for both men and women has been made available through the efforts of the alumni, civic organizations, student organizations, business and professional groups and individuals, and other friends of the college. Superiority in ability and achievement, strength of character, and worthiness from the point of view of need are the standards upon which selection is based. Scholarship aid is limited for the most part to students who have completed at least one semester at the San Diego State College. Except for athletics grants-in-aid, which are initiated through the Director of Athletics, scholarship applications are made through the office of the Dean of Women.

Unless otherwise stipulated, all scholarship awards are determined and announced by the faculty Committee on Loans and Scholarships in October of the college year. Applications for scholarships for the fall semester must be filed with the office of the Dean of Women prior to October 15th. The scholarships available for 1949-50:

ALTRUSA CLUB. Two scholarships of \$50 each are made available annually by the Altrusa Club of San Diego. Applications are considered from women students enrolled in San Diego State College who are worthy and in need.

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN. One scholarship of \$100 is given each year in June to a graduating senior who will begin work in an accredited college or university toward a higher degree or credential. The scholarship is made available by the San Diego Branch of the American Association of University Women. Interviews with representatives of that organization are required.

AMERICAN SOCIETY OF CIVIL ENGINEERS, SAN DIEGO SECTION. A scholarship of \$75 is awarded annually through the San Diego Section of the American Society of Civil Engineers to the engineering student selected for the scholarship on a basis of character, ability, personal qualities, and financial need. Nominations are made by the Engineering Department of the College. At least sophomore status is required for nomination.

AMERICAN SOCIETY OF CIVIL ENGINEERS. The American Society of Civil Engineers grants a scholarship of \$75 to an engineering student of sophomore standing who shows promise in the field of civil engineering.

ANONYMOUS (B). A scholarship of \$100 is given each year to be divided among students in financial need, at the discretion of the faculty Loans and Scholarships Committee. The committee gives consideration to scholastic attainment, financial need, and character.

ANONYMOUS (E). A \$50 scholarship, awarded each semester through the Loans and Scholarships Committee, is made available by a public spirited citizen who prefers to assist a student majoring in science.

ART GUILD. The Art Guild of San Diego State College awards a \$25 scholarship each year to a student outstanding in the field of art.

ASSOCIATION OF CHILD EDUCATION. The Association of Child Education makes available each year a \$50 scholarship to a student in the Kindergarten-Primary program. The award is customarily made to an upper division student showing promise in a particular field who is in need financially.

BLUE KEY. Two scholarships of \$50 each are awarded annually by Blue Key. One of these is granted to a needy lower division student of regular standing who has actively participated in student affairs, and the second to an entering freshman who has an outstanding record of achievement in high school activities.

CAP AND GOWN. Two \$50 scholarships are awarded annually to upper division women students who have attended San Diego State College for at least one year previous to date of making application and who have maintained at least a "B" average in scholarship for their entire college career. The scholarships are made available through the San Diego State College chapter of Cap and Gown.

CHAMBER OF COMMERCE MUSIC SCHOLARSHIPS. Several scholarships of \$30 per semester have been made available by the San Diego Chamber of Commerce to players of the following instruments in the college band: Solo cornet, solo clarinet, first French horn, first trombone, first baritone, first Sousaphone, and first drum. Applications are filed directly with the Music Department.

DAUGHTERS OF THE AMERICAN REVOLUTION. Two scholarships of \$25 each are presented each spring, one to a young man and the other to a young woman outstanding in citizenship and Americanism. Applicants should have at least a "B" average in scholarship, should be able to demonstrate need for financial assistance, and should have junior standing in the college when selected. The scholarships are made available through the Daughters of the American Revolution.

DELTA SIGMA THETA (Beta Mu Chapter). From time to time, Delta Sigma Theta awards scholarships of varying amounts to selected applicants.

FACULTY DAMES. Two scholarships of \$50 each are given annually to deserving women students selected by the Loans and Scholarships Committee.

FOOTLIGHTS THEATRE, INC. On various occasions awards of \$50 each are made to students for outstanding achievement in dramatic arts.

INTERSORORITY COUNCIL. A \$50 scholarship, \$25 each semester, is made available each year by the Intersorority Council of San Diego State College to the sorority woman applying with the highest grade point average. The applicant must be an upper division student carrying at least twelve units, and must have attended San Diego State College at least one year previous to the date of application.

MARCY, MAY FINNEY. Scholarships of varying amounts are awarded from time to time by the committee administering the May Finney Marcy Fund to selected San Diego State College students, preferably members of Cap and Gown. Inquiries concerning eligibility for these awards should be addressed to the Dean of Women.

NATIONAL CITY ELEMENTARY TEACHERS' CLUB. One \$50 scholarship is awarded to a senior student majoring in elementary education. The recipient must have at least average grades and should preferably be a graduate of Sweetwater High School.

NORTH PARK KIWANI-ANNES. One scholarship of \$50 a semester is awarded by the North Park Kiwani-Annes to a male student preparing for teaching. The recipient must have at least junior standing at the time of selection.

P.E.O. (ER Chapter). An award of \$15 a month is granted by the ER Chapter of P.E.O. to a woman student enrolled in the college.

SAN DIEGO BASEBALL CLUB. An annual scholarship of \$250, made available by the San Diego Baseball Club, is distributed to San Diego State College athletes with a principal interest in baseball. Recipients are selected by the Director of Athletics of the college.

SAN DIEGO CITY TEACHERS ASSOCIATION. Two scholarships of \$50 each are presented each year to prospective teachers with no restrictions as to college year. Applications are made on forms supplied by the San Diego City Teachers Association and are reviewed by the association's committee on scholarships. Personal interviews are required.

SAN DIEGO COUNTY TEACHERS ASSOCIATION. Two \$50 scholarships, made available annually by the San Diego County Teachers Association, are awarded to students in the field of elementary education. Selections are made by the faculty Loans and Scholarships Committee.

SAN DIEGO ENGINEERS CLUB. A scholarship of \$50 is given each semester by the San Diego Engineers Club to a student majoring in engineering who shows particular ability in that field. The Loans and Scholarships Committee recommends three candidates from all students applying, which candidates in turn are interviewed by the members of the Engineers Scholarship Committee, who make the final selection.

SKULL AND DAGGER. Skull and Dagger of the San Diego State College awards \$25 annually to each of two students judged to possess superior talent in drama. Selections are made by Skull and Dagger.

TAU ZETA RHO ALUMNAE. A scholarship of \$50 is given annually by the alumnae chapter of the Tau Zeta Rho sorority of the San Diego State College to a non-sorority woman student enrolled in either her junior or senior year of teacher training.

THEATRE GUILD. One or two \$25 awards are made each year by the Theatre Guild of the San Diego State College. The guild selects students outstanding in theatrical work.

WALKER, RALF MARC. A scholarship in the amount of \$500 is made available by the Walker-Scott Corporation in memory of the late Mr. Ralf Marc Walker to a woman student majoring in merchandising or retail trade at the San Diego State College. The scholarship is presented to a girl in Walker's Hi-Debber Council each year. The total scholarship is deposited in the San Diego State College Foundation and is handed to the recipient at the rate of \$50 a semester for each of the first three years and \$100 a semester for the two senior semesters.

WEINBERGER, HENRY, INTERFAITH SCHOLARSHIP. A scholarship of \$100 is awarded in April of each year to the student of any religious faith enrolled at the San Diego State College who is judged to have done the most to further interfaith ideals among the students of the college during the year of the award. This scholarship is made available by Mr. Henry Weinberger of the Lasher Lodge of B'nai B'rith.

WOMEN'S AUXILIARY OF SAN DIEGO DENTAL SOCIETY. An annual award of \$100 is made available by the Women's Auxiliary of San Diego Dental Society to an outstanding male student in pre-dentistry.

WOMEN'S CIVIC LEAGUE. The Women's Civic League sponsors an annual award of \$50 to a deserving woman student selected by the League.

ADDITIONAL DONORS

Additional donors to scholarship funds or to the San Diego State College Foundation include the following:

Al Bahr Temple	Kelly, Mr. and Mrs. Wilbur
Alpha Xi Delta	Kiwanis Club of San Diego
Associated Women Students	Lions Club of San Diego
Auxiliary, San Diego County	Milk Institute of San Diego County
Medical Society	Nida, W. L.
Baranov, Nate	Pythian Sisters, Grand Temple
Chamber of Commerce of San Diego	Ripley, Robert
Dairy Mart	Rotary Club of Escondido
Del Mar Charities	Simpson, Fred
Epsilon Pi Theta	Small, Lucian K.
Fox, George	Solof's, Ltd.
George, William Robert	Sundberg, R. H.
Goodwin, Percy	Thursday Club
Gildred, Philip	Todd, O. W., Jr.
Hale, E. T. and Sons	Anonymous
Heilbron, Frances	

LOANS

Both long-term and short-term loans are available to students who have attended the San Diego State College for at least one semester and who have demonstrated ability to do satisfactory college work. Applications for loans are made to the Committee on Loans and Scholarships through the offices of the Dean of Men or Dean of Women.

ADMISSION AND REGISTRATION

GENERAL ADMISSION REQUIREMENTS

High school graduates and other applicants possessing equivalent preparation may be admitted to this college upon evidence of fitness to profit by college instruction, such fitness to be shown by previous scholastic records, by evidence of good moral character and personal qualifications, and by satisfactory scores on tests which the college may require. Due to crowded conditions the college probably will have to refuse all qualified applicants who do not file application blanks and official transcripts prior to the dates indicated in the calendar.

ADMISSION OF HIGH SCHOOL GRADUATES

(1) A high school transcript must be presented showing satisfactory scholarship, and (2) applicants must demonstrate readiness for college instruction by making satisfactory scores on such tests as the college may designate.

Regular status will be granted if the student has earned A or B grades in not less than 16 semester courses during the tenth, eleventh, and twelfth grades.

Provisional status will be granted if the student has earned A or B grades in not less than 12 semester courses during the tenth, eleventh, and twelfth grades. Individuals who fall slightly below the above standard may be admitted to provisional status if qualifying examination scores indicate probable success in college. Transfer to regular status may be attained upon completion of 24 or more units of college work with grade average of C or better. Full credit is allowed for all regular college work completed.

Adult special status may be granted an applicant who is over 21 years of age or is a veteran of World War II, provided that he demonstrates through qualifying examinations satisfactory ability to do college work. Such students may be transferred to regular status upon removal of all matriculation deficiencies and after completion of 24 or more units of college work taken in residence with grade average of C or better. Full credit is allowed for all regular college work completed.

ADMISSION BY EXAMINATION

Certificates of successful examination before the College Entrance Examination Board will be accepted when candidates cannot meet the above scholarship requirements.

SPECIAL STUDENTS

In exceptional cases, persons over 21 years of age or veterans of World War II who do not fully meet the college entrance requirements may be admitted as special students upon presentation of evidence showing good character and ability to do satisfactory work at this college. Non-high school graduates may be required to complete, in addition to the usual requirements for the A.B. Degree, three semester units of college work for each two semester courses lacking high school graduation. College graduate students who do not qualify for admission to graduate status (see admission to graduate status) may be admitted as special graduate students.

ADMISSION WITH ADVANCED STANDING

Credit earned in recognized institutions of collegiate grade will be evaluated and advanced standing allowed accordingly toward the graduation requirements of this institution. Applicants must show an average grade of C or better for all college work, for the last college attended, and for the last semester of attendance in order to qualify for regular status. A student who enters with advanced standing is one who has completed at least 12 units of passing work in another collegiate institution. However, no applicant may disregard his collegiate record and apply for admission only on the basis of his high school work. No credit earned after a student has accumulated 64 units of work in all types of collegiate institutions may be transferred from a junior college.

Students seeking admission with advanced standing must furnish complete transcripts for all work attempted beyond the eighth grade. If an official evaluation is desired, a deposit of \$2 must accompany the application and be received together with all transcripts at least 30 days before the date of registration. At least 45 semester units must be completed before a student may apply for an evaluation.

ADMISSION TO GRADUATE STATUS

A student who holds a bachelor's degree from an accredited institution may be admitted upon application and the filing of official transcripts of all college work. A student not meeting these requirements in full may apply for admission as a special student.

Admission to graduate courses (numbered 200 to 299) is restricted to students (1) who hold a standard bachelor's degree from an accredited institution, (2) who receive a satisfactory score on graduate entrance examinations, (3) who meet the prerequisites for specific courses, and (4) who qualify under one of the following categories:

- Admission to candidacy for the General Secondary Credential; or
- Maintenance of a satisfactory grade point average in all postgraduate work; or
- The course concerned is the first course taken from those numbered 200 to 299.

EXTENDED DAY PROGRAM

In order to meet the needs of adults in the community for certain types of college work, this institution offers late afternoon and evening classes under an extended day program. Most of these courses are on the upper division and graduate levels and all carry full college credit. Among the fields in which work is offered are: Education, commerce, personnel work, and engineering. Courses may be set up to meet the need of a particular group who desire special instruction. Requests for such courses should be made through the office of the Dean of General Education. A special bulletin describing the current offerings is issued each semester from the above office.

AUDITORS

Properly qualified persons may apply for admission to attend classes as auditors. Such students pay the same fees as those who take equivalent work for credit.

TESTS REQUIRED AT REGISTRATION TIME AND LATER

- A physical examination is required of all students entering or reentering the college after an absence of one semester or more, except that students carrying 6 units or less are not required to take the physical examination. This examination is scheduled during the orientation and registration period.
- All entering students are required to take a college aptitude test. Exceptions may be made for graduate students and for those who register for five units or less and for those registered only in Extended Day classes.
- All entering freshmen and college transfer students who present less than a minimum of 15 units of college credit must take the regular battery of achievement and aptitude tests. The freshman English course which a student will take will be determined by results of these tests.
- Students entering teacher education should see admission requirements outlined under Admission to Teacher Education.

LATE REGISTRATION

Students who register after the scheduled registration days are subject to a late registration fee of \$2. Students may be accepted for late registration with the approval of the Registrar within two weeks after scheduled registration days. Registration will be closed after that date. Students failing to complete all registration requirements within the period allowed, as announced in registration instructions, are subject to cancellation of registration.

CHANGES IN REGISTRATION

Petitions for changes in program may be secured at the Registrar's office. A fee is charged for changes in program after registration books are filed.

FEES AND EXPENSES

PROBABLE EXPENSES FOR ONE SEMESTER

An estimate of the expense of attendance for one semester is given below. No estimate is made as to the cost of clothing, or other personal items, since these figures vary with the demands of the individual. Laboratory fees are additional.

A Partial Estimate of Expenses One Semester		
	Minimum	Maximum
Fees and deposits	\$22.50	\$30.50
Books	18.00	30.00
Board and room	275.00	---
Transportation, lunches, incidentals	20.00	60.00
Miscellaneous	---	5.00

Before enrolling in college, the student should possess sufficient resources to meet the minimum expenses for one semester. A limited amount of clerical work in offices and in the library may be offered from time to time but ordinarily it is not sufficiently remunerative to reduce expenses materially.

LIST OF FEES AND DEPOSITS (SUBJECT TO REVISION)

Enrollment Fees and Deposits (Payable at time of registration)	
By all students:	
Tuition (auditors pay same fees as other students):	
Regular students (carrying over 5 units)	\$6.50
Limited students (carrying 5 units or less) per unit	2.50
Materials and service:	
Regular students	6.00
Limited students per unit	.50
Student activity fees (not a State Fee):	
Regular students	10.00
Limited students	3.50
Associated Students Group Accident Insurance	2.50
Miscellaneous Fees and Deposits (Fees payable when service is rendered)	
Change of program	\$1.00
Failure to meet administratively required appointment or time limit	2.00
Evaluation of records for non-matriculated students	2.00
Late registration	2.00
Transcript of record (1st copy free)	1.00
Graduation Fees	
State teaching credentials (each credential)	\$3.00
Diploma	1.00

The credential fee is collected through the college by cashier's check or post office money order made payable to the State Department of Education.

GENERAL REGULATIONS

INFORMATION

All inquiries relative to the college should be directed to the Registrar's Office.

NUMBERING OF COURSES

Courses numbered 1 through 99 are in the lower division; those numbered 100 through 199 are in the upper division; and those numbered 200 or over are in the graduate division. Courses numbered 300 or over are professional education courses on the graduate level.

SCHOLARSHIP, GRADES, AND GRADE POINTS

The following grades are used in reporting the standing of students at the end of each semester: A, excellent; B, good; C, fair; D, passed; F, failed; I, incomplete; E, conditioned (may be made up to grade of D); Cr, credit (without grade); WP, withdrawal passing; and WF, withdrawal failing.

Grades of I or E must be made up by the end of the next semester; otherwise the grade of F will be recorded.

Grade points are assigned as follows: Grade A, 3 points per unit; B, 2 points per unit; C, 1 point per unit; D, no point per unit; F or WF, no point per unit. Grades of I, Cr, or WP are disregarded in computing grade points. The grade of E is treated as no point per unit until a final grade is recorded. The number of grade points a student has earned in a subject is determined by multiplying the number of points he has received by the number of units allowed. The grade point average is determined by dividing the grade points earned by the number of units attempted. A student must earn at least a C average in all work undertaken at the college to qualify for a degree or a transcript of record with recommendation to another collegiate institution. Any course may be repeated, but not for additional credit; however, only the second grade earned is considered in the student's average.

CLASS, UNITS OF WORK, AND STUDY LIST LIMIT

Students who have completed 0 to 29 units of work are classified as freshmen; 30 to 59 units as sophomores; 60 to 89 units as juniors; and 90 or more as seniors.

A unit of credit represents 50 minutes of lecture or recitation combined with two hours of preparation per week through one semester, or three hours of laboratory or field work in the case of laboratory credit.

Students are not ordinarily permitted to enroll for more than 16 units* for credit toward graduation. A normal semester's program is 15 units.

Certain exceptions to this rule exist. If during the preceding semester the student has carried at least 12 units*: (1) If a grade point average of at least 1.5 was earned, 17 units* may be carried for credit toward graduation; and (2) if a grade point average of 2.0 (B) was earned, 18 units* may be carried.

Exceptions to these regulations may be secured only through a petition to the Scholarship Committee.

No student may register for less than 12 units (the minimum full-time load) without the approval of the Dean of Arts and Sciences or the Dean of Education.

*In addition to the required one-half unit physical education activity courses.

PROBATION AND DISQUALIFICATION

PROBATION

Any student whose scholarship record shows a cumulative deficit of 9 or more grade points below a C average for all college work undertaken will be placed on probation. Probationary status may be continued provided that the student does not increase his grade point deficiency. Probationary status will be continued until the student reduces his grade point deficiency to 8 or less.

DISQUALIFICATION

Any student on probation whose scholarship falls below an average grade of C in any single semester is disqualified from further attendance at the college.

Any student who fails to pass two-thirds of the units attempted during any single semester is disqualified from further attendance at the college.

A disqualified student may be reinstated after an interval of one semester for reasons satisfactory to the Board of Admissions. Applications for reinstatement must be made on forms which may be obtained at the Office of the Registrar.

WITHDRAWALS FROM CLASS

Forms for withdrawal from class may be obtained at the Registrar's Office. If a student withdraws from class during the first seven weeks of a semester, a grade of WP will be recorded upon his permanent record for each class which he has dropped. If he withdraws during the remainder of the semester, either an I or a WF will be recorded unless a grade of WP is approved by the proper dean. A grade of I automatically becomes an F unless the work is completed by the end of the next semester of attendance.

TRANSCRIPTS OF RECORD

Students may secure upon request one transcript of record without fee. Thereafter, a fee of \$1 is charged for each transcript secured upon request. Once a student has matriculated in this college, transcripts from other schools will not be returned, or copies of them made. No fees are charged for transcripts required for military purposes. Transcripts in the possession of students are to be regarded as unofficial records.

EVALUATIONS

An evaluation of credit for graduation should be requested by a student as soon as 45 units have been earned. Applications may be made at the Office of the Registrar. Students having met all admission requirements for the arts and sciences or teacher education curricula, who are carrying 6 units, or more, of college work in a regular semester, will not be charged the evaluation fee.

ELIGIBILITY FOR DIRECTED TEACHING

No student shall be eligible for directed teaching (Education 116) leading to the Kindergarten-Primary, General Elementary, General Junior High, and Special Secondary Credentials who has not completed 75 units, been admitted to Teacher Education, and whose entire record, as well as for the preceding semester, does not average at least a 1.2 grade.

No student shall be eligible for directed teaching (Education 316) leading to the General Secondary Credential who has not been admitted to the teacher education program prescribed for admission to candidacy for this credential.

THE HONORS GROUP

All students who at the end of the sophomore year have attained a grade-point average of 2.5, and such others as have attained a high average in the department in which their major is selected, and who have received the recommendation of that department and the consent of the Committee on Honors, may if they so elect, constitute an honors group, for special treatment in their major subject.

Such students, so far as the facilities of the department and the best interests of the students under its charge allow, shall be treated as befits their individual needs

and as their individual capacities warrant. They shall be eligible to enroll in honors or special study courses, although credit in such courses shall be limited to 5 units a semester. They shall not be held to regular attendance in the established courses of their departments if, in the opinion of the instructor, the course requirements can be met through special assignments and examinations or by satisfactory performance in the regular examinations in the course. With the consent of the major department, requirements concerning minors and specific courses or sequences in the major may be set aside. Each honor student shall be assigned to a member of his major department for advice and direction.

Students in the honors group who fail to take advantage of the opportunities there offered may at the end of any semester be transferred by the department to the general course. Students in the general course who show unusual capacity, upon recommendation of the department and the Committee on Honors, may at the end of any semester, be transferred to the honors group if such transfer appears practicable.

Students who wish to apply for entrance into the Honors group may do so by filling out cards to be obtained from the Registrar's Office. The application should be approved by the major department and by the Honors Committee within the first week of registration. Units earned by students doing individual study under this plan will be recorded under the symbol 166 and will be subject to the formulated rules dealing with limitations of student load.

THE DEGREE WITH HONORS AND WITH DISTINCTION

Upon recommendation of the Committee on Honors, graduation with honors shall be granted to the upper 10 percent of the graduating class. Each department shall determine which students it will recommend for distinction in the major field at graduation, and report its recommendation to the Committee on Honors for transmission to the faculty.

EXAMINATIONS

No final examinations shall be given to individual students before the regular time. Any student who finds it impossible to take a final examination on the date scheduled must make arrangements with the instructor to have an incomplete grade reported and must take the deferred final examination not later than the end of the first semester of attendance following that in which the incomplete was given. No exception shall be made to this rule without the approval of the Dean of Arts and Sciences or the Dean of Education and the instructor concerned.

CREDIT FOR EXTENSION COURSES

The amount of credit for extension and correspondence courses acceptable in fulfillment of the requirements for the Bachelor of Arts Degree will depend upon the nature of the courses, the quality of the work done, and the student's preparation for work in the field of the course. The college ordinarily limits credit to such courses as have been approved, and the total of such acceptable credit to 12 units. Extension courses are not accepted for graduate credit.

CREDIT GRANTED FOR MILITARY SERVICE

Six units of lower division elective credit will be granted to students who have served in the armed forces of this country upon the completion of the prescribed basic training program before January 1, 1947. Documentary evidence bearing the signature of the proper commanding officer must be filed before credit will be accorded to the student.

Additional units of credit may be granted to students who can document the fact that they have completed officer's or other specialized training, and have been assigned to active military duty before January 1, 1947.

Completion of one semester's work, or 12 units, at this college after military service, is required before military credit will be granted.

THE BACHELOR OF ARTS DEGREE

GENERAL REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN TEACHER EDUCATION AND IN ARTS AND SCIENCES

TYPES OF CURRICULA

San Diego State College offers two types of curricula leading to the A.B. Degree

- (1) The curricula leading to the California teaching credentials,
- (2) The arts and sciences curricula.

GRADUATION REQUIREMENTS

- (a) A minimum of 120 semester units of college work representing a four-year course is required for graduation.
- (b) Twenty-four units of work, ordinarily taken in the senior year, must be earned at this college.
- (c) At least a C average in scholarship must be maintained in all college work attempted, in all work within the major field, and in all work taken at this college.
- (d) At least 40 units must be completed in the upper division, 30 of which must be earned after all lower division requirements have been satisfied.
- (e) Student must comply with the State requirements in United States Constitution, American history, institutions, and ideals.
- (f) All major, minor, and specific curriculum requirements must be met.

LOWER DIVISION REQUIREMENTS FOR ALL CURRICULA

	Units
Physical Education	2
Health Education 21	2
English	6
Psychology	3
Foreign Language (not required in commerce, engineering, or in teacher education in the elementary, junior high and special secondary curricula)	0-10
Mathematics A and B, 6 units, or high school algebra and geometry	0-6
Social Sciences	12
Natural Sciences	12
Electives to make total of 60 units, including lower division preparation for the major and minor.	

EXPLANATION OF LOWER DIVISION REQUIREMENTS

English

The English requirement should be satisfied in either the freshman or sophomore year. Unless departmental regulations specify other courses, the student should satisfy this requirement by taking English 1 and either English 2 or any optional course approved by the English Department. English majors are not required to take English 2. The prerequisite for English 1 is a passing mark in the English A qualifying examination or completion of the course in English A. Credit in English A may be used toward graduation but not in satisfaction of the 6-unit lower division requirement in English.

Psychology

The requirement in psychology should ordinarily be satisfied in the freshman year by completion of Psychology 1.

Foreign Languages

At least 10 units in one foreign language are required in the lower division except that no language is required in commerce, engineering, or in teacher education in the elementary, junior high, and special secondary curricula. No degree credit is given for only the beginning college semester of a foreign language (except Spanish 70).

Reduction of unit requirement. High school work completed with grade of C or better for the final semester of a year course in foreign language may meet the foreign language requirement in part. Each year course completed in high school in any foreign language is counted in satisfaction of 3 units of this requirement. A total of 9 units so credited will satisfy in whole the foreign language requirement. If two or more years have elapsed since the completion of a high school course in any foreign language, the final year of the high school course may be repeated for college credit. Foreign language courses for which a D grade was received in the final semester of a year course in high school may also be repeated for college credit. The student should register in a college foreign language course for credit as follows:

Year courses completed in high school	If completed with grade of C or better, register as follows	Maximum credit allowed toward graduation
1 year	Course A, 5 units	2 units
2 years	Course B, 5 units	4 units
3 years	Course C, 3 units	3 units
4 years	Course D, 3 units	3 units

Year courses completed in high school	After lapse of 2 years or D grade, may register in	Maximum credit allowed toward graduation
1 year	Course A, 5 units	5 units
2 years	Course A, 5 units	2 units
3 years	Course B, 5 units	4 units
4 years	Course C, 3 units	3 units

Social Sciences

Twelve units, at least 8 of which are in the lower division, selected from two or more of the following fields in social science are required: anthropology, economics, geography (except 1, 3 and 4), history, political science, social science, and sociology. Eight of the 12 units must be in the lower division. (Note: Courses in commerce, home economics, library science, philosophy, or psychology may not be used in satisfaction of this 12-unit social science requirement.)

Reduction of unit requirement. Two high school semester courses in the fields of history, political science, sociology, and economics taken in the senior year with grades of B or better may be used to reduce the 12 unit social science requirement to 9 units.

Natural Sciences

Twelve units, at least 8 of which are in the lower division, selected from courses representing each of the following groups, are required:

(a) **Life sciences.** Courses must be selected from one of the following fields: bacteriology, biology, botany, physiology, or zoology. This requirement may be satisfied by completion of a year course in high school or by a semester course in college (recommended: Biology 1). If laboratory credit is desired, select from life science courses listed in section (c) below.

(b) **Physical sciences.** Courses must be selected from the following fields: astronomy, chemistry, Geography 1 or 3 (but not both), geology, physical science, or physics. A semester course in college in any one of these subjects will satisfy this requirement. This requirement may also be satisfied by completion of a year course in high school chemistry or physics. (Students who expect to satisfy this requirement by a physical science course in college should register for the following: those who have not completed a year course in high school in either physics or astronomy, should take Physical Science 1A; those who have not completed a year course in high school in either chemistry or geology should take Physical Science 1B.) If laboratory credit is desired, select from physical science courses listed in section (c) below.

(c) *Laboratory course in natural sciences.* This requirement may be satisfied by completion of a year course in high school with grade of C or better for the final semester of the junior or senior year in one of the following fields: botany, chemistry, physics, or zoology. The laboratory requirement may be satisfied by one of the following college courses:

Life Sciences

Bacteriology 1
Biology 10A and 10B
Botany 2A or 2B
Physiology 1C
Zoology 1A or 1B

Physical Sciences

Chemistry 1A or 1B
Chemistry 2A and 2B
Geology 1A and 1B
Physics 1A and 1B or 1C and 1D
or 4A and 4B or 4B and 4C
Physics 2A, 2B, 3A, and 3B
Astronomy 1 and 9 and 10

Reduction of unit requirements. The 12 unit natural science requirement may be reduced to 9 units by completion of a high school year course in biology, botany, chemistry, physics, physiology, or zoology taken in the senior year with grade of B or better for the final semester.

Mathematics

Mathematics A (elementary algebra) and Mathematics B (plane geometry) are required. This requirement may be satisfied by completion of a year course in high school in algebra and a year course in plane geometry with grade of C or better for the final semester of each course. College credit will be granted for completion of Mathematics A or B unless the corresponding high school course was completed with grade of C or better in which case the repeated course will be classified as a "refresher" course carrying no college credit. Students having one semester high school credit in trigonometry, intermediate algebra or solid geometry may repeat the corresponding course in college for 1½ units of college credit.

Lower Division Preparation for the Major and Minor

For description of requirements for majors and minors in teacher education, see section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Teacher Education.

For description of requirements for majors and minors in arts and sciences, see section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences. Specific requirements for each major and minor are listed in connection with the description of courses in each major field. See section entitled: Announcement of Courses.

UPPER DIVISION REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN ARTS AND SCIENCES

MAJORS IN ARTS AND SCIENCES

The arts and sciences curricula lead to the Bachelor of Arts Degree with majors in art, chemistry, commerce, economics, engineering, English, French, geography, history, life science, mathematics, music, physics, political science, psychology, sociology, Spanish, speech arts, and zoology and qualify for graduate work in these fields in recognized American colleges and universities. Completion of the requirements of these curricula also enables the graduate to satisfy undergraduate requirements for the general secondary credential which, with graduate work, will enable the holder to teach in a senior high school or junior college.

MINORS IN ARTS AND SCIENCES

Minors must be established in one of the following fields: anthropology, art, botany, chemistry, commerce, comparative literature, economics, education, engineering, English, French, geography, geology, health education, history, home economics, journalism, life science, mathematics, music, philosophy, physical education, physics, political science, psychology, recreation, sociology, Spanish, speech arts, and zoology.

UPPER DIVISION REQUIREMENTS

Preparation for Upper Division

Students must complete the lower division requirements for all curricula. In addition, lower division requirements for the major and minor must be completed. Refer to the section of this bulletin entitled: Announcement of Courses, and to the outlines of curricula in the section entitled: Preprofessional and Vocational Curricula.

Minimum Units and Credit Limitations

Major and minor work are required as follows:

	Units
Minor (minimum in upper division courses)	9
Major (upper division courses)	24

At least 40 units in upper division courses must be completed, 30 of which must be earned after all lower division requirements have been satisfied. If a student is approaching upper division standing, he may carry sufficient lower division units to complete the required minimum of 60 units and carry upper division units for the remainder of his study load. Students with sophomore standing may carry upper division courses for upper division credit provided that they have the written approval of the chairman of the department and the Dean of Arts and Sciences or Dean of Education.

MAJORS AND MINORS

Majors

The specific requirements for each major are listed at the beginning of each departmental division among the description of courses. (See Announcement of Courses.) The student is advised to choose his major as early in his college course as practicable so that he may be able to plan his work according to the major requirements. Failure to meet the lower division requirements of the major department before the junior year may make it impossible to satisfy the upper division requirements within the normal period of two years. In addition to departmental majors, the following majors are also offered:

The General Major: The general major of 36 upper division units must be chosen from three fields with not more than 15 units nor fewer than 6 to 9 units from any one field. A minimum of a year course in each field must be completed in the lower division as foundation for upper division work in the general major. A minor is not required; however, 4 additional upper division elective units must be completed to meet the minimum requirement of 40 upper division units for graduation.

The general major is planned for students who are preparing for home arts, law, journalism, library work, public administration, social work, theology, recreation, or for any other vocation requiring a background of general training. The program of the student should be planned in consultation with the Dean of Arts and Sciences and approved, revised, or rejected by the chairmen of the departments represented in the major.

Life Science Major: Lower division requirements: Zoology 1A-1B or Biology 10A-10B; Zoology 20; Botany 2A-2B; Chemistry 1A-1B or 2A-2B; Physics 2A-2B-3A-3B. Recommended: Geology 1A, Astronomy 1. Upper division requirements: A minimum of 24 upper division units in zoology and botany of which 6 units may be from a related field. The plan for this major must be with the approval of the Chairman of the Division of Life Sciences.

Minors

A minor consists of at least 15 units of work completed in one of the above fields of study. At least nine of these units must be earned in upper division courses. The entire requirement for a minor may be met with upper division courses provided these courses have no lower division prerequisites. Prerequisites for each course are listed among the course descriptions. (See section on Announcement of Courses.)

In addition to the departmental minors listed above, the following minors are offered:

Minor in Life Science: Lower division requirements: Biology 10A-10B or equivalent; Zoology 20; Chemistry 2A-2B or 1A. Recommended: Astronomy, geology, physics. Upper division requirements: At least 9 upper division units in zoology and botany to be selected with the approval of the Chairman of the Division of Life Sciences.

Minor in Recreation: Students must show credit for 4 semesters of physical education activity courses and in addition a minimum of 6 lower division units to include Physical Education 51, 53, and electives chosen from Art 61B or fields of dance, drama, or music. Upper division courses must include a minimum of 9 units, including Physical Education 165, 170, and 199. Consultation with the Chairman of the Division of Health, Physical Education, and Recreation is advised.

EXAMINATION REQUIREMENTS IN THE UNITED STATES CONSTITUTION AND AMERICAN HISTORY, INSTITUTIONS, AND IDEALS

Each student of a state college to qualify for graduation shall demonstrate competence in the United States Constitution and American history, institutions and ideals, by passing satisfactorily a comprehensive examination on these fields prepared and administered by the college. Students transferring from other institutions of collegiate grade who have already met this requirement may have this examination waived, except that candidates for a teaching credential must meet the United States Constitution requirement by examination or by completion of a course covering the Constitution in a California institution of collegiate grade. The examination ordinarily should be taken in the junior year.

This graduation requirement may be fulfilled by any one of the following alternatives:

1. Passing satisfactorily comprehensive examinations in both United States Constitution and American history, institutions and ideals.
2. Completion of History 17A and 17B, or History 171A and 171B, or History 172A and 172B, or Political Science 139A and 139B.
3. Completion of Political Science 71A and 71B, or Political Science 101, plus satisfactory completion of an examination in American history, institutions and ideals.
4. Completion of History 8A and 8B, or History 173A and 173B, or History 179A and 179B, plus satisfactory completion of an examination on the United States Constitution or the substitutes for that examination enumerated in item 3.
5. Completion of comparable courses in other institutions of collegiate grade, except that candidates for the A.B. Degree and a teaching credential must have completed the course covering the United States Constitution in a California institution of collegiate grade.

PROFESSIONAL, PREPROFESSIONAL, AND VOCATIONAL CURRICULA

For description of professional curricula in education, see section entitled: Professional Curricula in Education; for preprofessional and vocational curricula, see section entitled: Preprofessional and Vocational Curricula.

UPPER DIVISION REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN TEACHER EDUCATION

TEACHING CREDENTIALS

San Diego State College is authorized by the State of California to recommend students for the teaching credentials listed below. To be recommended, students must complete, or have completed, the A.B. Degree in one of the curricula offered for teachers.

<i>The credential</i>	<i>Subjects and grades for which it is valid</i>
General Elementary	All grades through the eighth.
Kindergarten-Primary	Kindergarten through third.
General Junior High (Must be taken with another credential)	All subjects in grades seven, eight and nine in all elementary or secondary schools.
General Secondary	All subjects in the public schools in grade 7 and above.
Health and Development	Authorizes to serve as supervisor of health in the capacity of a school physician, school nurse, school oculist, school optometrist, school otologist, school audiometrist, school dentist, school chiroprapist, or school dental hygienist.
Special Secondary in Art	Art in all grades of the public schools.
Special Secondary in Business Education	Business education subjects in all grades of the public schools.
Special Secondary in Music	Music in all grades of the public schools.
Special Secondary in Physical Education	Physical education in all grades of the public schools.
Special Secondary in Speech Arts	Speech in all grades of the public schools.
Special Secondary in Correction of Speech Defects	Correction of speech defects in all grades of the public schools.
Special Secondary for teaching the Mentally Retarded Child	To teach mentally retarded children in elementary and secondary schools.
School Psychometrist	To serve as assistant to the school psychologist.
Administration in Elementary Education	Authorizes for certificate to serve as superintendent, deputy superintendent, assistant superintendent, principal, vice principal, and supervisor of instruction in elementary schools.
Supervision in Elementary Education	Authorizes for certificate to supervise instruction in elementary schools.
Administration in Secondary Education	Authorizes for certificate to serve as superintendent, deputy superintendent, assistant superintendent, principal, vice principal, and supervisor of instruction in secondary schools.
Supervision in Secondary Education	Authorizes for certificate to supervise instruction in secondary schools.
Special Subject Supervision	Supervision in the special subject in all grades.

COMBINATION OF CREDENTIALS

Students who seek more than one teaching credential must complete in full the curriculum for each, with only such exceptions as are indicated in the statement of requirements.

A combination of the elementary school credential and the junior high school credential may be secured by completing the requirements for the elementary school credential and the following additional requirements:

- (a) A teaching major.
- (b) Education 100B in the major field.
- (c) Three units of directed teaching, or equivalent, in a junior high school.
- (d) Education 115B.

A combination of the junior high school credential and a special secondary credential may be secured by completing the requirements for the special secondary credential and the following additional requirements:

- (a) A junior high school teaching major, excluding the special secondary credential majors.
- (b) Education 100B in the junior high school teaching major.
- (c) Three units of student teaching in the junior high school teaching major.

EXAMINATION REQUIREMENTS IN THE UNITED STATES CONSTITUTION, AMERICAN HISTORY, INSTITUTIONS, AND IDEALS

This requirement is the same as that for the degree in arts and sciences. For specific explanation, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

UPPER DIVISION REQUIREMENTS

Preparation for Upper Division

Students in teacher education curricula must complete the lower division requirements for all curricula as indicated in the section entitled: General Requirements for the Bachelor of Arts Degree in Teacher Education and in Arts and Sciences. Additional pattern requirements are outlined under each specific curriculum on the following pages.

Minimum Units and Credit Limitations

A minimum of 40 units in upper division courses must be completed, 30 units of which must be earned after all lower division requirements have been satisfied. If a student is approaching upper division standing, he may carry sufficient lower division units to complete the required minimum of 60 units and carry upper division units for the remainder of his study load. Students with sophomore standing may carry upper division courses for upper division credit provided that they have the written approval of the chairman of the department and the Dean of Education.

A maximum of 40 units of credit in any one subject matter field or in education courses may be applied toward the requirements of the A.B. Degree.

Preparation for Graduate Work

Students who take the A.B. Degree with a special credential and who contemplate doing graduate work for a master's degree in an academic field or for the general secondary credential, will find it advantageous to use their electives to provide a foundation for that work.

MAJORS AND MINORS

All teaching curricula require one major and one minor.

Major and Minor for the Elementary Credential

Education shall be the major for the kindergarten-primary and general elementary school credentials. Its requirements are outlined under those curricula. It is recommended that the minor for these credentials be chosen from the academic fields of **English, foreign languages, mathematics, science or social science**. The minor in social science must include 6 upper division units in history or in geography and 3 units

selected from anthropology, economics, geography, history, political science, or sociology. The minor in English must include three units in American Literature. A second minor, though not required, may be chosen from one of these fields or from art, home economics, industrial arts, music, physical education or speech arts. Students taking an elementary credential in combination with a special secondary credential may use the special major for their minor in elementary education.

Teaching Major for Junior High School and Special Secondary School Credentials

A teaching major for the junior high school credential consists of a minimum of 24 units of which a minimum of 18 units must be in the upper division. An average of C in scholarship is required in all upper division courses in the field of the teaching major. Teaching majors may be established in the following fields: **English, foreign languages, general science, mathematics, and social science**. A teaching major in the special secondary credential curricula of art, business education, music, physical education, and speech arts ranges from 24 to 40 units, depending upon the curriculum; these may not be used for a junior high school credential major. Refer to the following pages for outlines of requirements for these credentials.

A Teaching Major in English shall include English 1; 6A; 56A-56B or 60A-60B; and 18 units of upper division work. This credit must include 3 units in American Literature and 3 units in Shakespeare. Recommended: English 192.

A Teaching Major in General Science shall include a minimum of 24 units, not less than 18 of which are upper division, including a college year course in a biological science, a year course in high school or college physics and a concentration of 12 units, at least 6 of which are upper division, in one major subject (botany, chemistry, physics, zoology). See definition of teaching majors.

A Teaching Major in Social Science shall include a minimum of 24 units, not less than 18 of which are upper division. There shall be a concentration of 12 units, at least 6 of which are upper division, in one major subject (anthropology, economics, geography, history, political science, sociology). A year course in American History must be included. See definition for teaching majors for the junior high school credential.

Teaching Minor for Junior High and Special Secondary Credentials

A teaching minor consists of 15 units in a given field, of which 9 or more must be in upper division courses. Teaching minors may be established in the following fields: **art, business education, English, foreign languages, general science, health education, home economics, industrial arts, mathematics, music, social science, physical education, recreation, and speech arts**. (See requirement above for elementary school credentials.)

A Teaching Minor in English: Candidates for the teaching minor in English must include English 1; 6A; and 9 elective units in upper division English. This credit must include 3 units in American Literature, taken either in lower division or in upper division. Credit in journalism and speech arts may not be used to fulfill the requirements for the English minor.

A Teaching Minor in Health Education shall include: Physical Education 51, Home Arts 61A, and Health Education 65 in the lower division; Health Education 152, 153, Physical Education 199 or equivalent in the upper division. For physical education majors, Health Education is allowed only as a second minor area.

A Teaching Minor in Home Economics shall include: Home Economics 5, or 62, and 11 in the lower division; Home Economics 101, 105, and 150, in the upper division. Three units of electives may be chosen from Home Economics 1, 62, 108, or 170.

A Teaching Minor in Industrial Arts: This minor shall consist of 15 units in industrial arts, 9 units of which must be from courses carrying upper division credit. Courses must be selected with approval of the Industrial Arts representative.

A Teaching Minor in Music: Candidates for the teaching minor in music are required to take music aptitude tests at the time the minor is chosen and to enroll in at least one music activity each semester. In special cases this requirement may be waived by permission of the faculty of the Music Department.

Applicants for music minors must maintain a grade average of C in all music courses. All students must show credit for Music 1A or clear this requirement by examination. Music 7A is required of all candidates for the elementary credential. In the lower division, with the proper regard for course sequences, 6 units may be chosen from the following courses: Music, 1A-1B-1C-1D, 2A, 3A, 4A, 4B, 5A, 5B, 6A, 16, 17, 18, Aesthetics 1A, 1B. Nine units of upper division music are required, not more than two of which may be selected for credit from the activity courses (Treble Clef, orchestra, etc.).

A Teaching Minor in Physical Education: Men must show credit for: four semesters of physical education activity courses, Physical Education 51, 53 and 72 in the lower division; Education 100B-PE, Physical Education 170, 190 and at least two units in an upper division Professional Activity course approved by the department.

Women must show credit for: four semesters of physical education activity courses, Physical Education 53, and 3½ units of electives in the lower division; nine units chosen from Physical Education 153, 156A-156B, 161, 164 and 170 in the upper division.

A Teaching Minor in Recreation: A teaching minor in recreation shall include 4 semesters of physical education activity courses and in addition Physical Education 51, 53, 165, 170 and electives selected from Art 61B or from the fields of dance, drama, or music. The upper division must include Physical Education 199, Special Study in Physical Education or Recreation, to meet the individual needs of the student; to be planned in consultation with the Chairman of the Division of Health, Physical Education, and Recreation. Physical Education majors may use this as a second minor only.

A Teaching Minor in Social Science: A teaching minor in social science must include the general education lower division requirement and in addition a minimum of 9 units of upper division social science courses, selected from anthropology, economics, geography, history, political science, or sociology, 6 units of which must consist of a year course sequence. Six units in American History or 3 units in American History and 3 units in Political Science must be included.

Teaching Majors for General Secondary Credential

Teaching majors may be established in the following fields: art, business education, chemistry, economics, English, history, life science, mathematics, music, physical science, physics, romance languages, social science, Spanish, and speech arts; also psychology as a nonteaching major with two teaching minors. In most fields, 12 semester units are required in the lower division and 24 semester units in the upper division. Some departments permit 6 units of these 24 upper division units to be selected from related fields with the approval of the departmental representative. In addition to these undergraduate requirements, 2 to 5 semester units of graduate work are required in the major field during the postgraduate year. For the programs for each department, refer to the section entitled: Curricula Leading to the General Secondary School Credential. This section also explains the requirements for admission to candidacy for the General Secondary Credential. Candidates for the General Secondary Credential should consult with the Director of Secondary Education.

Teaching Minors for the General Secondary Credential

Teaching minors may be established in the following fields: art, business education, chemistry, economics, English, French, health education, history, home economics, industrial arts, life science, mathematics, music, physical education for men, physical education for women, physics, recreation, Spanish, and speech arts. In most fields, 6 semester units are required in the lower division and 9 semester units in the upper division for the A.B. Degree. This credential requires enough additional units to make a minimum of 21 semester units to be completed by the date of recommendation for the credential. For the programs for each department, refer to the section entitled: Curricula Leading to the General Secondary School Credential.

ADMISSION TO TEACHER EDUCATION

Students who expect to become teachers should apply for admission to teacher education during the first semester of the sophomore year. Students entering the college at the end of the sophomore year will apply at the beginning of the junior year. No courses in education may be taken until admission is granted; any exception to this rule must have the approval of the Dean of Education. Admission to the college does not guarantee that the student will be admitted to teacher education. The following requirements must be met for admission to teacher education curricula:

1. A satisfactory score on a college aptitude test taken at the college.
2. Evidence of competence in the use of the English language and of satisfactory ability in arithmetic, handwriting, reading, and spelling indicated by having passed the Fundamentals Test. (See college calendar for dates of test which should be taken in the second semester of the freshman year.)
3. Assurance of correct speech habits and voice control by having satisfactorily completed a course in corrective speech or by having passed a speech test given by the college.
4. Assurance of physical fitness.
5. If the student is to be a candidate for the general secondary credential or one of the special secondary credentials, he must furnish a recommendation from the chairman of that department stating that the student has ability and shows promise of teaching success in his field and that the department looks with favor upon his application.
6. The completion of the first two years or more of a given curriculum, or its equivalent, and of subsequent work with a grade point average of 1.2 or better for all credentials except the general junior high school or the general secondary, for which shall be required a grade point average of 1.5 or better in all work and 1.75 in the major field.
7. If the student is a candidate for any credential on the secondary school level (general junior high school, special secondary, or general secondary), he must have a satisfactory score on a General Culture Test.
8. If the student is a candidate for the General Secondary credential he must have a tentative program approved by the authorized departmental representative of his major field, minor field, and the education department.
9. All applicants need to be approved by an interviewing committee of the college faculty. In its evaluation the committee will consider the following factors established by the State Board of Education: intelligence, scholarship, professional aptitude, personality and character, speech and language usage, and many-sided interests.

Transfer Students

Students who have completed two or more semesters of work in another college, upon transferring to San Diego State College, should make application for admission to teacher education as soon as they enroll in the college. Transfer students should take the necessary tests for admission to teacher education given during the orientation period. (See college calendar for dates.)

Transfer Students With Emergency Credentials in Elementary Education

Certain adaptations in the education courses have been made to meet the needs of experienced teachers who hold an emergency credential in elementary education. See the Director of Elementary Education for details.

Advanced Standing in Teacher Education

A minimum of 6 units in education courses is required for graduation from this college. The college also requires that the student file with the Registrar written evidence from employers of satisfactory teaching experience in a public school.

After an interval of 5 years, courses in education are reevaluated and subject to deduction in credit, in light of such new requirements as may have been put into effect and changes in educational procedures. Students formerly in attendance will not be considered to be working in the curriculum until an evaluation and statement of credit has been secured from the Registrar's office. All courses taken either at this college or elsewhere must be approved by an official adviser in order to be credited toward meeting degree requirements.

Admission to Graduate Courses (200-299)

For requirements for admission to 200-299 courses, refer to the section entitled: Admission and Registration.

PROFESSIONAL CURRICULA IN EDUCATION

Professional curricula in education, requiring from four to five years to complete, lead to the teaching credentials.

All candidates in teacher education curricula should observe carefully the requirements for admission to teacher education and be prepared to meet them at the end of the sophomore year. Students in other colleges who contemplate transferring to San Diego State College should arrange their programs so as to meet the requirements of their particular curriculum as early as possible. See college calendar for dates when the Fundamentals Test will be given. Refer to the section entitled: Admission to Teacher Education.

CURRICULA LEADING TO THE GENERAL ELEMENTARY, KINDERGARTEN-PRIMARY, OR GENERAL JUNIOR HIGH SCHOOL CREDENTIAL

A.B. DEGREE WITH GENERAL ELEMENTARY OR KINDERGARTEN- PRIMARY CREDENTIAL

One teaching minor is required. Refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Teacher Education.

Freshman Year		Units for General Elem.	Units for Kdg.- Primary
<i>First Semester</i>			
Art 6A, Design	-----	2	2
English 1, Freshman Composition	-----	3	3
Health Education 21, Principles of Healthful Living	-----	2	2
Physical Education (activity course)	-----	$\frac{1}{2}$	$\frac{1}{2}$
Physical Science 1A, Introduction (If year-course in high school physics completed, substitute another science)	-----	3	3
Electives (Advisable to start social science or other lower division requirements; also minor. See page 17)	-----	6	6
<i>Second Semester</i>			
Art 6B, Design	-----	2	2
English 2, Freshman Literature or optional course	-----	3	3
Physical Education (activity course)	-----	$\frac{1}{2}$	$\frac{1}{2}$
Physical Science 1B, Introduction (If year-course in high school chemistry completed, substitute another science)	-----	3	3
Psychology 1, General	-----	3	3
Electives (Continue social science, other lower division require- ments, or minor)	-----	3-5	3-5
		31-33	

PROFESSIONAL CURRICULA IN EDUCATION

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Sophomore Year		Units for General Elem.	Units for Kdg.- Primary
<i>First Semester</i>			
Art 61A, Crafts in the Elementary Schools	-----	2	2
Biology 1, Survey of Biology (If no previous science laboratory, take Biology 10A-10B or Botany 2A. Not required if year- course in high school biology, botany, physiology, or zoology completed. See page 18)	-----	3	3
Geography 1, Elements (natural science credit)	-----	3	3
Music 1A, Musicianship—Fundamentals of Music	-----	3	3
Music 2SA, Piano (or equivalent by examination, but without credit. May be taken in the junior year)	-----	—	1
Physical Education (activity course)	-----	$\frac{1}{2}$	$\frac{1}{2}$
Electives (social science, natural science, or minor)	-----	3	3
(Prepare for the graduation requirement in U. S. Consti- tution, American history, institutions, and ideals.)			
<i>Second Semester</i>			
Geography 2, Regions (social science credit)	-----	3	3
Music 7A, Music Materials for the Elementary School	-----	3	3
Music 2SB, Piano (or the equivalent by examination)	-----	—	1
Physical Education 53, Physical Education in the Elementary School	-----	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Spanish 70, Spanish for Elementary School Teachers (Not required but recommended if no high school Spanish)	-----	3	—
Speech Arts 1, Voice and Diction	-----	—	3
Electives (Complete lower division requirements and continue minor)	-----	1-6	1-4

29-32

Junior Year

Students transferring from another curriculum in lower division or from another college or junior college may interchange this semester with semester II of the senior year. (Forty units of upper division work are needed.) The Education Department will probably find it necessary to ask some students who have met all requirements to defer entering practicum until the second semester of the junior year in order to equate class size. Those who defer entering the practicum should use this semester to

1. Complete lower division requirements in art, music, Physical Education 53, natural science, social science and others as needed.
2. Complete minor requirements.
3. Meet requirement for American History and U. S. Constitution.
4. Elect Education 102A or 102B if needed to complete program. Permission to enter these courses must be secured from the instructor.

<i>First Semester</i>			
Education 102A, Measurement and Evaluation in Elementary Education or Education 102B, Child Growth and Devel- opment	-----	3	3
Health Education 151, Health Education for Teachers (taken with practicum)	-----	2	2
Education 147, Education Practicum—Primary Level	-----	10	10
Reading and Elementary Methods	-----	3	
Arithmetic	-----	3	
Elementary Music Education	-----	1	
Elementary Art Education	-----	1	
Language Arts	-----	2	

Proficiency in use of audio-visual equipment is required by examination. Specific instruction in audio-visual materials is given in each subject matter methods course.

	Units for General Elem.	Units for Kdg.- Primary
Second Semester		
Education 102A, Measurement and Evaluation in Elementary Education, or 102B, Child Growth and Development	3	3
Education 148, Education Practicum—Intermediate Level	12	8
Elementary Social Studies and Science Ed.	3	
Elementary Art Education	1	
Elementary Music Education	1	
Educational Psychology (learning process, including theory of audio-visual education)	3	
Additional 4 units for General Elementary, but not Kindergarten-Primary		
Curriculum in Elementary Education	2	
Directed Teaching	2	
Education 116, Student Teaching, primary grades		3
Senior Year		
First Semester		
Education 116, Directed Teaching	7	4
Education 146, Kindergarten-Primary Practicum (follows Education 148)		4
Education 115A, History and Philosophy of Education (or in second semester)	2	2
Elective	3	3
Second Semester (and summer session if needed)		
Elective to complete one minor and to equal total for degree	16-18	16-18
Total		120 units
Summary		
Art 6A-6B, 61A	6	6
Educ. 102A, 102B, 115A, 116, 146, 147, 148	37	37
English	6	6
Speech Arts		3
Health Education 21, 151	4	4
Physical Education Activities and P.E. 53	4	4
Music 1A, 7A, 28A-B	6	8
Natural Sciences (including Geog. 1)	12	12
Psychology 1	3	3
Social Science (including Geog. 2)	12	12
Electives (including minor)	30	25
Total	120	120

A.B. DEGREE WITH GENERAL JUNIOR HIGH SCHOOL CREDENTIAL

This credential is granted only in conjunction with a general elementary or a special secondary credential. For information regarding combinations of credentials and for descriptions of majors and minors, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Teacher Education. Students who intend to work for a general secondary credential or the Master's degree should counsel with the Director of Secondary Education upon application to teacher education.

	Units	
	1st Sem.	2d Sem.
Freshman Year		
Biology 1, Survey of Biology (see page 18)	3	-
English 1, Freshmen Composition, and 2, Freshman Literature, or optional course	3	3
Geography 1, Elements (natural science credit) and 2, Regions (social science credit)	3	3
Health Education 21, Principles of Healthful Living	2	-
Physical Science 1A or 1B, Introduction (see page 18)	-	3
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Electives to meet lower division requirements (see page 17)	3	5
	14 $\frac{1}{2}$	14 $\frac{1}{2}$
Sophomore Year		
Psychology 1, General	3	-
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Speech 2A, Fundamentals of Public Speaking (recommended)	-	3
Electives (to include preparation for major and minor and completion of lower division requirements)	12	12
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Junior Year		
Education 115B, Secondary Education	3	-
Education 102C, Growth and Development of the Adolescent	3	-
Education 102D, Measurement and Evaluation in Secondary Education	-	2
Education 130, Educational Psychology	-	2
Health Education 151, Health Education for Teachers (may be taken either semester)	2	-
Electives, including major and minor	7	11
	15	15
Senior Year		
Education 100B, Methods (in major and minor subjects)	3	-
Education 115A, History and Philosophy of Education	-	2
Education 116, Directed Teaching	3	3
Electives, including major and minor	9	10
	15	15
Summary		
Education 100B, 102C, 102D, 115A, 115B, 116, 130		21
English		6
Health Education 21, 151		4
Natural Sciences		12
Social Sciences		12
Psychology 1		3
Speech Arts 2A		3
Physical Education		2
Electives, including teaching major and minor		57
		120

CURRICULA LEADING TO THE SPECIAL SECONDARY CREDENTIALS

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN ART

This course leads to the A.B. Degree and to the Special Secondary Credential in Art which entitles the holder to teach art in senior high, junior high, and elementary schools.

Lower Division

	Units
Aesthetics 5, Art Orientation, or 51, Survey of Mexican Art	2
Aesthetics 50, History and Appreciation of Art	2
Art A-B, Drawing and Composition	2-4
Art 6A-6B, Design	4
Art 14A, Lettering	2
Art 61A, Crafts in Elementary Schools	2
Art 61B, Crafts	2
Electives in Art	6-8
English 1, Freshman Composition, and 2, Freshman Literature or optional course	6
Health Education 21, Principles of Healthful Living	2
Natural Sciences (see page 18)	9-12
Physical Education (activity courses)	2
Psychology 1, General	3
Social Sciences (see page 18)	9-12
Electives, including courses for minor	7-10
	60

Upper Division

Aesthetics 150, Appreciation and History of Art	2
Art 106A, Printmaking	2
Art 112A, Design and Composition	2
Art 116A, Advanced Painting	2
Art 119A, Ceramics	2
Art 194A, Costume Design	2
Art 195, Design	2
Electives in upper division art	5
Speech Arts 140A, Stage Design	3
Health Education 151, Health Education for Teachers	2
Education 115B, Secondary Education	3
Education 102C, Growth and Development of the Adolescent	3
Education 119, Art in the Elementary School	2
Education 102D, Measurement in Secondary Education	2
Education 130, Educational Psychology	2
Education 100B-A, Methods in Art and in the minor	3
Education 115A, History and Philosophy of Education	2
Education 116, Directed Teaching	6
Electives, including minor	13
	60

Summary

Aesthetics 50, 150, and 5 or 51	6
Art major	38
Education	23
English	6
Health Education 21 and 151	4
Natural Sciences	12
Physical Education	2
Psychology 1	3
Social Sciences	12
Speech Arts 140A	3
Electives, including minor	11
	120

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN BUSINESS EDUCATION

This course leads to the A.B. Degree and to the Special Secondary Credential in Business Education, which entitles the holder to teach business subjects in senior high and junior high schools.

In addition to the following academic requirements, satisfactory evidence of one-half year, or 1,000 hours of approved experience in the field named in the credential must be submitted.

Six areas of specialization are possible for the student majoring in Business Education: *Accounting, Accounting-Secretarial, Management and Supervision, Merchandising, Real Estate and Insurance, and Secretarial.*

Lower Division

	Units
Commerce A, Business Arithmetic	1
Commerce 1A-1B, Typewriting (placement examination required before enrollment)	6
Commerce 16A-16B, Secretarial Accounting	6
Commerce 18A-18B, Commercial Law (should be taken in the junior year)	9-15
Business Education Subfield Requirements	9-15
<i>Accounting:</i> Any 9 hours selected from Commerce 20, 21, 24, 25, or 27	
<i>Accounting-Secretarial:</i> Commerce 5A-5B (placement examination required before enrollment. Course may be taken in the junior year)	
<i>Management and Supervision:</i> (See Departmental Representative)	
<i>Real Estate and Insurance:</i> (See Departmental Representative)	
<i>Secretarial:</i> Commerce 5A-5B (placement examination required before enrollment. Course may be taken in the junior year)	
General college requirements	35-38
English 8, Business English	3
English 2, Freshman Literature	3
Health Education 21, Principles of Healthful Living	2
Psychology 1, General	3
Geography 1, Elements (a natural science)	3
Geography 10, Economic (a social science)	3
Natural Science (in addition to Geography 1)	6-9
Economics 1A-1B, Principles	6
Social Science (in addition to Geography 10 and Economics 1A-1B)	0-3
Speech Arts 2A, Fundamentals	3
Electives	0-3

Upper Division

Commerce 103A-103B, Office Management	6
Business Education Subfield Requirements	6-10
<i>Accounting:</i> Commerce 160A, 164A	
<i>Accounting-Secretarial:</i> Either Commerce 160A and 164A or Commerce 113A-138B (if Commerce 5A-5B is taken in the junior year, 113A-113B may be taken in the senior year)	
<i>Management and Supervision:</i> (See Departmental Representative)	
<i>Merchandising:</i> (See Departmental Representative)	
<i>Real Estate and Insurance:</i> Commerce 113A-113B	
Education requirements	26
Health Education 151, Health Education for Teachers	2
Education 115B, Secondary Education	3
Education 102C, Growth and Development of the Adolescent	3
Education 102D, Measurement and Evaluation of Secondary Education	2
Education 130, Educational Psychology	2
Education 100B-BE, Objectives and Curricula in Business Education	3
Education 100B-T, Methods in Typing	1
Methods in one of the following subfields:	2
Education 100B-A, Accounting Methods	
Education 100B-ME, Merchandising Methods	
Education 100B-S, Shorthand Methods	
Education 115A, History and Philosophy of Education	2
Education 116, Directed Teaching	6
Minor	9
Electives	7-9
	60

Summary	Units
Social Science: Economics 1A-1B, Geography 10, Elective	12
Natural Science: Geography 1 and electives in natural science	12
English 8, 2	6
Health Education 21, 151	4
Physical Education	2
Psychology 1	3
Speech Arts 2A	3
Commerce: A, 1A-1B, 16A-16B, 18A-18B, 103A-103B	25
Business Education Subfield (lower division)	9-15
Business Education Subfield (upper division)	6-10
Education: 100B-BE, 100B-T, 100B (A or ME or S), 102C, 102D, 115A, 115B, 116, 130	26
Minor	9
Electives	3-15
	120

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN MUSIC

Students intending to become applicants for this credential must show evidence of musical ability before entering the course. They must be able to play artistically upon the piano, music of the grade of the simpler *Songs Without Words* of Mendelssohn or else possess a corresponding degree of proficiency in voice or an orchestral instrument. No credit is given to music majors for the basic courses of Music 1A and Music 7A, but if a deficiency exists in the field of general musicianship, the student will be required to take either or both of these courses without credit.

All music majors are required to enroll in one musical activity each semester. Activities should be included from both instrumental and choral groups. In special cases this requirement may be waived by petition to the Music Department. All students are required to pass examinations in applied music in order to receive credit. No credit is allowed to majors in voice or orchestral instruments for any work in piano which is below the level of artistic hymn playing.

Applicants for the Special Secondary Credential in Music must maintain a grade average of C or better in music courses.

This course leads to the A.B. Degree with a Special Secondary Credential in Music which will authorize the holder to teach music in the elementary, junior and senior high schools of the State.

A maximum of 40 units in Music may be used toward the A.B. Degree. Of these 40 units a maximum of 3 may come from the field of musical activities: band, choir, chorus, glee clubs and orchestra.

General Language "B" is advised as an elective.

Lower Division	Units
English 1, Freshman Composition, and 2, Freshman Literature or optional course	6
Social Science (see page 18)	9-12
Natural Science (see page 18)	9-12
Psychology 1, General	3
Health Education 21, Principles of Healthful Living	2
Physical Education (activity courses)	2
Music 1A, 1B, 1C and 1D, Musicianship	6
Music 4A-4B, Elementary Harmony	6
Music 2A, 3A, 6A, Orchestral Instruments	3
Music 29 or 17, and 18, Applied (must show 4 units in voice and 4 units in piano. May be taken in lower or upper division)	0-8
Music 9, 10, 11, 12, 13, 14, 15, 20, 25, 26 or 30, Music Activities	0-3
Aesthetics 1A-1B, Survey of Music	4
Minor (English, social science or natural science recommended as such minor may be completed in whole or in part by requirements as listed above)	0-6
	60

Upper Division	Units
Aesthetics 102A-102B, Music History	4
Music 105A-105B, Advanced Harmony and Composition	6
Music 106, Counterpoint	2
Music 107, Form and Analysis	2
Music 119A, Instrumental Conducting	1
Music 120A, Vocal Conducting	1
Music 121A, Instrumentation	2
Music 111, 112, 113, 115, 126, or 130, Activities	3-0
Music 117 or 118, Applied (must show 4 units in voice and 4 units in piano. May be taken in upper or lower division)	8-0
Minor	9
Health Education 151, Health Education for Teachers	2
Education 115B, Secondary Education	3
Education 102C, Growth and Development of the Adolescent	3
Education 102D, Measurement and Evaluation in Secondary Education	2
Education 130, Educational Psychology	2
Education 117A, Elementary Music Education	2
Education 145, Organization and Administration of Music Education	2
Education 100B-MU, Methods in Music and methods in the minor subject	3
Education 115A, History and Philosophy of Education	2
Education 116, Directed Teaching	6
	60

Summary	Units
Health Education 21 and 151	4
Aesthetics 1A-1B and 102A-102B	8
Social Science	9-12
Natural Science	9-12
English	6
Psychology	3
Music 1A, 1B, 1C, 1D, 4A-4B, 2A, 3A, 6A, 29 or 17, 18, 105A-105B, 106, 107, 119A, 120A, 121A, and Music Activities as prescribed by the Department	40
Education 100B-MU, 102C, 102D, 115A, 115B, 116, 117A, 130, 145	28
Minor	9-15
Physical Education	2
Electives	2-0
	120

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN PHYSICAL EDUCATION (MEN)

This course leads to the A.B. Degree and to the Special Secondary Credential in Physical Education which entitles the holder to teach physical education in senior high, junior high and elementary schools.

Men majoring in physical education must register for Professional Activities for each semester of the last three years in order to secure adequate skills, methods of teaching and proficiency in officiating. Participation in an intercollegiate sport is recommended.

Lower Division		Units
English 1, Freshman Composition, and 2, Freshman Literature or optional course	6	6
Speech Arts 2A, Fundamentals	3	3
Natural Science (including Biology 1, Survey, or equivalent; Zoology 8, Human Anatomy; Physiology 1A-1C, Human Physiology; and a physical science, if needed). (See Lower Division Requirements for All Curricula, regarding a laboratory course.)	9-12	9-12
Social Science	9-12	3
Psychology 1, General	3	3
Health Education 21, Principles of Healthful Living	2	2
Health Education 65, Community Health	3	3
Physical Education:		
43, 44, Professional Activities	4	4
51, First Aid and Safety Education	2	2
53, Phys. Educ. in Elementary Schools	2	2
72, Introduction to Phys. Educ.	2	2
	10	10
Minor (English, soc. science or natural science recommended as such minor may be completed in whole or in part by requirements as listed above)	0-6	0-6
Electives	0-11	0-11
	60	60

Upper Division		Units
Health Education 151, Health Education for Teachers	2	2
Education 115B, Secondary Education	2	2
Education 102C, Growth and Development of the Adolescent	3	3
Education 102D, Measurement and Evaluation in Secondary Education	2	2
Education 130, Educational Psychology	2	2
Education 100B-PE, Methods in Physical Education (Men) and methods in the minor subject	3	3
Education 115A, History and Philosophy of Education	2	2
Education 116, Directed Teaching	6	6
Zoology 165, Human Heredity	2	2
Physical Education:		
145, 146, 147, 148, Professional Activities	8	8
155, Applied Anatomy and Kinesiology	3	3
168, Physiology of Exercise	3	3
170, Recreational Leadership	3	3
177, Ind. Program Adaptation	3	3
190, Adm. of Phys. Ed. in Secondary Schools	3	3
199, Special Study in Health, Recreation or Phys. Ed.—Recommended	2-3	2-3
Minor	25-27	25-27
Electives	9	9
	1-4	1-4
	60	60

Summary

	Units
English 1 and 2	6
Speech Arts 2A	3
Natural Science	9-12
Social Science	9-12
Psychology 1	3
Health Education 21, 65, 151	7
Physical Education 43, 44, 51, 53, 72, 145, 146, 147, 148, 155, 168, 170, 177, 190, 199	40
Education 100B-PE, 102C, 102D, 115A, 115B, 116, 130	20
Zoology 165	2
Minor	15
Electives	0-12
	120

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN PHYSICAL EDUCATION (WOMEN)

This course leads to the A.B. Degree and to the Special Secondary Credential in Physical Education which entitles the holder to teach physical education in senior high, junior high, and elementary schools.

Lower Division		Units
		9-12
Social Science		
Natural Science (including Biology 1, Survey, or equivalent; Zoology 8, Human Anatomy; Physiology 1A-1C, Human Physiology; and a physical science, if needed). (See Lower Division Requirements for All Curricula, regarding a laboratory course.)	9-12	9-12
English 1, Freshman Composition, and 2, Freshman Literature or optional course	6	6
Psychology 1, General	3	3
Health Education 21, Principles of Healthful Living	2	2
Speech Arts 2A, Fundamentals of Public Speaking	3	3
Physical Education:		
1A, Fundamental Skills	1	1
2A, Folk Dancing	1	1
3A-3B, Modern Dance	1	1
4, Fieldball, Soccer, and Speedball	1	1
5, Softball, Volleyball, and Hockey	1	1
6, Basketball	1	1
11A, Ballroom Dancing	2	2
12A-12B, Advanced Modern Dance	1	1
13A, Archery	1	1
14A, Badminton	1	1
18A, Tennis	1	1
21, Life Saving	2	2
51, First Aid and Safety Education	2	2
53, Physical Education in the Elementary School	2	2
72, Introduction to Physical Education	6	6
Minor		
Electives (Recommended electives: Art 61B, Health Education 90, Health Education 65, Home Economics 61A-61B, Music 1A)	2-8	2-8
	60	60

Upper Division		Units
Physical Education:		
155, Applied Anatomy and Kinesiology	-----	3
156A-156B, Sports Methods	-----	4
160, Teaching of Body Mechanics	-----	2
161, Folk Dancing Materials and Advanced Techniques	-----	2
164A-164B, Methods in Modern Dance	-----	4
168, Physiology of Exercise	-----	3
170, Recreational Leadership	-----	3
177, Individual Program Adaptations	-----	3
185, Techniques of Individual Sports	-----	1
190, Administration of Physical Education in Secondary Schools	-----	3
Health Education 151, Health Education for Teachers	-----	2
Education:		
115B, Secondary Education	-----	3
102C, Growth and Development of the Adolescent	-----	3
102D, Measurement and Evaluation in Secondary Education	-----	2
130, Educational Psychology	-----	2
100B-PE, Methods in Physical Education (Women) and methods in the minor subject	-----	3
115A, History and Philosophy of Education	-----	2
116, Directed Teaching	-----	6
Minor	-----	9
Summary		60
Education 115B, 102C, 102D, 130, 100B-PE, 115A, 116	-----	21
English 1 and 2	-----	6
Health Education 21, 151	-----	4
Natural Science	-----	9-12
Physical Education	-----	42
Psychology 1	-----	3
Social Science	-----	9-12
Speech Arts 2A	-----	3
Minor	-----	15
Electives	-----	0-6
		120

A.B. DEGREE WITH SPECIAL SECONDARY CREDENTIAL IN SPEECH ARTS

The following program when satisfactorily completed will lead to the A.B. Degree with Special Secondary Credential in Speech Arts.

Lower Division		Units
Social Science	-----	9-12
Natural Science	-----	9-12
English 1, Freshman Composition, and 2, Freshman Literature or optional course	-----	6
Psychology 1, General	-----	3
Health Education 21, Principles of Healthful Living	-----	2
Physical Education (activity courses)	-----	2
Speech Arts 2A, 2B, 11A, 11B, 60A, 60B, 81	-----	6
Speech Arts 55A-55B or 56A-56B or 55A-56A or 55A-56B or 82, 83	-----	6
Speech Arts 1, 61A, B, C, D, or 81	-----	3
Speech Arts electives	-----	5
Minor	-----	6
Electives	-----	0-3
		60

Upper Division		Units
Speech Arts 150 and 176 or 179A	-----	6
Speech Arts electives, selected from Speech Arts 108, 140A, 155, 159A, 161, 182, 191, 192A or 192B	-----	6
Speech Arts electives	-----	6
Upper Division electives selected from upper division English Literature	-----	6
Minor	-----	9
Health Education 151, Health Education for Teachers	-----	2
Education:		
115B, Secondary Education	-----	3
102C, Growth and Development of the Adolescent	-----	3
102D, Measurement and Evaluation in Secondary Education	-----	2
130, Educational Psychology	-----	2
100B-SA, Methods in Speech Arts and methods in the minor subject	-----	3
115A, History and Philosophy of Education	-----	2
116, Directed Teaching	-----	6
Electives	-----	4
Summary		60
Social Science	-----	9-12
Natural Science	-----	9-12
English 1 and 2	-----	6
Psychology 1	-----	3
Health Education 21 and 151	-----	4
Physical Education	-----	2
Speech Arts, major	-----	38
Upper division English Literature	-----	6
Education 100B-SA, 102C, 102D, 115A, 115B, 116, 130	-----	21
Minor	-----	15
Electives	-----	0-6
		120

HEALTH AND DEVELOPMENTAL CREDENTIAL

Requirements for this credential include:

1. Possession of a valid license issued by the official California state board or agency in charge of his profession in California.
2. Two years of successful experience in the special service to be named in the credential, except for the school nurse.
3. For school nurse only: the completion of six semester hours of work, including courses in:
 - A. Educational Psychology (Education 130)
 - B. Administration of the School Health Program (Health Education 153)
 - C. Social case work, or rural education or child hygiene.

Pattern to be approved by adviser appointed by the Dean of Education.

SPECIAL SECONDARY CREDENTIAL IN CORRECTION OF SPEECH DEFECTS

This credential is granted only to students who can verify two years of successful teaching experience or four semester hours of superior student teaching completed in an approved teacher education institution and who hold a valid California teacher's certificate, credential, or life diploma of elementary or secondary school grade. Such students must show credit in the following subjects:

Lower Division	
Psychology 1, General	3
Speech Arts 2A, Fundamentals of Public Speaking, or equivalent	3
Speech Arts 11A or 11B, Interpretation	3
Speech Arts electives	6
Upper Division	
Speech Arts 150, Phonetics	3
Speech Arts 221, Articulatory Problems of Speech or Education 176, Problems of Speech Correction and Articulation	3
Speech Arts 179A-179B or Education 179A-179B, Nervous Speech Disorders	6
Psychology 131, Psychological Foundations of Personality	2

SPECIAL SECONDARY CREDENTIAL FOR TEACHING THE MENTALLY RETARDED CHILD

An applicant for the special secondary credential for teaching the mentally retarded child must have completed the following requirements:

1. A four year college course with a bachelor's degree.
2. Possession of a valid general elementary credential.
3. As part of, or in addition to, the courses taken for the general elementary credential, the applicant must have completed 18 semester units of professional training distributed approximately as follows and approved by the credential adviser:
 - A. Six units selected from the following: Education 102B or Education 102C; Psychology 12, Psychology 131 or 132; Psychology 150 or 151.
 - B. Nine units selected from the following: Art 61A or 161A; Education 181, Education 182, and Education 183; and Education 232.
 - C. Three units of Education 116 (directed teaching of the mentally retarded).
4. The 18-unit requirement will be reduced 4 units for each year of verified, successful experience in teaching special classes for mentally retarded children, the total not to exceed 12 units.
5. At least 6 semester units of the 18 required must have been completed within 5 years of the time application is made for the credential.
6. Twelve units of work must have been completed at this college.

SCHOOL PSYCHOMETRIST CREDENTIAL

An applicant for the school psychometrist credential must have completed the following requirements:

1. Possession of a California general teaching credential (General Elementary, Junior High School, or General Secondary) or a four-year college course with a bachelor's degree.
2. As a part of the undergraduate or graduate program the applicant must have completed 18 semester units of training distributed approximately as follows and approved by the credential adviser:
 - A. Six units selected from the following: Education 102A or Education 102D; Education 102B or Education 102C; and Education 130.
 - B. Six units as follows: Education 181 and Psychology 151.
 - C. Six units as follows: Psychology 105A and Psychology 105B.

CURRICULA LEADING TO THE GENERAL SECONDARY SCHOOL CREDENTIAL

INFORMATION CONCERNING THE GENERAL SECONDARY SCHOOL CREDENTIAL

A candidate for this credential must complete the requirements for the bachelor's degree from an accredited institution with a major and a minor commonly taught in the secondary schools of California. Admission to candidacy for this credential should be sought during the second semester of the sophomore year or upon admission to San Diego State College with advanced or graduate status. For admission requirements, refer to the section entitled: Admission to Teacher Education.

Students desiring a major in art, business education, music, physical education or speech arts should complete the requirements for the Special Secondary Credential in the respective area desired, then continue with the graduate program. For further details regarding these majors, refer to the section entitled: Majors and Minors for the General Secondary Credential.

Students desiring one of the other areas as a major for which San Diego State College is authorized should complete a program leading to the A.B. Degree at the end of four years and the General Secondary Credential upon completion of the graduate year requirements outlined on the following pages. For a list of majors and minors, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Teacher Education.

Any person desiring this credential should consult with the Director of Secondary Education during his first semester of attendance at San Diego State College.

RECOMMENDED PROGRAM FOR THE GENERAL SECONDARY SCHOOL CREDENTIAL

The following courses should be completed before receiving the bachelor's degree (in the order listed):

	Units
Education 115B, Principles of Secondary Education	3
Education 102C, Growth and Development of the Adolescent	3
Education 102D, Measurement and Evaluation in Secondary Education	2
Education 130, Educational Psychology	2
Health Education 151, Health Education for Teachers	2

The graduate work must consist of a minimum of 24 semester units of upper division or graduate work including the following specific requirements:

1. At least 12 semester units must be completed at San Diego State College.
2. At least one course of graduate level work (200 number) in the major field.
3. Enough units to complete a 21 semester unit minor. Refer to the section entitled: Majors and Minors for the General Secondary Credential.
4. Professional Education—completion of the courses listed above and the following:

Education 100B, Methods of Teaching (in the major and minor subjects) (available Fall Semester only)	3
Education 115A, History and Philosophy of Education	2
Education 201, Curricular Problems of the Secondary School	3
Education 202, Guidance Problems of the Secondary School	3
Education 316, Directed Teaching (or equivalent)	6

MAJORS AND MINORS FOR THE GENERAL SECONDARY CREDENTIAL

The following pages outline tentative programs for the majors and minors for which San Diego State College is authorized to recommend for the General Secondary Credential.

Major in Art

The requirements for the A.B. Degree and the Special Secondary Credential in Art should be completed simultaneously. (Students transferring from another institution with the A.B. Degree and a major in art should consult with the departmental representative for special program planning.) Refer to the section entitled: A.B. Degree with Special Secondary Credential in Art. After the above requirements have been met, and the candidate has been accepted by the art staff for graduate work in art, the candidate for the General Secondary Credential shall complete a graduate year including the following courses in his major:

Graduate Year	Units
Art 200A-200B, Special Problems in Art	4

Minor in Art

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Art A-B, Drawing and Composition	2-4
Art 6A-6B, Design	4
Art elective (Art 14A, Lettering, recommended)	0-2
Aesthetics 50, Appreciation and History of Art	2
Aesthetics 5, Art Orientation, or Art 51, Survey of Mexican Art	2

Upper Division

Upper division electives in Art	9
Aesthetics 150, Appreciation and History of Art	2

Major in Business Education

The requirements for the A.B. Degree and the Special Secondary Credential in Business Education must be completed simultaneously. Refer to the section entitled: A.B. Degree with Special Secondary Credential in Business Education. After the above requirements have been met, the candidate for the General Secondary Credential shall complete a graduate year including the following courses in his major:

Graduate Year

Select four units from the following:	
Commerce 203, Secretarial Administration	2
Commerce 213, Problems in Business Education	2
Commerce 223, Problems in Merchandising	2
Commerce 233, Administration and Supervision of Business Education	2
Commerce 260, Advanced Problem Analysis (Accounting)	2

Minor in Business Education

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

This minor is not approved as part of the requirements for the A.B. Degree unless the degree and a credential are awarded simultaneously. It is recommended as a second minor area only.

Lower Division

Commerce 14A-14B, Principles of Accounting	6
Economics 1A-1B, Principles of Economics	6

Upper Division

Upper division commerce courses selected with approval of the departmental representative	9
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Major in Chemistry

Lower Division

Chemistry 1A-1B, General	10
Chemistry 5, Quantitative Analysis	3
Mathematics 7A-7B, Mathematical Analysis, or 3A-3B, Plane Analytic Geometry and First Course in Calculus, and 4A-4B, Second and Third Course in Calculus	6-12
Physics 2A-2B, General, and 3A-3B, Physical Measurements (or 1A-1B-1C-1D, or 4A-4B-4C, Principles)	8-12

Upper Division

Chemistry 101, 102, 103, Organic Chemistry	10
Chemistry 105, Advanced Quantitative Analysis	3
Chemistry 110A-110B, Physical Chemistry	6
Electives in upper division chemistry, or electives in a related field approved by the departmental representative	5

Graduate Year

Chemistry 200, Seminars	4
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Minor in Chemistry

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Chemistry 1A-1B, General	10
Chemistry 5, Quantitative Analysis	3
Physics 2A-2B, General, and 3A-3B, Physical Measurements (or 1A-1B-1C-1D, or 4A-4B-4C, Principles)	8-12

Upper Division

Chemistry 101, Organic	4
Electives in upper division chemistry selected with approval of departmental representative	5

Major in Economics

Lower Division

Economics 1A-1B, Principles of Economics	6
Lower division year course in history, political science or sociology	6

Upper Division

Economics 100A-100B, Modern Economic Thought	6
Economics electives, including a maximum of 6 units in a related field approved by the departmental representative	18

Graduate Year

Economics 200A-200B, Seminar in Modern Economic Thought	4
---	---

Minor in Economics

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Economics 1A-1B, Principles of Economics	6
A year course in another social science area	6

Upper Division

Economics 100A, Modern Economic Thought	3
Upper division economics courses selected under the supervision of the departmental representative	6

Major in English*Lower Division*

English 1, Freshman Composition.....	3
English 6A-6B, The Study of Literature.....	6
English 56A-56B, Survey of English Literature or 60A-60B, Literature and Personality.....	6

Upper Division

Upper Division English courses selected under the supervision of the departmental representative.....	24
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Graduate Year

One of the following seminars.....	2
English 201, Shakespeare	
English 202, Mark Twain	
English 221, Regionalism in American Literature	
English 222, Utopias	
English 192, The English Language (if not taken as an undergraduate) or 191, 195, or an additional seminar from the foregoing list.....	2-3

Minor in English

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Lower division English courses to be selected under supervision of departmental representative.....	12
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Upper Division

Upper division English courses to be selected under the supervision of the departmental representative.....	9
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Minor in French

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

French A, B, C, D or equivalent.....	15-16
History 4A-4B, History of Modern Europe, or equivalent.....	6

Upper Division

French 101A-101B, Conversation and Composition.....	6
French Literature (select one course).....	3

Minor in Health Education for Men or Women

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Students majoring in physical education may use this only as a second minor. Students contemplating advanced degree work should plan to complete an academic minor as well as this minor.

Lower Division

Physical Education 51, First Aid and Safety Education.....	2
Home Arts 61A, Nutrition.....	2
Health Education 65, Community Health.....	3

Upper Division

Health Education 152, Health Education Programs.....	3
Health Education 153, Administration of School Health Program.....	3
Health Education 199, Special Study in Health.....	1-3

Major in History*Lower Division*

History 4A-4B, History of Modern Europe, or 8A-8B, History of the Americas, or 9A-9B, History of the Pacific Ocean Area.....	6
Political Science 1A-1B, Comparative Government, or Political Science 71A-71B, American Government and Politics, or Economics 1A-1B, Principles.....	6
Two of the above history courses are recommended for students planning to major in history, and it is suggested that History 4A-4B be included as one of the courses.	

Upper Division

History 199, Special Course for Advanced Students.....	2
United States History course.....	3-6
Select from three of the following areas with approval of departmental representative.....	16-19
1. Ancient and Medieval	
2. Modern European	
3. Latin America	
4. Pacific Area and Far East	

Graduate Year

History 270A-270B, Seminar.....	2-2
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Minor in History

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed. A year course in United States History must be included.

Lower Division

History 4A-4B, History of Modern Europe, or 8A-8B, History of the Americas, or 9A-9B, History of the Pacific Ocean Area.....	6
Electives chosen from anthropology, economics, geography (except Geography 1, 3, 4), political science, sociology.....	6

Upper Division

Upper Division History selected with approved of departmental representative.....	9
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Minor in Home Economics

A minimum of 21 semester units, of which at least 9 units shall be upper division, must be completed. Candidates selecting this minor must have their programs approved by the departmental representative.

Lower Division

Home Economics 5, Food Preparation.....	3
Home Economics 11, Clothing Design.....	3
Electives in Home Economics.....	0-3

Upper Division

Home Economics 101, Clothing Selection.....	3
Home Economics 105, Family Meals.....	3
Home Economics 150, Home Management.....	3
Home Economics 170, Child Care and Development.....	3
Electives in Home Economics.....	0-3

Minor in Industrial Arts

A minimum of 21 semester units, of which at least 9 shall be upper division courses, must be completed. The candidate must demonstrate competence in mechanical drawing. All candidates selecting this minor must have their programs approved by the departmental representative.

Lower Division

Industrial Arts 2, Mechanical Drawing.....	2
Select at least two courses from the following :.....	6
Industrial Arts 41, Elements of Metalworking.....	3
Industrial Arts 51, Elements of Woodworking.....	3
Industrial Arts 61, Elements of Electricity.....	3

Upper Division

Industrial Arts 121, Advanced Mechanical Drawing.....	3
Select at least two courses from the following :.....	4
Industrial Arts 141, Advanced Metalworking.....	2
Industrial Arts 151A, Furniture Making.....	2
Industrial Arts 161, Advanced Applied Electricity.....	2
Electives from Industrial Arts courses selected with approval of departmental representative to complete requirement.....	6-8

Major in Life Science*Lower Division*

Zoology 1A-1B, General	8
Botany 2A-2B, General	8
Zoology 20, Human Anatomy and Physiology	3
Chemistry 1A-1B, General, or 2A-2B, Fundamentals	6-10
Physics 2A-2B, General, and 3A-3B, Physical Measurements	8
Geology 1A, Physical, and Astronomy 1, Descriptive, recommended.	

Upper Division

Upper division Zoology and Botany, of which 6 units may be from a related field with the approval of the departmental representative

24

Graduate Year

Zoology 200, Seminar	2
Zoology 202, Hydrobiology, or Zoology 213, Advanced Studies in Ornithology	2

Minor in Life Science

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Biology 10A-10B, General Biology, or Zoology 1A-1B, General Zoology	6-8
Botany 2A-2B, General Botany	8
Chemistry 1A, General, or 2A-2B, Fundamentals	5-6

Upper Division

Upper division courses in Zoology and Botany to be selected with approval of the departmental representative

9

Major in Mathematics*Lower Division*

Mathematics 3A, Plane Analytical Geometry	3
Mathematics 3B, First Course in Calculus	3
Mathematics 4A, Second Course in Calculus	3
Additional mathematics or work in related areas	3
<i>Courses in related areas:</i> Astronomy 1, Descriptive Astronomy; Commerce 2, Mathematics of Finance; Engineering 1A, Plane Surveying; Engineering 21, Descriptive Geometry; Physics 1A or 4A, Mechanics of Solids; Physics 2A, General.	

Upper Division

At least one course in Algebra (Mathematics 102 or 111)	3
At least one course in Geometry (Mathematics 101, 105, 106)	3
History of Mathematics (Mathematics 104)	3
Third Course in Calculus (Unless Mathematics 4B in lower division) (Mathematics 117)	3
Probability and Statistics (Mathematics 140)	3
Additional upper division units, 6 of which may be in related areas	9

Graduate Year

Four units selected from the following:	
Mathematics 201, Secondary Geometry from an Advanced Point of View	2
Mathematics 202, Secondary Algebra from an Advanced Point of View	2
Mathematics 206, History of Mathematics	2

Minor in Mathematics

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

<i>Pattern I</i>	
Mathematics 7A-7B, Elementary Mathematical Analysis	6
Two courses selected from courses in related areas (See above under teaching major in mathematics)	6

or Pattern II

Mathematics D, Trigonometry (or high school equivalent for which pattern credit may be allowed)	3
Mathematics 3A, Plane Analytic Geometry	3
Mathematics 3B, First Course in Calculus	3
One course selected from courses in related areas (See above under teaching major in mathematics)	3

Upper Division

Upper division units in mathematics selected with the approval of the departmental representative

9

One course in each of the areas, algebra, geometry, and history of mathematics, is desirable.

Major in Music

The requirements for the A.B. Degree and the Special Secondary Credential in Music should be completed simultaneously. Students transferring from another institution with the A.B. degree and a major in Music should consult with the departmental representative for special program planning. Refer to page 33 for the recommended program for the Special Secondary Credential in Music. After the above requirements have been met, the candidate for the General Secondary Credential shall complete a graduate year including 4 units selected from the following courses in his major:

Graduate Year

Four units selected from the following:

Music 200A-200B, Special Problems in Music	2-2
Music 203, Musicology	2
Music 206, Composition	2

Minor in Music

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Music 1A or equivalent, and 1B, Musicianship	2-5
Music 4A-4B, Elementary Harmony	6
Aesthetics 1A-1B, Survey of Music	4
Music activities selected from Music 11, 12, 13, 15, 20, 26, 30	0-2

Upper Division

Select 9 units with approval of departmental representative from:	
Aesthetics 102A-102B, Music History	4
Aesthetics 100, Great Music	3
Music 105A-105B, Advanced Harmony and Composition	6
Music 106, Counterpoint	2
Music 107, Form and Analysis	2
Music 119A, Instrumental Conducting	1
Music 120A, Vocal Conducting	1
Music 121A-121B, Instrumentation and Arranging	4
Music 117A-117B, Advanced Individual Study of Voice	2
Music 118A-118B, Advanced Individual Study of Piano or Organ	2

Major in Physical Education for Men

The requirements for the A.B. Degree and the Special Secondary Credential in Physical Education must be completed simultaneously. Refer to page 35 for the recommended program for the Special Secondary Credential in Physical Education. After the above requirements have been met, the candidate for the General Secondary Credential shall complete a graduate year including the following courses in his major:

Select two courses from the following:

Physical Education 200, Evaluation Procedures in Health, Physical Education and Recreation	2
Physical Education 201, Developmental Physical Education	2
Health Education 202, Problems in Health Education	2
Physical Education 203, Problems in Physical Education	2
Physical Education 204, Problems in Recreation	2

Minor in Physical Education for Men

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

A student contemplating advanced degree work should plan to complete an academic minor as well as this minor.

Lower Division

Physical Education 51, First Aid and Safety Education	Units
Physical Education 53, Physical Education in the Elementary Schools	2
Physical Education 72, Introduction	2

Upper Division

Professional Activity courses selected with approval of departmental representative	4
Physical Education 190, Administration of Physical Education in Secondary Schools	3
Physical Education 170, Recreational Leadership	2

Major in Physical Education for Women

The requirements for the A.B. Degree and the Special Secondary Credential in Physical Education must be completed simultaneously. Refer to page 36 for the recommended program for the Special Secondary Credential in Physical Education. After the above requirements have been met, the candidate for the General Secondary Credential shall complete a fifth year (refer to page 25) including the following courses in his major:

Graduate Year

Select two courses from the following:

Physical Education 200, Evaluation Procedures in Health, Physical Education, and Recreation	2
Physical Education 201, Developmental Physical Education	2
Health Education 202, Problems in Health Education	2
Physical Education 203, Problems in Physical Education	2
Physical Education 204, Problems in Recreation	2

Minor in Physical Education for Women

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

A student contemplating advanced degree work should plan to complete an academic minor as well as this minor.

Lower Division

Physical Education 1A, Fundamental Skills	1
Physical Education 1B, Folk Dancing	1
Physical Education 1C, Rhythmic Skills	1
Physical Education 1D, Team Sports	1
Physical Education 53, Physical Education in Elementary Schools	2
Physical Education electives	1

Upper Division

Physical Education 156A-156B, Sports Methods	4
Physical Education 161, Folk Dancing Materials and Advanced Techniques	2
Electives selected from Physical Education 153, 170, 164A-164B	3

Major in Physical Sciences

This teaching major may be used as a major for the A.B. Degree if the lower and upper division requirements listed below are completed and the student has been admitted to candidacy for the General Secondary Credential and has completed at least nine units of professional courses in education by the date of degree candidacy.

Lower Division

Chemistry 1A-1B, General Chemistry	Units
Physics 1A-1B-1C-1D or 4A-4B-4C, Principles (or 2A-2B, General, and 3A-3B, Physical Measurements)	10
Mathematics 3A, Plane Analytic Geometry, 3B, First Course in Calculus, 4A, Second Course in Calculus (recommended 4B, Third Course in Calculus)	8-12
Biology 1, Survey	9-12
	3

Upper Division

Twenty-four units in chemistry and physics, with a minimum of 9 units in each of these two departments. Six units may be selected from related fields with approval of the departmental representative

Graduate Year

Select 4 units from the following:

Chemistry 200, Seminar	2-4
Physics 200, Seminar	2-4

Major in Physics**Lower Division**

Physics 1A-1B-1C-1D or 4A-4B-4C, Principles, or equivalent	12
Chemistry 1A-1B, General	10
Mathematics 3A-3B, Plane Analytic Geometry and First Course in Calculus	6
Mathematics 4A-4B, Second and Third Course in Calculus	6

Upper Division

Physics 105A-B, Analytical Mechanics	6
Physics 110A, Principles of Electrostatics and Electromagnetism	3
Physics 102, Electronics, or 110B, Electromagnetism	3
Electives from upper division physics, with a maximum of 6 units selected from related areas upon approval of departmental representative	12

Graduate Year

Select 4 units from the following:

Physics 200, Seminars (both semesters)	2-2
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Minor in Physics

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Physics 1A-1B-1C-1D or 4A-4B-4C, Principles, or equivalent	12
Chemistry 1A-1B, General	10
Mathematics 3A, Plane Analytic Geometry, 3B, First Course in Calculus, 4A-4B, Second and Third Course in Calculus	12

Upper Division

Upper division courses to be selected with approval of departmental representative

Major in Psychology

This major can be used for a General Secondary Credential only if the candidate completes two teaching minors.

Lower Division

Psychology 1, General	3
Psychology 10, Advanced General	3
Psychology 11, Applied, or 12, Mental Hygiene	3

Upper Division

	Units
Psychology 104A, Statistical Methods	3
Psychology 105B, Psychological Testing (Individual)	3
Psychology 131, Psychological Foundations of Personality	2
Psychology 132, Problems of Personality Adjustment	2
Psychology 151, Introduction to Clinical Appraisal	3
Psychology 160A, Experimental Psychology	3
Electives to be selected with approval of the departmental representative	8

Graduate Year

Psychology 200, Seminar in Psychology	2
Education 230, Guidance Problems in the Secondary School	3

Minor in Recreation for Men or Women

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Students majoring in Physical Education may use this only as a second minor. Students contemplating advanced degree work should plan to complete an academic minor as well as this minor.

Lower Division

Physical Education 51, First Aid and Safety Education	2
Physical Education 53, Physical Education in Elementary Schools	2
Electives selected from Art 61B, Crafts, or from the fields of dance, drama or music	2

Upper Division

Physical Education 165, Administration of Community Recreation	3
Physical Education 170, Recreational Leadership	3
Physical Education 199, Special Study in Physical Education or Recreation	1-3

Major in Romance Languages**Lower Division**

Spanish A-B, C-D, or the equivalent	16
French A-B, C-D, or the equivalent	16
History 4A-4B, or 8A-8B	6

Upper Division

Spanish 101A-101B, Conversation and Composition	6
French 101A-101B, Conversation and Composition	6
Spanish 199 of French 199, Comprehensive Reading and Survey Course	3
Courses in Spanish literature, French literature or Spanish-American literature, selected with the approval of the departmental representative	9

Graduate Year

Spanish 201, Old Spanish	2
Spanish 202, Seminar in Spanish-American Literature	2

Major in Social Sciences

This teaching major may be used as a major for the A.B. Degree if the lower and upper division requirements listed below are completed and the student has been admitted to candidacy for the General Secondary Credential and has completed at least 9 units of professional courses in education by the date of degree candidacy.

Lower Division

A student must complete a minimum of 6 units in each of at least 3 fields he may select from the departments named below:

Economics
Geography
History
Political Science
Sociology and/or anthropology

Upper Division

A student must complete a minimum of 30 units with the approval of the departmental representative as follows:

1. A minimum of 12 units from any field named above 12
2. A minimum of 6 units from each of two fields named above, excluding the field selected for the major upper division concentration 12
3. Electives from social science fields 6

Graduate Year

Post-bachelor work selected with approval of the departmental representative 4

Major in Spanish**Lower Division**

Spanish A-B, C-D, or the equivalent	16
French A-B, or German A-B, or Latin A-B	10
History 4A-4B, or 8A-8B	6

Upper Division

Spanish 101A-101B, Conversation and Composition	6
Spanish 199, Comprehensive Reading and Survey	3
Upper division courses in Spanish or Spanish-American literature with a maximum of 6 units which may be selected from related fields with the approval of the departmental representative	9-15

Graduate Year

Spanish 201, Old Spanish	2
Spanish 202, Seminar in Spanish-American Literature	2

Minor in Spanish

A minimum of 21 semester units, of which at least 9 units be upper division or graduate courses, must be completed.

Lower Division

Spanish, A, B, C, D or equivalent	15-16
History 4A-4B, History of Modern Europe, or 8A-8B, History of the Americas, or equivalent	6

Upper Division

Spanish 101A-101B, Conversation and Composition	6
Spanish Literature (select one course)	3

Major in Speech Arts**Lower Division**

Speech Arts 1, Voice and Diction, or 2A, Fundamentals of Public Speaking, or 2B, Extemporaneous Speaking, or 11A, Interpretation	3
Speech Arts 55A-55B, Elementary Acting, or 81, Survey of Radio, and 82, Radio Announcing, or 83, Radio Acting and Directing	6

Upper Division

Speech Arts 150, Phonetics	3
Speech Arts 154A-154B, History of the Theatre, or 155, Advanced Acting, and any first semester upper division course, or 140A-140B, Stage Design, or 179A-179B, Nervous Speech Disorders, or 192A-192B, Advanced Public Speaking	6

Speech Arts 179A-179B, Nervous Speech Disorders, or 159A-159B, Stage Direction, or two courses selected from the following: 181, Radio Sales and Advertising, 182, Advanced Radio Production, 183, Radio News Writing and Broadcasting, 184, Radio Writing, or 191, Organized Discussion 6

Speech Arts 108, Advanced Interpretation, or 118A or 118B, playwriting, or 145, Stage Lighting, or 152, Stage Costume, or 154A or 154B, History of the Theatre, or 162, Advanced Argumentation, or 176, Problems of Speech Correction and Articulation 3

A maximum of 6 units may be selected from related fields with approval of departmental representative 0-6

Graduate Year

Select four units from the following courses:	Units
Speech Arts 260, Seminar in Interpretation	2
Speech Arts 221, Seminar in Articulatory Problems in Speech	2
Speech Arts 245, Seminar in Technical Practice	2
Speech Arts 259, Seminar in Stage Direction	2
Speech Arts 200, Seminar in History of Oratory	2

Minor in Speech Arts

A minimum of 21 semester units, of which at least 9 units shall be upper division or graduate courses, must be completed.

Lower Division

Speech Arts 2A-2B, Fundamentals of Public Speaking and Extemporaneous Speaking; or 55A-55B, Elementary Acting; or 56A-56B, Dramatic Production; or 55A, Elementary Acting, and 2A, Fundamentals of Public Speaking, or 2B, Extemporaneous Speaking; or 55A, Elementary Acting, and 11A or 11B, Interpretation, or 1, Voice and Diction; or S1, Survey of Radio

12

Upper Division

Upper division Speech Arts electives selected with the approval of departmental representative

9

CURRICULA LEADING TO CREDENTIALS IN ADMINISTRATION AND SUPERVISION

CURRICULA LEADING TO CREDENTIALS IN ELEMENTARY SCHOOL ADMINISTRATION AND SUPERVISION

In addition to the general requirements of the State of California for all degrees, the candidate shall meet the following requirements:

- Possess a valid General Elementary Credential.
- Present written evidence of two years of successful teaching experience in the elementary schools.
- Complete 30 semester units for the Administration Credential (24 units for the Supervision Credential) of upper division or graduate work in addition to the holding of the General Elementary Credential. These units shall include specific courses designed by the State Department of Education and the college.
- Maintain a grade point average of 1.75 in work taken subsequent to receipt of the General Elementary Credential.
- Complete a minimum of 15 units of work in residence at San Diego State College.
- Make formal application to the Director of Elementary Education.
- Earn the recommendation of the Department of Education.

Students applying for the Elementary Administration or Supervision Credentials should register with the office of the Dean of Education and confer with the Director of Elementary Education concerning the courses which may be offered in satisfaction of the requirements. Outlines of pattern requirements for either the Elementary Supervision or Administration Credentials may be obtained by writing the Director of Elementary Education.

SPECIAL SUBJECT SUPERVISION CREDENTIAL

This credential is available for persons who wish to supervise in a special subject area. Those desiring this credential should see the Dean of Education.

CURRICULA LEADING TO CREDENTIALS IN SECONDARY SCHOOL ADMINISTRATION AND SUPERVISION

In addition to the general requirements of the State of California for all degrees, the candidate shall meet the following requirements:

- Possess a valid General Secondary Credential.
- Present written evidence of two years of successful teaching experience.
- Complete 18 semester units for the Administration Credential (15 semester units for the Supervision Credential) of upper division or graduate work after holding a valid General Secondary Credential. These units must include a specific pattern of courses designed by the State Department of Education and the college.
- Maintain a grade point average of 1.75 on units under (c).
- Complete a minimum of 12 units of work in residence at San Diego State College after holding the General Secondary Credential.
- Make formal application to the Director of Secondary Education.
- Earn the recommendation of the Department of Education.

Students applying for the Secondary Administration or Supervision Credentials should register with the office of the Dean of Education and confer with the Director of Secondary Education concerning the courses which may be offered in satisfaction of the requirements. Outlines of pattern requirements for either the Secondary Supervision or Administration Credentials may be obtained by writing the Director of Secondary Education.

THE BACHELOR OF EDUCATION DEGREE AND THE GENERAL ELEMENTARY TARY CREDENTIAL

ELIGIBILITY FOR CANDIDACY

Teachers holding the Provisional General Elementary School Credential are eligible for candidacy for the Bachelor of Education Degree. The purpose of this degree is to increase the professional competence of teachers who do not hold a bachelor's degree. The educational program of each applicant shall be determined on the basis of his previous preparation and of the services he is to render. In the period of professional preparation the applicant shall be guided into those learning experiences designed to meet his cultural and professional needs.

MINIMUM REQUIREMENTS

An applicant for the general elementary credential and the Bachelor of Education Degree shall comply with the procedures for application and with the requirements for personal qualifications and general training and shall have completed a program including the following minimum requirements:

- a. A four-year college course of 120 semester units, or the equivalent.
- b. Eighteen semester units, or the equivalent, of professional work in education, constituting an organized program designed to prepare candidates in the following areas:
 - (1) The evolution of educational thought and practice as to the function of the school in a democratic society, with emphasis on the elementary school.
 - (2) The nature of individual growth and development; the psychological aspects of learning; child study, with emphasis on directed observation of children; mental hygiene and personality development; parent education; guidance practices.
 - (3) The selection and arrangement of learning experiences, instructional materials, learning methods and appraisal techniques related to all statutory requirements for teaching, including reading, writing, spelling, language study, arithmetic, geography, history of the United States and of California, civics including the Constitution of the United States, music, art, physical education, healthful living, morals and manners, safety education, and fire prevention.
 - (4) The use of audio-visual aids in instruction.
- c. Directed teaching in the elementary school, eight semester units, or the equivalent, under the supervision of superior teachers in actual classroom situations of the elementary school level.
- d. Sixty-one semester units or the equivalent in basic subject fields, distributed approximately as follows:
 - (1) *Social Studies.* Twelve semester units, or the equivalent, with emphasis upon current economic, political, and social problems and world history and geography, sociology and anthropology. The legal requirement in United States Constitution and American history, institutions, and ideals shall be included in the social studies program.
 - (2) *Science.* Twelve semester units, or the equivalent, in the fields of physical and biological science, with emphasis upon the study and use of the environment.

- (3) *English*, including speech. Twelve semester units, or the equivalent, including oral and written expression, world literature, children's literature, dramatics, detection and correction of speech defects, and the use of books and libraries.
- (4) *Mathematics.* Three semester units, or the equivalent, including subject matter and techniques essential in the teaching of mathematics in the elementary school.
- (5) *Health and Hygiene.* Three semester units, or the equivalent, including personal hygiene, subject matter and techniques essential in health education to elementary school pupils.
- (6) *Physical Education.* Three semester units, or the equivalent, including subject matter and techniques essential in the teaching of physical education to elementary school pupils.
- (7) *Music.* Eight semester units, or the equivalent, including content and techniques appropriate for the elementary school.
- (8) *Art.* Eight semester units, or the equivalent, in graphic art and industrial arts applicable to learning experiences appropriate for elementary school children.
- e. The remaining units necessary to complete the requirements for the Bachelor of Education degree shall be distributed among those offerings of the institution that best serve the cultural and professional needs of the candidate.

EVALUATION OF TEACHING EXPERIENCE AND SUBJECT MATTER FIELDS

- a. A candidate with two or more years' teaching experience may be awarded a maximum of 8 semester units of credit, or the equivalent, in directed teaching provided he demonstrates satisfactory skill to a representative of the institution under whose direction he is completing his degree program, or provided other conditions set by the institution to insure classroom skill are met. This credit shall not be applied until the candidate has completed at least 112 semester units, or the equivalent, of his program.
- b. Credit toward the B. Ed. degree may be secured by passing comprehensive examinations in the fields of study mentioned in paragraphs (b) and (d) above.

INSTITUTION AND RESIDENCE REQUIREMENTS

- a. A minimum of 30 semester units, or the equivalent, must be secured from the college conferring the degree.
- b. At least 12 semester units, or the equivalent, must be earned in campus residence course work at the college conferring the degree and must be secured after completion of at least 90 semester units, or the equivalent.
- c. A maximum of 30 units may be secured by examination.

THE BACHELOR OF SCIENCE DEGREE

The Bachelor of Science Degree will be offered in certain curricula to be designated at a later date. Students interested in this degree should obtain supplementary information from the Office of the Registrar.

PREPROFESSIONAL AND VOCATIONAL CURRICULA

Preprofessional and vocational curricula, ranging in length from two to four years of collegiate work, are offered. Curricular outlines of preprofessional study, which are presented on the following pages, meet the typical requirements for admission to professional schools. Students expecting to complete their professional training at other institutions should modify the suggested outlines of study to meet the requirements of the professional schools of their choice. Curricular outlines for complete training leading to vocations are also presented on the following pages.

Curricular outlines are presented for agriculture, commerce, dentistry, education, engineering, home arts, inter-American relations, journalism, law, life science occupations, medicine, nursing, optometry, pharmacy, recreation, and veterinary science. Students desiring to modify these curricular outlines in terms of liberal arts majors should consult the advisers in the respective curricula.

PRE-AGRICULTURAL CURRICULA

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; intermediate algebra, 1 unit; trigonometry, $\frac{1}{2}$ unit; chemistry, 1 unit; physics, 1 unit; mechanical drawing, 1 unit; foreign language, 3 units in one language.

Students should ascertain the lower division requirements of the agricultural college they expect to enter.

CURRICULUM IN PLANT SCIENCE

Freshman Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living	2	-
Chemistry 1A-1B, General	5	5
Botany 2A-2B, General	4	4
Physics 2A-2B, General	3	3
English 1, Freshman Composition	-	3
Elective	2	1
	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Sophomore Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Economics 1A-1B, Principles	3	3
English 2, Freshman Literature, or optional course	-	3
Chemistry 101, Elementary Organic, and 102, Laboratory	4	3
Geology 1A, Physical, or 2A, General	3	-
Bacteriology 1, General	-	4
Zoology 1A, General	4	-
Psychology 1, General	-	3
Elective	2	-
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

CURRICULUM IN ANIMAL SCIENCE

Freshman Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Chemistry 1A-1B, General	5	5
Zoology 1A-1B, General	4	4
Physics 2A-2B, General	3	3
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	3	3
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Sophomore Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living	2	-
Psychology 1, General	3	-
Economics 1A-1B, Principles	3	3
Bacteriology 1, General	-	4
Botany 2A, General	4	-
Chemistry 101, Elementary Organic, and 102, Laboratory	4	3
Zoology 100, Embryology	-	3
Zoology 20, Human Anatomy and Physiology, or 8, Human Anatomy	-	3
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

COMMERCE CURRICULUM

The first two years of the curriculum are introductory. During this period the student acquires a basis for further study and an understanding of the place that business fills in modern economic life. The choice of the major field should be made at the beginning of the junior year. The student then follows a program of studies that is designed to provide a vocational ability in at least one particular area: (A) Accounting; (B) Banking and Finance; (C) Business Administration; (D) Marketing; or (E) Secretarial.

Lower Division	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	2	-
English 8, Business English, and 2, Freshman Literature, or optional course	6	-
Health Education 21, Principles of Healthful Living	2	-
Psychology 1, General	3	-
Natural Sciences (including Geography 1, Elements)	9-12	-
History, Political Science, or Sociology	3-6	-
Geography 10, Economic (not required in the Marketing field)	3	-
Economics 1A-1B, Principles	6	-
Commerce 2, Mathematics of Finance (not required in the Marketing or Secretarial fields)	3	-
Commerce 14A-14B, Principles of Accounting (students in Secretarial field take 16A-16B instead)	6	-
Commerce 18A-18B, Commercial Law	6	-
Electives	0-8	-
Marketing subfield must include:		
Commerce 20, Consumer Economics	3	-
Commerce 24, Merchandising	3	-
Commerce 25, Salesmanship	3	-
Commerce 27, Advertising Principles	3	-
Art 7, Line, Color, Display	2	-
Secretarial subfield must include:		
Commerce A, Business Mathematics	1	-
Commerce 1A-1B, Typewriting	6	-
Commerce 5A-5B, Shorthand	10	-
(Students knowing typewriting or shorthand must take placement examinations in these subjects before enrolling in 1A-1B or 5A-5B. It is recommended that shorthand be taken in the junior year.)		

Upper Division		Units
Minor (in addition to courses applied toward the major)		9
Major		24-25
For (A) <i>Accounting</i> ; (B) <i>Banking and Finance</i> ; (C) <i>Business Administration</i> ; and (D) <i>Marketing</i> , the following courses must be included: Economics 111, Economic History of the United States, or 170, Government and Business, or Commerce 123, Marketing Principles; Economics 140, Statistical Methods; Commerce 121, Business Administration; and 15 units selected from one of the following groups:		
A. <i>Accounting</i> : Commerce 160A-160B, 161A-161B, 162, 164A-164B, 165A-165B.		
B. <i>Banking and Finance</i> : Commerce 133, 134, 137; Economics 131, 135, 142.		
C. <i>Business Administration</i> : Commerce 123, 125, 126, 127A, 133, 134, 137, 153, 184; Economics 128, 142, 150, 170.		
D. <i>Marketing</i> : Commerce 123, 124, (students who wish to specialize in insurance may elect 127B, 128A, 128B), 137, 153, 184, 185, 186, 187A, 187B, 188, 189; Home Economics 160A, 160B.		
For (E) <i>Secretarial</i> : Major: 25 units to include the following courses: Commerce 103A-103B, Office Management, 113A-113B, Secretarial Office Practice, 123, Marketing Principles, 153, Personnel Administration, and 164A, Income Tax Procedure. Directed electives: an additional 9 units selected from Commerce 121, 186, 188, Economics 111, 135, 142, 150, or 170, with approval of departmental representative.		
Electives (to include minimum 40 upper division unit requirement)		17-27
		60

PRE-DENTAL CURRICULUM

Candidates for a degree in dentistry should ascertain the entrance requirements of the dental college to which they expect to transfer and should make whatever changes in the following typical requirements that may seem desirable in satisfying the requirements of the specific dental college.

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; chemistry, 1 unit; physics, 1 unit; foreign language, 3 units in one language; mechanical drawing, 1 unit.

Freshman Year		Units
		1st Sem. 2d Sem.
Physical Education (activity courses)		$\frac{1}{2}$ $\frac{1}{2}$
Health Education 21, Principles of Healthful Living		2
Chemistry 1A-1B, General		5
Physics 2A-2B, General		3
Physics 3A-3B, Physical Measurements		1
English 1, Freshman Composition, and 2, Freshman Literature, or optional course		3
Psychology 1, General		3
Elective		0-2
		16 $\frac{1}{2}$ 16 $\frac{1}{2}$
Sophomore Year		Units
		1st Sem. 2d Sem.
Physical Education (activity courses)		$\frac{1}{2}$ $\frac{1}{2}$
Chemistry 101, Elementary Organic, and 102, Laboratory		4
Zoology 1A-1B, General		4
Mathematics C, Intermediate Algebra, and D, Trigonometry		3
Social Science (year course selected from Anthropology 1A-1B, General; Economics 1A-1B, Principles; History 4A-4B, Modern Europe, or 8A-8B, the Americas, or 17A-17B, American Civilization; Political Science 1A-1B, Introduction to Government)		3
Electives (a course in public speaking is recommended)		2
		16 $\frac{1}{2}$ 16 $\frac{1}{2}$

The following courses are suggested for a third year in preparation for dentistry for those who fail to receive an acceptance from a dental college after completing the prescribed 60 units.

Junior Year		Units
		1st Sem. 2d Sem.
Chemistry 5, Quantitative Analysis		3
Zoology 106, Comparative Anatomy of the Vertebrates		4
Zoology 100, Embryology		4
Art 119A, Ceramics (see prerequisite)		2
Psychology 11, Applied		3
Additional Year Course in Social Science		3
Electives		4
		16 16

The curriculum for Dental Hygiene is essentially the same as the above for pre-dentistry.

ENGINEERING CURRICULUM

In recent years the engineering profession has become so complex and diversified that an almost endless number of specialties has arisen. Many engineering colleges and universities have attempted to encompass these specialties with the addition of more and more specialized courses to their curricula. This has resulted in two things, the gradual crowding out of nearly all nontechnical courses, and an increase in the number of units required for graduation to approximately the equivalent of another year's work. This has produced graduates who are expert technicians but who lack the broad education essential to the understanding of modern society.

It is recognized that all successful engineers must have a thorough grounding in the fundamental sciences and mathematics on which technology depends. Also they must have a broad general education in order that they may intelligently apply their technical skills and knowledge to the problems of society.

The engineering program at San Diego State College is designed to give the student a sound training in the fundamentals of engineering with a minimum of specialization and at the same time the broad training and experiences which constitute a liberal education. The Bachelor of Arts Degree is offered at present in Engineering; however, the Bachelor of Science Degree will soon become an optional degree. Students interested in the Bachelor of Science Degree should consult with the Chairman of the Department concerning further details.

FIELDS OF SPECIALIZATION

In the freshman and sophomore years all students majoring in engineering are expected to take the courses listed below. In the junior and senior years optional programs are available which provide limited specialization in *aeronautical, chemical, civil, electrical, electronic or mechanical engineering, or engineering physics or engineering economics*. Normally, students are expected to elect one of these basic options. In certain cases equivalent programs may be worked out which will better suit the needs of the individual student.

It should be noted that the engineering major allows considerable latitude in the choice of electives in the junior and senior years. Students are encouraged to choose electives which suit their particular needs in broadening their training in the field of general education. The choice of electives must follow a logical plan approved by the faculty adviser.

MINOR FIELD

Students majoring in engineering must elect a *minor* in one of the following fields: *Chemistry, economics, mathematics, or physics*. The upper division economics and mathematics courses included in the curriculum may be used in partial fulfillment of the requirements for the minor in those fields. Engineering 102A-102B may be substituted for Physics 105A-105B in partial fulfillment of the requirement for a physics minor.

PREPARATION FOR TRANSFER

Students may stay at San Diego State College for less than four years and then complete their training for professional engineering at some other engineering school. In such cases the curriculum for the first two years will be essentially the same as that

given below, but the student should plan his work carefully with the help of a faculty adviser to insure satisfaction of all requirements.

HIGH SCHOOL PREPARATION

The high school program should include the following subjects: Elementary algebra, 1 unit; plane geometry, 1 unit; intermediate algebra, 1 unit; solid geometry, $\frac{1}{2}$ unit; trigonometry, $\frac{1}{2}$ unit; chemistry, 1 unit; physics, 1 unit; mechanical drawing, 1 unit.

Lower Division

Courses must be included to satisfy all college requirements for the A.B. Degree, except the foreign language requirement. See section entitled: Lower Division Requirements for All Curricula.

	Units	
	1st Sem.	2d Sem.
Freshman Year		
Math. 3A-3B, Analytic Geometry and First Course in Calculus.....	3	3
Physics 1A-1B, Mechanics of Solids, Fluids, Heat and Sound, or 4A, Mechanics, beginning in second semester of freshman year.....	0-3	3-4
Chemistry 1A-1B, General Chemistry.....	5	5
English 1, Freshman Composition.....	3	-
Health Education 21, Principles of Healthful Living.....	2	-
Biology 1, Survey of Biology (unless taken in high school).....	-	3
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Electives.....	0-3	1-2
	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Sophomore Year		
Math. 4A-4B, Second and Third Courses in Calculus.....	3	3
Physics 1C-1D, Electricity and Magnetism, Light and Atomic Physics, or 4B, Electricity, and 4C, Heat, Sound, and Light.....	3-4	3-4
Economics 1A-1B, Principles of Economics.....	3	3
Engineering 21, Descriptive Geometry.....	3	-
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Other courses to complete lower division preparation, including Psychology 1, English, and Social Science (see section entitled: Lower Division Requirements for All Curricula.).....	3-4	6-7
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

One of the following groups of courses is required, dependent upon the field of specialization desired in the upper division:

	Units
For Civil Engineering	
Engineering 1A-1B, Plane Surveying.....	6
Astronomy 3, Surveyor's Course in Practical Astronomy.....	3
For Mechanical, Electrical and Aeronautical Engineering	
Engineering 1A, Plane Surveying.....	3
Engineering 22, Machine Drawing.....	3
Elective.....	3
For Chemical Engineering	
Chemistry 5, Quantitative Analysis.....	3
Chemistry 101, Organic Chemistry.....	4
Elective.....	2
For Engineering Economics	
Commerce 14A-14B, Principles of Accounting.....	6
Elective.....	3
For Engineering Physics	
Engineering 22, Machine Drawing (recommended).....	3
Elective.....	6

Students should, if possible, complete all of the college lower division requirements in the sophomore year. Any not completed then must be completed in the junior year.

Upper Division

All upper division requirements for the A.B. Degree must be met.

These include:

Examination in American History and U. S. Constitution.

Completion of a minimum of 24 upper division units for the major.

Completion of a minimum of 9 upper division units for the minor in one of the following fields: Chemistry, economics, mathematics, or physics.

The courses required for the engineering major include a core group plus those required for each field of specialization. These are indicated below.

The choice of a field of specialization and the choice of electives must be approved by the engineering department. Students normally will submit master plans of their upper division program for departmental approval at the beginning of the junior year. Any subsequent deviation from this plan must be approved by the department.

Required for All General Engineering Students

	Units
Junior Year	
Engineering 102A-102B, Analytical Mechanics.....	6
Engineering 100A-100B, Elements of Electrical Engineering.....	6
Engineering 140, Strength of Materials.....	3
Senior Year	
Engineering 128, Applied Engineering Thermodynamics.....	3
Engineering 105, Hydraulics.....	3
Engineering 199, Senior Report.....	2

Additional Requirements for Various Fields of Specialization

Aeronautical Engineering

Junior Year	
Engineering 122, Machine Design.....	3
Engineering 141, Materials of Engineering Laboratory.....	2
Mathematics 118 or 119 or 124.....	3
Economics 131 or 150 or 170.....	3
Electives.....	4
Senior Year	
Engineering 156, Aerodynamics.....	3
Engineering 142, Stress Analysis.....	3
Engineering 129, Heat Power Laboratory.....	2
Economics 131 or 150 or 170.....	3
Electives.....	11

Chemical Engineering

Junior Year	
Chemistry 102, Organic Chemistry Laboratory.....	3
Engineering 141, Materials of Engineering Laboratory.....	2
Mathematics 118 or 119 or 124.....	3
Economics 131 or 150 or 170.....	3
Electives.....	4
Senior Year	
Chemistry 110A-110B, Physical Chemistry.....	6
Chemistry 144A-144B, Chemical Engineering.....	6
Economics 131 or 150 or 170.....	3
Electives.....	7

Civil Engineering

Junior Year	
Engineering 130, Route and Construction Surveying.....	3
Engineering 141, Materials of Engineering Laboratory.....	2
Mathematics 118 or 119 or 124.....	3
Economics 131 or 150 or 170.....	3
Electives.....	4

<i>Senior Year</i>		<i>Units</i>
Engineering 131, Advanced Surveying	3	
Engineering 106, Hydraulics Laboratory	2	
Economics 131 or 150 or 170	3	
Electives	14	
<i>Electrical Engineering</i>		
<i>Junior Year</i>		
Engineering 101A-101B, Electrical Engineering Laboratory	4	
Mathematics 118 or 119 or 124	3	
Economics 131 or 150 or 170	3	
Electives	5	
<i>Senior Year</i>		
Physics 107, Electrical Measurements	2	
Physics 102, Electronics	3	
Economics 131 or 150 or 170	3	
Electives	14	
<i>Mechanical Engineering</i>		
<i>Junior Year</i>		
Engineering 122, Machine Design	3	
Engineering 141, Materials of Engineering Laboratory	2	
Mathematics 118 or 119 or 124	3	
Economics 131 or 150 or 170	3	
Electives	4	
<i>Senior Year</i>		
Engineering 129, Heat Power Laboratory	2	
Engineering 106, Hydraulics Laboratory	2	
Engineering 145, Internal Combustion Engines	3	
Economics 131 or 150 or 170	3	
Electives	12	
<i>Engineering Economics</i>		
<i>Junior Year</i>		
Commerce 121, Business Administration	3	
Economics 133, Corporation Finance	3	
Commerce 18A, Commercial Law	3	
Economics 140, Statistics	3	
Elective	3	
<i>Senior Year</i>		
Economics 170, Government and Business	3	
Commerce 150, Labor Problems	3	
Economics 131, Public Finance	3	
Electives	13	
<i>Engineering Physics</i>		
<i>Junior Year</i>		
Mathematics 118 or 119 or 124	3	
Economics 131 or 150 or 170	3	
Electives	9	
<i>Senior Year</i>		
Physics 102, Electronics	3	
Physics 107, Electrical Measurements	2	
Physics 110A, Electricity and Electromagnetism	3	
Economics 131 or 150 or 170	3	
Electives	11	

Electronics Engineering

<i>Junior Year</i>		<i>Units</i>
Physics 102, Basic Electronics	3	
Engineering 104 or Physics 104, Communications	2	
Physics 122, Electronics Laboratory	2	
Mathematics 118 or 119 or 124	3	
Economics 131 or 150 or 170	3	
Elective	1	
<i>Senior Year</i>		
Engineering 124 or Physics 124, Radio Measurements	2	
Engineering 150, Industrial Electronics	2	
Physics 152, Advanced Electronics	2	
Physics 107, Electrical Measurements	2	
Economics 131 or 150 or 170	3	
Electives	11	

PRE-FORESTRY CURRICULUM

Students desiring to enter professional training in forestry should ascertain the entrance requirements of the college to which they expect to transfer and should make whatever changes in the following suggested pre-forestry courses that may seem desirable in satisfying the requirements of that college.

The high school program should include the following subjects: English, 4 units; Elementary Algebra and Plane Geometry, 2 units; Intermediate Algebra, 1 unit; Solid Geometry, $\frac{1}{2}$ unit; Trigonometry, $\frac{1}{2}$ unit; Physics, 1 unit; Chemistry, 1 unit; History, 1 unit; Geometrical Drawing, 1 unit; foreign language, 2 to 4 units, preferably German or French.

	<i>Units</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>Freshman Year</i>		
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Chemistry 1A-1B, General	5	5
Botany 2A-2B, General	4	4
English 1, Composition, and English 2, Literature	3	3
Mathematics 3A, Plane Analytic Geometry	3	-
Mathematics 3B, First Course in Calculus	-	3
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
<i>Sophomore Year</i>		
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Physics 2A-2B, General	3	3
Physics 3A-3B, Physical Measurements	1	1
Engineering 1A-1B, Plane Surveying	3	3
Economics 1A-1B, Principles	3	3
Geology 2A, General	2	-
Health Education 21, Principles of Healthful Living	-	2
Psychology 1, General	3	-
Chemistry 101, Elementary Organic	-	4
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

HOME ARTS CURRICULUM

The Home Arts curriculum is designed to meet the needs of those students who wish to apply their knowledge to the various problems of home living. This curriculum is based on the *general major* in arts and sciences with a field of concentration in Home Economics combined with two other fields to be selected by the student in consultation with the Chairman of the Department of Home Economics and the Dean of Arts and Sciences. (For specific information on the *general major*, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.) By appropriate selection of courses, the student may prepare for the fields of journalism, radio, community recreation, home service in industry, merchandising, and several phases of social work.

The outline of courses listed below is suggested as a plan for the *general major* with Home Economics as a field of concentration.

	Units	
	1st Sem.	2d Sem.
Lower Division		
Freshman Year		
Physical Education (activity courses)-----	1	1
English 1, Freshman Composition, and 2, Freshman Literature or optional course-----	3	3
Psychology 1, General-----	3	-
Health Education 21, Principles of Healthful Living-----	2	-
Chemistry 2A-2B, General-----	3	3
Art 6A, Design-----	2	-
Home Economics 1, Home and Family Life-----	-	3
Electives (See lower division requirements, page 17. Student should also see prerequisites for upper division courses for the general major)-----	3	7
	16½	16½
Sophomore Year		
Physical Education (activity courses)-----	1	1
Home Economics 61A-61B, Nutrition and Laboratory-----	-	3
Home Economics 5, Food Preparation-----	3	-
Home Economics 10, Fundamentals of Clothing-----	-	3
Sociology 50A-50B, Introduction-----	3	3
Electives (completion of lower division requirements and prerequisites for upper division courses for the general major)-----	10	7
	16½	16½
Preparation for U. S. Constitution and American History requirement.		
Suggested electives for the first two years:		
Biology 10A-10B (6), or Biology 1 (3), Zoology 20 (3)		
Physics 2A-2B (6)		
Speech Arts 2A-2B (6)		
History 17A-17B (6)		
Health Education 90 (1)		
Art 6B (2), 61B (2)		

Upper Division

Home Economics courses to satisfy the general major should be selected from the following:

	Units
Home Economics 101, Clothing Selection-----	3
Home Economics 105, Family Meals-----	3
Home Economics 108, Marriage and the Family-----	3
Home Economics 160A, Merchandise Analysis--Textiles-----	2
Home Economics 160B, Merchandise Analysis--Non-Textiles-----	2
Home Economics 102, Child Growth and Development-----	3

INTER-AMERICAN RELATIONS

The purpose of this curriculum is (1) to furnish a basis for a more intelligent and effective understanding of the opportunities and problems of international relations in the western hemisphere; (2) to provide facilities for a basic education and training for a business or professional career which involves international relations.

Competition for opportunities of service in international affairs is severe. The student who plans a career in this field should therefore organize his electives to provide for a concentration in some area of work in which there are greater vocational opportunities. Preparation for employment as a foreign representative of an American business organization implies concentration in economics. The student who pursues this curriculum as a guide for training for the foreign service in consular, vice consular, secretarial, and other public offices should include additional courses in foreign language, history, political science, geography, and economics to furnish more effective preparation for the comprehensive competitive examinations required for appointment to the Service and for entrance to the Foreign Officers Training School at Washington, D. C.

This program should be completed either with a major in economics or a general major. Consult the Dean of Arts and Sciences for details.

The high school program should include the following subjects: algebra, 1 unit; plane geometry, 1 unit; foreign language, 3 units in one language, preferably Spanish.

	Units	
	1st Sem.	2d Sem.
Freshman Year		
Physical Education (activity courses)-----	1	1
Health Education 21, Principles of Healthful Living-----	2	-
English 1, Freshman Composition, and 2, Freshman Literature, or optional course-----	3	3
Spanish-----	0-5	0-5
Natural Science (see page 18)-----	3-5	3-5
History 8A-8B, History of the Americas-----	3	3
Psychology 1, General-----	4-8	0-3
Elective-----		
	15½	15½
Sophomore Year		
Physical Education (activity courses)-----	1	1
Additional Natural Science (if needed to meet requirement)-----	0-3	-
Economics 1A-1B, Principles-----	3	3
Political Science 1A-1B, Introduction to Government, or 71A-71B, Introduction to American Government and Politics-----	3	3
Geography 1, Elements of Physical Geography-----	3	-
Elective-----	0-6	9
	15½	15½
Junior Year		
Economics 195, International Economic Relations-----	-	3
Political Science 150A-150B, International Relations-----	3	3
History 173A-173B, The Expansion of the United States-----	3	3
Spanish 104A-104B, Spanish-American Literature-----	3	3
Elective-----	3	-
Economics elective-----		
Examination in U. S. Constitution-----	15	15
Senior Year		
Economics 190, Principles of Foreign Trade-----	-	3
Economics 198, Investigation and Report (Western Hemisphere)-----	3	-
History 161, Mexico and the Caribbean Countries-----	-	3
History 162, South America Since Independence-----	-	3
Geography 116, Geography of Latin America-----	3	-
Geography 121, Geography of North America-----		
Electives from economics, history, political science, or geography to complete the general major-----	3	3
Elective-----	3	3
	15	15

PRE-JOURNALISM CURRICULUM

Students desiring to emphasize journalism in working for the A.B. Degree at this college should work toward a general major with journalism included as one of the three major fields of study. (Refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences, for explanation of the general major.)

The curriculum suggested below takes cognizance of the widely held contention that a candidate for a position in the newspaper, magazine, or publishing field should be more than a product of vocational training. A competent journalist must bring to his work a broad educational background, with particular emphasis on the social sciences.

Students interested in specialized journalism (such as a foreign correspondence, scientific, financial, or political reporting) should attempt to fit specialized courses into their curricula. Additional social science courses are recommended as electives.

Students preparing for degrees in journalism from other colleges should ascertain entrance requirements of the college to which they expect to transfer, and should mold their programs accordingly.

The following curriculum is suggested for students who have not decided upon any field of specialization within journalism:

	Lower Division	Units	
		1st Sem.	2d Sem.
Freshman Year			
Physical Education (activity courses).....		$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living.....		2	-
English 1, Freshman Composition, and 2, Freshman Literature or optional course.....		3	3
Psychology 1, General; and 10, Advanced General, or 11, Applied.....		3	3
History 4A-4B, Modern Europe, or 8A-8B, The Americas, or 17A-17B, American Civilization (this course, if elected, must be taken in the sophomore year).....		3	3
Natural Science (see Lower Division Requirements for All Curricula).....		3	3
Elective.....		-	3
		14 $\frac{1}{2}$	15 $\frac{1}{2}$
Sophomore Year			
Physical Education (activity courses).....		$\frac{1}{2}$	$\frac{1}{2}$
Journalism 51A, Elements.....		3	-
Journalism 51B, News Gathering and Reporting.....		-	3
Foreign Language (if not completed in high school).....		5	5
Natural Science.....		3	3
Economics 1A-1B, Principles; or Sociology 50A-50B, Introduction and General.....		3	3
Library Science 10, Use of the Library.....		-	2
		14 $\frac{1}{2}$	16 $\frac{1}{2}$
	Upper Division		

On acquiring upper division status, the student should confer with his adviser in planning courses to meet his specific and specialized needs and that meet the requirements for the A.B. Degree with a general major, including U. S. Constitution and American history graduation requirement.

LABORATORY TECHNICIAN—CLINICAL, MEDICAL, OR PUBLIC HEALTH

The preparation for laboratory technician in clinical, medical, or public health fields is the same, except that the license for Medical Laboratory Technician requires five years of experience as a clinical technician. For the Clinical Laboratory Technician license a six months' apprenticeship must be served in an approved laboratory.

Select courses for major and minor in consultation with adviser.

	Lower Division	Units	
		1st Sem.	2d Sem.
Freshman Year			
Physical Education (activity courses).....		$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living.....		-	2
Psychology 1, General.....		3	-
Chemistry 1A-1B, General.....		5	5
English 1, Freshman Composition, and 2, Freshman Literature.....		3	3
Zoology 1A, General.....		4	-
Social Science (see lower division requirements).....		-	3
Elective.....		-	3
		15 $\frac{1}{2}$	16 $\frac{1}{2}$
Sophomore Year			
Physical Education (activity courses).....		$\frac{1}{2}$	$\frac{1}{2}$
Chemistry 5, Quantitative Analysis.....		-	3
Bacteriology 1, General.....		4	-
Physics 2A, General.....		3	-
Physics 3A, Physical Measurements.....		1	-
Physiology 1A, 1C, General.....		-	5
Foreign Language (if needed).....		5	5
Social Science (see lower division requirements).....		3	3
(see also U. S. History and Constitution requirements)			
		16 $\frac{1}{2}$	16 $\frac{1}{2}$
	Upper Division		
Junior Year			
Chemistry 101, 102, Organic.....		4	3
Bacteriology 102, Advanced.....		-	4
Zoology 111, Parasitology.....		4	-
Electives (to include major and minor fields).....		7	8
Senior Year			
*Chemistry 114, 115, Biochemistry.....		3	2
*Zoology 145, Haematology.....		3	-
Electives to satisfy A.B. Degree requirements, including major and minor fields.....		9	12
		15	14

* Not required for Public Health Laboratory Technician certificate.

PRE-LEGAL CURRICULUM

The entrance requirements of law colleges range from two years to three and four years of pre-legal work. The lower division requirements of the arts and sciences curricula should be met in full whether the curriculum extends over a period of two, three, or four years.

The following curriculum meets the recommendations of standard American law colleges for a broad and liberal education. For the majority of pre-legal students a general major with concentration in economics, political science, and history, or a major-minor combination in these fields, will constitute the most effective preparation for later professional study in law and for later activities in the field of business. (For description of the general major, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.)

	Units	
	1st Sem.	2d Sem.
Lower Division		
Freshman Year		
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living.....	-	2
Foreign Languages (if needed to complete requirement).....	0-5	0-5
Natural Science (see lower division requirements).....	3-6	3-6
English 1, Freshman Composition, and English 2, Freshman Literature, or optional course.....	3	3
Commerce 14A-14B, Principles of Accounting.....	3	3
Psychology 1, General.....	3	0-4
Elective.....		
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Sophomore Year		
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Additional Natural Science (if needed to meet requirement).....	3	-
Economics 1A-1B, Principles of Economics.....	3	3
Philosophy 1A-1B, Introduction, or 3A-3B, History of Thought.....	3	3
Political Science 1A-1B, Introduction to Government or 71A-71B, Introduction to American Government and Politics.....	3	3
Electives.....	3	6
	15 $\frac{1}{2}$	15 $\frac{1}{2}$

Upper Division

In the junior and senior years, the student should select his concentration according to the general field of legal practice in which he will be working, with the counsel of his adviser and the departments most concerned. For example, a student expecting to work in the foreign service or international field on an administrative level would probably have his major concentration in international law. Students going into federal employment on an administrative level would need appropriate political science courses. A student expecting to become a lawyer working in the field of criminal law would include pertinent sociology courses (105, 106) in his program. For the broad field of general legal practice and its relations with the field of business, the economics students will be interested in the suggested curriculum given below. It is flexible, to be varied according to the aims of the student with the counsel of his advisers and members of the departments in which he wishes to concentrate.

	Units	
	1st Sem.	2d Sem.
Junior Year		
Economics 133, Corporation Finance.....	-	3
Economics 150, Labor Problems.....	3	-
Economics Elective.....	-	3
History 151A-151B, History of England, or 172A-172B, Constitutional History of the United States.....	3	3
Political Science 111A-111B, Theory of the State, or 140 Principles of Public Administration, and 141, Organization and Procedure in Public Administration.....	3	3
Sociology 105, Social Pathology, and 106, Criminology and Penology.....	3	3
Electives (see upper division requirements).....	3-6	3-6
Examination in U. S. Constitution, American history, institutions, and ideals.....		
	15	15
Senior Year		
Economics 100A, Modern Economic Thought.....	3	-
Economics 170, Government and Business.....	3	-
Economics Elective (Economics 131 recommended).....	-	3
History 111A-111B, Ancient History, or 121A-121B, Medieval History.....	3	3
Political Science 153, Principles of International Law, and 154, International Law and the Courts.....	3	3
Electives.....	3	6
	15	15

LIFE SCIENCE VOCATIONAL CURRICULA

Students planning to enter any of the terminal curricula listed below should include in their high school program the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; chemistry, 1 unit; physics, 1 unit; French or German, 3 units.

	Units	
	1st Sem.	2d Sem.
Lower Division		
Freshman Year		
English 1, Freshman Composition, and 2, Freshman Literature or optional course.....	3	3
Chemistry 1A-1B, General.....	5	5
Zoology 1A-1B, General.....	4	4
Social Science (see page 18).....	3	3
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Sophomore Year		
Botany 2A-2B, General.....	4	4
Bacteriology 1, General.....	4	-
Psychology 1, General.....	-	3
Social Science (see page 18).....	3	3
Speech Arts 2A, Fundamentals of Public Speaking.....	3	-
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Electives (complete lower division requirements).....	2	(
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Preparation for U. S. Constitution and American History graduation requirement.

Upper Division

Work in the upper division should be planned in consultation with the Chairman of the Division of Life Sciences. A terminal curriculum is offered leading to the following occupational fields: Entomology, fish and game, and wild life. Courses may be selected from those listed below.

WILD LIFE, FISH AND GAME

General Entomology	Taxonomy of Plants
Economic Entomology	Microtechnique
Medical Entomology	Mammalogy
Systematic Entomology	Ornithology
Cold Blooded Vertebrates	Economic Biology
Parasitology	Organic Chemistry
General Physiology	Statistics
Ecology	Public Administration

PRE-MEDICAL CURRICULUM

The entrance requirements of medical colleges ordinarily range from three to four years of pre-medical work. The lower division requirements of the liberal arts curricula include the general requirements of standard medical colleges and should therefore be met in full whether the curriculum extends over a period of three or of four years. All plans for pre-medical work should include an arrangement of courses to meet the requirements of the medical college which the student expects to enter.

A student who is pursuing a four-year pre-medical curriculum should major in chemistry or zoology in his junior and senior years, and must meet all upper division requirements for the A.B. Degree in the liberal arts curricula.

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; chemistry, 1 unit; physics, 1 unit; French or German, 3 units. Two units of Latin are recommended.

Freshman Year	Lower Division	Units	
		1st Sem.	2d Sem.
	Physical Education (activity courses)-----	$\frac{1}{2}$	$\frac{1}{2}$
	Health Education 21, Principles of Healthful Living-----	2	-
	Chemistry 1A-1B, General-----	5	5
	English 1, Freshman Composition, and 2, Freshman Literature, or optional course-----	3	3
	French or German (if needed to meet requirement)-----	0-5	0-5
	Elective-----	0-5	0-5
		15 $\frac{1}{2}$	16 $\frac{1}{2}$

Sophomore Year	Upper Division	Units	
		1st Sem.	2d Sem.
	Physical Education (activity courses)-----	$\frac{1}{2}$	$\frac{1}{2}$
	Zoology 1A-1B, General-----	4	4
	Psychology 1, General-----	3	-
	Chemistry 5, Quantitative Analysis-----	3	-
	Social Science-----	3	3
	Elective-----	3	9
		16 $\frac{1}{2}$	16 $\frac{1}{2}$

Junior Year	Upper Division	Units	
		1st Sem.	2d Sem.
	Physics 2A-2B, General-----	3	3
	Physics 3A-3B, Physical Measurements-----	1	1
	Chemistry 101, Elementary Organic, and 102, Organic Chemistry Laboratory-----	4	3
	Zoology 100, Embryology-----	-	4
	Zoology 106, Comparative Anatomy of the Vertebrates-----	4	-
	Electives-----	4	4
	Examination in U. S. Constitution, American history, institutions, and ideals-----	-	-
		16	15

Senior Year	Upper Division	Units	
		1st Sem.	2d Sem.
	Upper division requirements and electives for the major in Chemistry or Zoology, the minor and the degree-----	15	15
		15	15

PRE-NURSING CURRICULUM

A student who plans to complete a curriculum in nursing leading to a degree and a certificate in nursing in another collegiate institution should ascertain the lower division requirements of that institution.

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; chemistry, 1 unit; physics, 1 unit; French or German, 3 units; domestic science (foods), 1 unit; 2 units of Latin are recommended.

Freshman Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)-----	$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living-----	-	2
Biology A, Mathematics of Solutions and Dosage-----	2	-
Chemistry 2A-2B, Fundamentals-----	3	3
Home Economics 61A, Nutrition, and 61B, Nutrition Laboratory-----	-	3
English 1, Freshman Composition, and 2, Freshman Literature, or optional course-----	3	3
French or German (if needed to complete requirements)-----	0-5	0-5
Elective-----	3-8	0-5
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Sophomore Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)-----	$\frac{1}{2}$	$\frac{1}{2}$
Psychology 1, General, and 11, Applied-----	3	3
Economics 1A-1B, Principles, or Sociology 50A, Introduction, and 50B, General-----	3	3
Bacteriology 1, General-----	4	-
Physiology 1A, Human Physiology, and 1C, Laboratory-----	-	5
Zoology 8, Human Anatomy-----	3	-
Elective-----	3	5
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

PRE-OPTOMETRY CURRICULUM

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; intermediate algebra, 1 unit; trigonometry, $\frac{1}{2}$ unit; chemistry, 1 unit; physics, 1 unit; foreign language, 2 units.

The following curriculum prepares for junior standing in university schools of optometry. Student should consult the catalogue of the school to which he expects to transfer.

Freshman Year	Units	
	1st Sem.	2d Sem.
Chemistry 1A-1B, General-----	5	5
English 1, Freshman Composition, and 2, Freshman Literature, or optional course-----	3	3
Speech Arts 2A, Fundamentals of Public Speaking-----	-	3
Foreign Language (if needed to complete requirement)-----	5	5
Physical Education (activity courses)-----	$\frac{1}{2}$	$\frac{1}{2}$
Electives (social science or other lower division requirement)-----	3	3
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Sophomore Year	Units	
	1st Sem.	2d Sem.
Physics 2A-2B, General	3	3
Physics 3A-3B, Physical Measurements	1	1
Psychology 1, General	-	3
Mathematics 3A, Plane Analytic Geometry	3	-
Social Science (complete requirement)	3	3
Physiology 1A, Human Physiology	-	3
Physiology 1C, Human Physiology (Laboratory)	-	2
Health Education 21, Principles of Healthful Living	2	-
Chemistry 101, Elementary Organic	4	-
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
	16 $\frac{1}{2}$	15 $\frac{1}{2}$

PRE-PHARMACY CURRICULUM

The high school program should include the following subjects: elementary algebra, 1 unit; plane geometry, 1 unit; intermediate algebra, 1 unit; trigonometry, $\frac{1}{2}$ unit; chemistry, 1 unit; physics, 1 unit; foreign language, 2 units.

The American Association of Colleges of Pharmacy allows not more than one year of credit for work completed in an institution other than a college of pharmacy. Generally the first year work and part of that of the second year may be completed before transfer, the time required in the college of pharmacy cannot be reduced to less than three academic years. Students should ascertain the requirements of the college of pharmacy they expect to enter.

Freshman Year	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	3	3
Chemistry 1A-1B, General	5	5
Zoology 1A-1B, General	4	4
Botany 2A, General	4	-
Mathematics 1, College Algebra, or 3A, Plane Analytic Geometry (Prerequisite: Mathematics C and D, or two years of high school algebra and one-half year of trigonometry)	-	3
	16 $\frac{1}{2}$	15 $\frac{1}{2}$

The following courses are also commonly required or recommended: (See, however, three-year rule, above.) Chemistry 5, Quantitative Analysis, 101, Elementary Organic, 102, Organic Chemistry Laboratory; Psychology 1, General; Physiology 1A, Human Physiology, or Zoology 20, Human Anatomy and Physiology.

PUBLIC ADMINISTRATION CURRICULUM

The Public Administration curriculum is an adaptation of the *general major* designed for students interested in taking the junior administrative examination for entrance into local, state, or federal government service. It is also designed to prepare students for graduate work in the field of Public Administration. Students planning to enter graduate work in this field should consult with the adviser in Public Administration in planning the student program.

The outline of courses suggested below is for the purpose of guiding the student in planning the *general major*. For further information on the *general major* refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

Lower Division	Units	
	1st Sem.	2d Sem.
Freshman Year		
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Health Education 21, Principles of Healthful Living	-	2
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	3	3
Psychology 1, General, and 10, Advanced General	3	3
Geography 1, Elements (a natural science)	3	-
Foreign language (if not completed in high school)	0-5	0-5
Electives (see lower division requirements in natural science)	1-6	3-5
	15 $\frac{1}{2}$	16 $\frac{1}{2}$
Sophomore Year		
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Political Science 71A-71B, Introduction to American Government and Politics	3	3
Economics 1A-1B, Principles	3	3
History 17A-17B, History of American Civilization	3	3
Electives (to include Mathematics C, Intermediate Algebra, unless completed in high school; and completion of lower division requirements)	6	6
	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Upper Division		
Junior Year		
Political Science 140, Principles of Public Administration	3	-
Political Science 141, Organization and Procedure in Public Administration	-	3
Economics 131, Public Finance	-	3
Economics 140, Statistical Methods	3	-
Upper division social science courses to apply toward the third field for the general major, to be selected in consultation with adviser	3	3
Electives selected in consultation with adviser	6	6
	15	15
Senior Year		
Political Science 139A-139B, American Constitutional Development	3	3
Political Science 198, Special Studies in Government	2-4	-
Economics upper division elective, selected from list below	-	3
Upper division social science courses to apply toward the third field for the general major, to be selected in consultation with adviser	3	3
Upper division elective to complete minimum 40-unit upper division requiring for graduation	2-3	-
Electives selected in consultation with adviser	3-5	6
	15	15

RECREATION CURRICULUM

The curriculum in recreation is arranged under the plan of the general major to provide a program to train for playground work, camp leadership, work with youth groups, and related activities. See description of the general major in section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

Lower Division

	Units
Health Education 21, Principles of Healthful Living	2
Physical Education	7-8
Activity courses: 3 for men; 6 for women, selected from the following: 2A, 3A-3B, 4, 5, 6, 9, 11A, 13, 14.	
Physical Education 44, Professional Activities (men)	2
Physical Education 51, First Aid	2
Physical Education 53, Physical Education for Elementary Schools	2½
Social Science (to include Sociology 50A, Introduction, and 50B, General). See lower division requirements in social science	12
Psychology 1, General, and 11, Applied	6
Foreign Language (if 3 years not completed in high school)	10
Natural Science (Physical Science 1A, Introduction, or Astronomy 1, Descriptive) and additional units selected from Biology 1, Survey, 10A-10B, General, Botany 4, California Plants, Geology 2A, General. (Include laboratory science if needed)	12
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	6
Speech Arts 2A, Fundamentals of Public Speaking	3
Elective	1-1½
Prepare for U. S. Constitution and American History graduation requirement.	60

Upper Division

General Major (see page 20)	36
Sociology (minimum of 9 units; maximum of 15 units)	
Sociology 106, Criminology and Penology	3
*Sociology 107, Juvenile Delinquency	3
Sociology 109, Fields of Social Work	3
*Sociology 110, Race Relations	3
*Sociology 195, Community Welfare Organization	3
Sociology 197, Urban Sociology	3
Physical Education (minimum of 9 units; maximum of 15 units)	
Physical Education 145, Professional Activities (men) or 156A-156B (women)	2
Physical Education 146, Professional Activities (men) or 161 (women)	2
*Physical Education 165, Community Recreation	3
*Physical Education 170, Recreational Leadership	3
*Physical Education 199, Special Study in Recreation	3
Select a third field for the general major from the following: speech arts, psychology, art, music, education, biological science (minimum of 9 units; maximum of 15 units)	
Education 174 Audio-visual-radio Education	2
Electives (including at least 2 units of upper division)	22
	120

Consultation with an adviser in the Department of Physical Education is advised in selecting courses and fields of study for the general major.

* These courses are required.

PRE-SOCIAL WORK CURRICULUM

The professional curriculum in social service prepares for admission to graduate work in recognized American schools of social work. This curriculum should be pursued by those who plan careers in federal, state and local welfare work; social work in public schools including preparation for a teaching credential; family and children's private case work agencies; social settlement work; county probation work; child welfare agencies; statistical and investigational work in private and public agencies; work in public institutions for the defective and delinquent; medical social service and psychiatric social work in hospitals and clinics; executive positions in social work; and social work in numerous other organizations.

The lower division requirements of the arts and sciences curricula include the general requirements of recognized professional schools of social work and should therefore ordinarily be met in full. The outline of courses below meets the requirements for the general major. For description of the general major, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

The following subjects should be completed in high school: elementary algebra, 1 unit; plane geometry, 1 unit; intermediate algebra, 1 unit; foreign language, 3 units in one language.

	Units	
	1st Sem.	2d Sem.
Lower Division		
Freshman Year		
Physical Education (activity courses)	½	½
Health Education 21, Principles of Healthful Living	-	2
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	3	3
Biology 10A-10B, General	3	3
Foreign Language (if needed to complete requirement)	0-5	0-5
Psychology 1, General, and 11, Applied	3	3
Electives (see natural science requirement, page 18)	1-6	1-4
(Also recommended: Speech Arts 2A-2B, Public Speaking)		
	15½	15½
Sophomore Year		
Physical Education (activity courses)	½	½
Economics 1A-1B, Principles	3	3
Political Science 1A-1B, Introduction to Government, or 71A-71B, Introduction to American Government and Politics	3	3
Additional Natural Science (if needed to meet requirement)	3	-
Sociology 50A-50B, Introduction and General	3	3
Electives (anthropology recommended)	3	6
	15½	15½
Upper Division		
Junior Year		
Economics 170, Government and Business, or 195, International Economic Relations	-	3
Sociology 103, Elementary Social Statistics	3	-
Sociology 109, Fields of Social Work	-	3
Psychology 150, Abnormal Psychology	3	-
Psychology 145, Social Psychology	-	3
Zoology 165, Human Heredity	2	-
Elective	7	6
Examination in U. S. Constitution and American History.	15	15

Senior Year

	Units	
	1st Sem.	2d Sem.
Economics 185, Social Insurance, or 150, Labor Problems	3	-
Sociology 197, Urban Sociology	3	-
Sociology upper division elective	-	3
Psychology 151, Introduction to Clinical Appraisal	3	-
Economics 102, Comparative Economic Systems, or 131, Public Finance	-	3
Political Science 140, Principles of Public Administration, and 141, Organization and Procedure in Public Administration, or 143, Municipal and County Government, or upper division anthropology	3	3
Upper division elective (to complete minimum of 40 upper division units)	2	-
Additional upper division electives recommended	1	6
	15	15

PRE-VETERINARY CURRICULUM

Most colleges of veterinary medicine require but one year (32 units) of pre-veterinary college work. There are a few colleges which require two years and it is best to consult the bulletin of the college to which admission is desired for special requirements.

Freshman Year

	Units	
	1st Sem.	2d Sem.
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Chemistry 1A-1B, General	5	5
Zoology 1A-1B, General	4	4
English 1, Freshman Composition, and 2, Freshman Literature, or optional course	3	3
Health Education 21, Principles of Healthful Living	2	-
Electives	2	4
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Sophomore Year

	Units	
	1st Sem.	2d Sem.
Botany 2A-2B, General	4	4
Physics 2A-2B, General	3	3
Physics 3A-3B, Physical Measurements	1	1
Chemistry 101, Elementary Organic	4	-
Psychology 1, General	-	3
Social Science	3	3
Physical Education (activity courses)	$\frac{1}{2}$	$\frac{1}{2}$
Electives	1	2
	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Suggested electives are additional Mathematics, Foreign Language, Entomology.

ANNOUNCEMENT OF COURSES**COURSE NUMBERS**

Courses numbered from 1 to 99 are lower division (freshman or sophomore) courses; those numbered 100 to 199 are upper division (junior or senior) courses; those numbered 200 to 299 are graduate courses (see section on Admission and Registration for information concerning eligibility to enroll in these courses); those numbered 300 to 399 are professional education courses to be taken at the graduate level.

CREDIT FOR UPPER DIVISION COURSES

Freshmen are not admitted to upper division courses.

A sophomore may enroll in an upper division course for lower division credit provided he has earned an average grade of not less than 1.5 in all college work undertaken, and provided he receives the instructor's permission to enroll in the course.

A second semester sophomore may enroll in an upper division course for upper division credit without the foregoing grade limitations provided the units earned in the upper division course or courses are in excess of the 60 units required in the lower division.

A student with sophomore standing may carry upper division courses for upper division credit provided that he has the written approval of the chairman of the department and the Dean of Arts and Sciences or the Dean of Education.

UNITS

Figures in parentheses indicate the unit value of the course.

One "unit" represents 50 minutes of recitation or lecture, together with the required preparation, or three hours laboratory work each week for a semester of 18 weeks.

ORDER IN WHICH COURSES ARE OFFERED

The semester in which courses are offered is designated as follows: Fall (given in Fall only); Spring (given in Spring only); Fall or Spring (given in either Fall or Spring); Fall and Spring (a year course beginning in either the Fall or Spring); Year Course (beginning in Fall).

Either semester of a year course may be taken first unless otherwise designated.

Although the college fully expects to carry out the arrangements planned in the list of courses, it reserves the right to make changes. Classes in which the enrollment does not come up to the minimum number set by the State Department of Education may not be offered or may be postponed.

PREREQUISITES

Prerequisites for courses are stated. A student should not enroll in a course for which he is not eligible.

PROVISIONAL COURSES

Courses numbered 40 to 45 are open only to students who are in the provisional program. Other students (those not having provisional status) are not eligible to take these courses.

AESTHETICS IN THE DIVISION OF FINE ARTS

Major

A *major in arts and sciences* is not offered in aesthetics; however, certain courses in this field are required as part of the majors in art and in music. For specific information, refer to these departments.

A *teaching major* is not offered in aesthetics; however, certain courses in this field are required as part of the teaching major in art and in music for the general secondary and the special secondary credentials in these fields. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is not offered in aesthetics.

A *teaching minor* is not offered in aesthetics; however, certain courses in this field are required as part of the teaching minor in art for the general secondary, the general junior high school, and the special secondary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

1A-1B. Survey of Music

Correlation of music and other arts. Designed to stimulate enjoyment of music by developing intelligent listening. The elements of music, its structure, folk music of all countries, musical instruments, and the contributions of the best known composers, with some biographical study of these men. Compositions are presented by orthophonic recording and by class members. Attendance at a number of local concerts is required. No previous musical training or background is necessary. Music majors are required to complete additional assignments for full credit.

Year course (2-2)

5. Art Orientation

An illustrated lecture course dealing with aesthetic meaning and its relation to the structure of art products. Designed to increase both understanding and appreciation of the visual world in general and of the fine arts in particular.

Spring (2)

50. Appreciation and History of Art

A survey of art development in the painting, sculpture, architecture, and handicrafts from dawn of art to the Renaissance. Illustrated.

Fall (2)

51. Survey of Mexican Art

A study of Mexican and Middle American Art from earliest time to present.

Fall (2)

52A-52B. Survey of Oriental Art

A study of the art of the great cultures of the Orient. (52A is a prerequisite for 52B.)

Fall and Spring (3-3)

Upper Division Courses

100. Great Music

A listening course designed especially for the layman and concert-goer. Masterpieces of instrumental and vocal music will be performed by means of recordings and by local musicians. A study of artistic trends and their effect upon musical composition and performance. Correlation of musical art and other arts. No prerequisites. No credit for music majors.

Summer (3)

102A-102B. Music History

The various movements in the development of music as related to the other arts. The chronological development of the art of music with particular emphasis on the larger works. Considerable attention is given to the works of modern composers. Many symphonic works are studied from the orchestral scores. Music majors are required to complete additional assignments for full credit. Prerequisite: Aesthetics 1A or 1B.

Year course (2-2)

150. Appreciation and History of Art

The period from the Renaissance through the modern school treated in the same manner as in Aesthetics 50.

Spring (2)

ANTHROPOLOGY IN THE DIVISION OF SOCIAL SCIENCES

Major

A *major in arts and sciences* is not offered in anthropology; however, upper division units in anthropology may be planned under the *general major* program. Students wishing to use anthropology as a field of concentration in the *general major* should include the following courses in the lower division: Anthropology 1A-1B, 2 or 3; Geography 1, 2; Geology 1A-1B; Psychology 1, 10 or 11; Sociology 50A-50B; recommended: Spanish, German, or French. The following fields of study are recommended in the upper division in addition to anthropology with a view to later specialization in anthropological work: for *archaeology*: art, geography, geology, and history; for *physical anthropology*: psychology and zoology; for *museum work*: art, education, geology, and psychology. For further information on the *general major*, refer to the section on Admission and Registration.

A *teaching major* is not offered in anthropology; however, it may be used as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of the requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in anthropology. The minor must include at least 15 units of work in anthropology, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in anthropology for the general secondary credential; however, anthropology may be used as a part of the *social science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the requirements for the teaching minor for these credentials.

1A-1B. General Anthropology

Origin and antiquity of man. Theories of human descent. Classification of races. Origin and early development of civilization.

Year course (3-3)

2. Physical Anthropology

An introduction to the studies of primatology and anthropometry. The comparative anatomy of the monkeys and great apes, the emergence of the anthropoids, the reconstruction of early man from fossil evidence. The landmarks, measures and indices used in the metrical study of the living human body and skeletal material. Sexual differences and growth changes in the skull and skeleton.

Fall (3)

3. Survey of Archaeology

A review of the history of modern archeology and a discussion of its methods. The development of archaeological techniques in reconstructing the ancient cultures of the Mediterranean world. The problems of present day archaeology in the Near East, the Orient and the Americas. The principles and basic techniques used in the excavation of sites and the reporting of findings.

Spring (3)

54. Social Anthropology

An anthropological study of social institutions in primitive and civilized societies. The evolution of family organization, religion, property right, and government traced in elementary and advanced civilization.

Spring (3)

Upper Division Courses**151A. The North American Indian**

Pre-Columbian cultures of the North American Indian. The origin and migration of New World peoples. Industries, arts, crafts, social organization, religion and other phases of American Indian civilization.

Fall (3) (Not offered in 1949-50)

151B. Indian Civilization of Middle America

The development of civilization in Pre-Columbian Mexico and Central America: Aztec, Mayan, and related cultures.

Spring (3) (Not offered in 1949-50)

152. World Ethnography

The cultural patterns of representative aboriginal peoples. Industries, arts, social organization and supernaturalism considered with a view to environmental adjustment, historical development and functional interrelation. Ethnological theories reviewed and applied in interpreting illustrative aboriginal societies.

Fall (3)

153. Primitive Religion

Beliefs and ritual of primitive man. Magic and religion. Forms of animism and polytheism. Primitive mentality and the supernatural.

Spring (3)

161. The California Indian

A survey of native California Indian culture with stress on the Indian groups of Southern California. The industries, arts, social organization, folklore and religion will be considered as revealed through the study of living peoples and archaeological evidences.

Offered only during summer sessions (3)

165. Ethnology and Race Psychology

The biological basis of race, somatic and serologic typology, racial mentality, tests and their ethnopsychological significance, abnormality in ethnic groups. Race and culture; ethnic aspects of demography.

Fall (3) (Not offered in 1949-50)

172. Indian Cultures of the Southwest

Pueblo Indian culture of the Southwestern states and its background in the arts, crafts, architecture and religion of the past. The culture of contemporary Puebloan villages interpreted in terms of earlier civilizations revealed through archaeology. Recent trends in archaeological research reviewed.

Offered only during summer sessions (3)

ART

IN THE DIVISION OF FINE ARTS

Major

A *major in arts and sciences* is offered in art. Every student who plans to major in art, whether under the liberal arts program or the teacher training program, should complete the following basic courses: Aesthetics 5 or 51, and 50, Art A-B, 6A-6B, and 14A. Under the liberal arts program the student majoring in art may choose either a group of courses in which the crafts are emphasized or a group of courses in which the graphic arts are emphasized. One of the following plans should be selected:

Emphasis on crafts: The student should add to the list of basic courses required of all art majors the following courses: lower division: Art 6D, 7, 11A-11B, and 61B; upper division: Aesthetics 150, Art 106A or B or C, 106D, 117A-117B, 119A-119B, and 6 units of art electives. This program points in the direction of industrial design, interior design, cabinet making, sculpture, weaving, textile design, ceramics, etc.

Emphasis on graphic arts: The student should add to the list of basic courses required of all art majors the following courses: lower division: Art 15A, 16A, and 4 units of art electives; upper division: Aesthetics 150, Art 106A, 112A-112B, 115A-115B, 116A-116B, 117A, and 6 units of art electives. This program points in the direction of illustration, portraiture, landscape painting, mural design, poster design, production illustration, advertising design, fashion design, etc.

A *teaching major* in art is offered for the general secondary credential and the special secondary credential. Students planning to teach art in the secondary schools should add to the list of basic courses required of all art majors the following courses: lower division: Art 61A-61B, and 6 units of art electives; upper division: Aesthetics 150, Art 116A, 112A, 106A, 119A, 195, and 6 units of art electives. Speech Arts 140A should also be completed. For further information, refer to the outlines of requirements for the special secondary and general secondary credentials.

Minor

A *minor in arts and sciences* is offered in art. The minor must include at least 15 units of work in art, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in art for the general secondary, the general junior high school, and the special secondary credentials. Art may be offered only as a second teaching minor for the general elementary and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Art Appreciation, History and Orientation

For courses in appreciation, history of art, and art orientation, see aesthetics. Many students, regardless of the field in which they may be majoring, recognize the need for an intelligent approach to the subject of art and art appreciation. However, due to the erroneous popular feeling that art is a subject requiring "talent", these students may refrain from enrolling in art courses. For students who desire a better understanding of art, but who do not hope to acquire any of the art skills, the following courses are recommended:

	Units
Aesthetics 5, Art Orientation	2
Aesthetics 50, History and Appreciation of Art	2
Aesthetics 51, Survey of Mexican Art	6
Aesthetics 52A-52B, Survey of Oriental Art	2
Art 8, Costume and Home-furnishing	2

Other courses which require certain skills but which are not beyond the ability of the average college student are:

Art 61B, Crafts	2
Art 6A, Design	2
Art A, Drawing and Composition	2
Art 94, Costume design	2

Lower Division Courses

A. Drawing and Composition

Problems involving perspective to develop ability to draw still life, furniture, exteriors, interiors, and the like. (High school equivalent may excuse the student from this course.)

Fall or Spring (2)

Art B. Drawing and Composition

Drawing of mechanical and natural forms by the use of line and value. Emphasis on proportion and structure. Some quick sketching, gesture and contour drawing. Prerequisite: Art A.

Fall or Spring (2)

6A. Design

Fundamentals of design and composition and theory of color. Basic course used as a prerequisite for all advanced work.

Fall or Spring (2)

6B. Design

Original work in creative design and representation with special stress on modern tendencies. Prerequisite: Art 6A.

Fall or Spring (2)

6D. Design

Study of the principles of design through the making of furniture. Prerequisite: 6A.

Fall or Spring (2)

7. Line, Color and Display

The principles of line, color and arrangement applied to store and window display. Study and observation of windows, color and materials used in display. Building models and practical problems in arranging colors, textures, and forms in windows to fit different kinds of merchandise.

Fall or Spring (2)

8. Costume and House Furnishings

An appreciative study of modern architecture and modern house furnishings, with emphasis on the spirit of gracious living and an appreciative study of the modern dress with emphasis on suitability to the figure, the personality and the occasion.

Fall or Spring (2)

11A. Industrial Design

Design of objects for manufacture with reference to their use, materials, and in accordance with factory practices and machine techniques. Prerequisite: Art 6A-6B, A.

Fall (2)

11B. Advanced Industrial Design

Advanced problems with particular attention to the techniques of presentation—working drawings, renderings in perspective and scale models. Prerequisite: Art 6A-6B, A, 11A.

Spring (2)

14A. Lettering

Fundamental art principles applied to lettering. Practice for quick, accurate lettering; original problems using letters as design. Prerequisite: Art 6A.

Fall (2)

14B. Posters and Commercial Art

The application of lettering to posters, newspaper and magazine advertising, and other forms of commercial art. The study of composition combined with lettering and special study of modern tendencies in publicity. Prerequisites: Art 6A, 14A.

Spring (2)

15A-15B. Life Drawing

Drawing from the nude model. Prerequisite: Art A-B.

Fall and Spring (2-2)

16A-16B. Painting

Semester I: Composition of still life in oil. Semester II: Landscape and more advanced composition in oil. Prerequisite: Art A-B.

Fall and Spring (2-2)

17A-17B. Sculpture

Creative design in such materials as clay, wood, stone, concrete, etc. Prerequisites: Art 6A-6B.

Fall and Spring (2-2)

61A. Crafts in the Elementary Schools

A foundation course which develops unification of work of the elementary grades through activities and experiences. These experiences grow out of environmental activities. They include study and working of clay, lumber and tools, textiles, and cardboard construction. Prerequisite: Art 6A.

Fall or Spring (2)

61B. Crafts

Problems involving the application of design principles to various fields—pottery, textiles, weaving, metal work, wood-carving, and book-binding. Prerequisite: Art 6A.

Fall or Spring (2)

94A-94B. Costume Design

Original designs of modern costumes suitable to the individual or to distinct types; the drawing of fashion figures; the rendering of fabrics and textures. Prerequisite: Art 6A.

Fall and Spring (2-2)

95A-95B. Interior Decoration (See Art 195A-195B)

Upper Division Courses

106A-106B. Printmaking

Study of print crafts which includes the making of linoleum blocks, wood engravings, etchings and lithographs. Prerequisites: Art A, B, 6A.

Fall and Spring (2-2)

106C. Illustration

Same as 106A-B except that printmaking is applied to problems of book illustration. Prerequisites: Art A, B, 6A.

Spring (2)

106D. Advanced Furniture Design

(See Art 6D) Prerequisite: Art 6D.

Fall or Spring (2)

112A-112B. Design and Composition

Imaginative organization of space by means of color, dark and light, perspective, and textures of various materials. Prerequisites: Art A-B, 6A-6B.

Year course (2-2)

115A-115B. Life Drawing and Painting

Drawing and painting from nude and costume models. Prerequisite: Art A-B.

Fall and Spring (2-2)

115C-115D. Advanced Life Drawing and Painting

Painting from nude and costume models and advanced composition in oil. Portraiture. Prerequisite: Art 115A-115B.

Fall and Spring (2-2)

116A-116B. Advanced Painting

Painting in oils from still life and landscape, stressing composition. Prerequisite: Art 16A or 16B.

Fall and Spring (2-2)

117A-117B. Sculpture

Creative design in such materials as clay, wood, stone, concrete, etc. Prerequisites: Art 6A-6B and 17A or 17B.

Fall and Spring (2-2)

119A. Ceramics

Building of pottery on the basic techniques of coil, slab, mold making, and slip casting. Ceramic sculpture, glazing and kiln operations. Prerequisite: Art 6A.

Fall (2)

119B. Ceramics

Study of glazes and elementary clay technology. Mold making, slip casting with application to individual creative problems. Prerequisite: Art 119A.

Spring (2)

166. Special Studies

A student with the necessary grade point average may apply for work in an upper division art course and register for Art 166, Special Studies. (See page 15.)

194A-194B. Costume Design (For description, see Art 94A-94B)

Prerequisite: Art 6A and consent of instructor.

Fall and Spring (2-2)

195A-195B. Interior Design

The consideration of the house as a unit; the arrangement of garden, house, floor plan, and furniture as functional and decorative problems. Prerequisite: Art A and 6A. 195A is a prerequisite for 195B.

Fall and Spring (2-2)

Graduate Courses**200A-200B. Special Problems**

A graduate course in which students may carry out projects in various fields of art under the direction of faculty members who are specialists in the field chosen. Students registering for this course must apply for work within a certain field after discussions with the art faculty. Prerequisite: Graduate standing and consent of instructor.

Fall and Spring (2-2)

ASTRONOMY**IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is not offered in astronomy. Students desiring to prepare for advanced work in astronomy should include the following courses: Astronomy 1, 2, 3, 9, and 10; Mathematics 3A-3B, 4A-4B; Physics 1A-1B-1C-1D or 4A-4B-4C; a reading knowledge of French and German.

A *teaching major* is not offered in astronomy; however, astronomy may be used as part of the general science major for the general junior high school credential. For specific information, refer to the outline of requirements for the general science teaching major for this credential.

Minor

A *minor in arts and sciences* is not offered in astronomy.

A *teaching minor* is not offered in astronomy; however, astronomy may be used as part of the *general science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the requirements of the teaching minor for these credentials.

Lower Division Courses**1. Descriptive Astronomy**

A cultural course planned to develop an appreciation of astronomy with special emphasis on the solar system. Only calculations of an elementary nature are used. Especial attention is given to the methods and instruments by means of which astronomical knowledge has been gained. A six-inch John Byrne refractor and an eight-inch reflecting telescope are available for observation. Prerequisites: Elementary algebra and plane geometry.

Fall and Spring (3)

2. Modern Astronomy

A study of the stellar system in the light of modern research, especially photographic and spectrographic. Prerequisite: Astronomy 1 or permission of the instructor.

Spring (3)

3. Surveyor's Course in Practical Astronomy

The principles of spherical astronomy adapted to the needs of engineering students. Computation and observation. Two lectures and one three hour laboratory period each week. Prerequisite: Surveying 1A or permission of the instructor. Astronomy 1 and 9 desirable.

Spring (3)

9. Practice in Observing

A laboratory course designed particularly to go along with and to supplement Astronomy 1. The course will include constellation study, use of astronomical coordinates, elementary methods of determining time and latitude, and descriptive observations of celestial objects with the six-inch telescope. One three hour evening laboratory period each week. Prerequisite: Astronomy 1 or registration in Astronomy 1 or permission of the instructor.

Fall or Spring (1)

10. Advanced Observational Astronomy

A continuation of Astronomy 9. More advanced problems in observing will be taken up such as the determination of azimuth by observations of Polaris, transit observations, astronomical photography, etc. One three hour evening laboratory period each week. Prerequisites: Astronomy 1 and 9.

Spring (or upon demand) (1)

12. Elementary Navigation

A study of compass corrections, drift problems, time, line of position, use of celestial coordinates, Bowditch Tables, etc. A few class hours at the close of the term are devoted to the use of tables such as Ageton, Dreisonstok and H. O. 214 for the solution of astronomical triangle. One three hour laboratory period each week. Offered if demand is sufficient. Prerequisite: Astronomy 1 or permission of instructor. Fall (3) (Offered in 1948-1949)

Upper Division Courses

100. Special Problems

Admission by consent of instructor. Credit and hours to be arranged in each case. Open to students who have completed three units in astronomy. Fall or Spring (1 or 2)

105. Historic Development of Astronomy

A study of the more important problems and astronomical concepts in the light of their historical development. Particular attention is given to the biography and contributions of the more important astronomers, such as, Galileo, Kepler, Newton, Herschel, Bessel, etc. Fall (3) (Not offered 1949-50)

107. Method of Least Squares and Computing Practices

Fundamental principles with applications in the fields of astronomy, physics, and engineering. Spring (3) (Not offered in 1949-50)

BACTERIOLOGY

IN THE DIVISION OF LIFE SCIENCES

Majors and Minors are not offered in bacteriology; however, courses in this field may be used as part of the liberal arts major in zoology. Courses in this field are recommended for students who are preparing to teach science in junior high school or life sciences in high school.

Lower Division Courses

1. General Bacteriology

An introduction to bacteriology. Effects of physical and chemical agencies upon bacteria; biochemical activities of bacteria; microscopic examination and cultivation of bacteria; the bacteria of air, water, soil, milk and dairy products, other foods; industrial applications. Introduction to disease-producing bacteria. Two hours of lecture and six hours of laboratory per week. Prerequisite: Chemistry 1A or 2A. Fall or Spring (4)

Upper Division Courses

101. General Bacteriology

Lectures and laboratory work of Bacteriology 1 with additional work to be prescribed by the instructor. Prerequisite: Chemistry 1A or 2A. Fall or Spring (4)

102. Advanced Bacteriology

This course deals with the cultural characteristics of the common pathogens and the serological reactions of the body to them. The course is planned primarily for those students interested in medical technology and clinical laboratory technique. Two lectures and two laboratory periods per week. Prerequisites: Bacteriology 101 and Chemistry 1A-1B or equivalent. Recommended: Organic Chemistry. Fall (4)

199. Special Problems

Work other than is outlined in the regular courses. Admission only by consent of the instructor with whom the work is to be done. Credit and hours to be arranged in each case. Open to students who have completed at least 15 units of work in the life sciences (including courses in Bacteriology) with grades of A or B. Fall or Spring (1 or 2)

BIOLOGY

IN THE DIVISION OF LIFE SCIENCES

Major

A *major in arts and sciences* is not offered in biology; however, courses in biology may be used as part of the *life science major in arts and sciences*. Refer to the description of the *life science major* in the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

A *teaching major* is not offered in biology; however, Biology 10A-10B may be used for the year course required in a biological science for the *general science major* for the general junior high school credential or the *physical science major* for the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor* is not offered in biology; however, biology may be used as part of the *general science minor* for the general junior high school and special secondary credentials. For specific information, refer to the outlines of requirements for the teaching minor for these credentials.

Lower Division Courses

A. Solutions and Dosage

Arithmetic review with computing of dosage, percentage of solutions, apothecaries weights. Two hours per week. Fall (2)

1. Survey of Biology

A survey of life science, stressing the development of modern concepts in the fields of plant and animal science, bacteriology, genetics, and physiology. Emphasis is placed on the relationships of biology to modern life and the application of scientific analysis to every day problems. Three lectures and one hour of demonstration and discussion per week. Not open to students with credit for Biology 40, 10A, 10B, Zoology 1A, 1B, Botany 2A, or 2B. Fall or Spring (3)

10A-10B. General Biology

A year course in life science, more extensive than "Biology 1." Continues throughout the year and includes a three-hour laboratory period, and two hours of lectures per week. Designed for those who do not expect to specialize in zoology or botany; not open to students with credit for Biology 1, 40, Zoology 1A, 1B, Botany 2A, or 2B. Biology 10A is a prerequisite for 10B. Students who have taken 10A-10B may elect Zoology 1B or Botany 2A or 2B for credit. Year course (3-3)

BOTANY

IN THE DIVISION OF LIFE SCIENCES

Major

A *major in arts and sciences* is not offered in botany; however, courses in this field may be used as part of the *zoology major in arts and sciences*, or as part of the *life science major in arts and sciences*. Refer to the description of the *life science major* in the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

Students who are preparing for advanced work in botany should include the following courses: Botany 2A-2B, 104; Chemistry 1A-1B, 101. Recommended: French, German, and elementary courses in other biological sciences.

A *teaching major* is not offered in botany; however, botany may be used as part of the *general science major* for the general junior high school credential or as part of the *life science major* for the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in botany. The minor must include at least 15 units of work in botany, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in botany; however, botany may be used as part of the *general science minor* for the general junior high, the special secondary, the general elementary, and the kindergarten-primary credentials or as part of the *life science minor* for the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

2A-2B. General Botany

A year course covering the fundamentals of structure and general behavior of seed plants, the morphology and relationship of the lower plants, including an introduction to classification and distribution of seed plants. Two lectures and six hours of laboratory work per week. Botany 2A is a prerequisite to 2B.

Year course (4-4)

4. California Plants

Classification and ecology of representative orders of wild flowers, trees, and chaparral of the San Diego region, including practice in the use of keys. One lecture and three hours laboratory per week. Occasional Saturday field trips.

Spring (2)

Upper Division Courses

101. Plant Pathology

A practical course dealing with the principles of disease in plants, control measures, and quarantine procedures. Of particular interest to students of agriculture, forestry and horticulture. Emphasis is placed on the determination and control measures of those pathogenic organisms which affect truck and field crops, garden and ornamental trees and shrubs and nursery stock. Two lectures and one laboratory period per week. Prerequisite: Botany 2A-2B.

Fall (3)

102. Plant Geography

Lectures and field work on the principles of geographical distribution of plants. Prerequisite: Botany 2A-2B, or 4, or equivalent.

Fall (2) (Offered in 1948-49 and alternate years)

104. Plant Taxonomy

Identification, classification and distribution of representative orders of flowering plants. One hour lecture and six hours per week of laboratory and field work. Prerequisites: Botany 2A-2B, or 4.

Spring (3) (Offered in 1947-48 and alternate years)

105. Cultivated Trees and Shrubs

Recognition of the common cultivated trees and shrubs of the San Diego region. Trips to local parks and private gardens. One lecture and three hours per week laboratory or field work.

Fall (2)

107. Plant Physiology

The activities of plants, including food manufacture, absorption, conduction, transpiration, respiration, growth and movement. Two lectures and two laboratory periods per week. Prerequisites: Biology 10A-10B or Botany 2A, and Chemistry 2A-2B or equivalent.

Spring (4)

123. Economic Biology

Study of the uses of plants and animals to man and the ways in which they injure him and his possessions. Consideration is also given to general methods of control and conservation. Prerequisite: Zoology 1A, Biology 1, or Biology 10B. Not open to students who have credit in Zoology 123.

124. Scientific Illustration

Drawing and photography of scientific subjects. Students are assigned individual projects, following their respective inclinations. It is desirable for students electing this course to have a definite project, or projects in mind and to confer with the instructor in advance in case specialized needs are required. Six hours of laboratory work per week. Not open to students who have credit in Zoology 124.

Fall (2)

130. Readings in Biology

Reading from a suggested bibliography with informal class discussion of topics. Subjects discussed will include history of biology, biological principles, ecology, economic zoology, zoogeography, breeding habits, and animal behavior. Not open to students who have credit in Zoology 130.

Spring (2)

155. Genetics

An introductory course to the principles of heredity and cytogenetics, including the genetics of man, other animals and plants. Designed primarily for science majors. Two lectures per week. Not open to students who have taken Zoology 155 or 165. Prerequisite: Biology 10A-10B, Zoology 1A-1B, or Botany 2A-2B.

Spring (2)

199. Special Problems

Work other than is outlined in the above courses. Admission by consent of the instructor with whom the work is to be done. Credit and hours to be arranged in each case. Open only to students who have completed at least fifteen units of Botany with a grade A or B.

Fall and Spring (1 or 2)

CHEMISTRY

IN THE DIVISION OF PHYSICAL SCIENCES

Major

A *major in arts and sciences* is offered in chemistry. Two plans are provided: One for students expecting to enter chemistry as professional chemists; the other for students intending to use chemistry in a related field. In addition, varying degrees of concentration in chemistry are available in the teaching major in physical science and in the chemical engineering option of the engineering major.

A *teaching major* is offered in chemistry for the general secondary credential or as part of the *general science major* for the general junior high school credential or as part of the *physical science major* for the general secondary credential. For specific information, refer to the outlines of the requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in chemistry. The minor must include Chemistry 1A-1B plus at least 9 units of credit in upper division chemistry courses.

A *teaching minor* is offered in chemistry for the general secondary credential or as part of the *general science minor* for the general junior high, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of the requirements for these credentials.

Curricula for Chemistry Majors in Arts and Sciences

Plan A, outlined below, is recommended for all students who intend to become professional chemists. It follows the recommendations of the Committee on Professional Training of the American Chemical Society. It qualifies graduates for many types of positions as chemists and provides the training required by most universities for admission to graduate work in chemistry.

Plan B is designed for students who do not intend to become professional chemists, but who desire the major in chemistry as part of a general education or in preparation for training in a related profession. By proper choice of electives, graduates can meet the requirements for admittance to medical schools. This plan is also

suitable for students interested in teaching in secondary schools who desire more intensive chemical training than that required in the physical science major.

The recommended sequence of courses for each plan is presented below. All courses except electives are required. The foreign language requirement may be met by courses taken in high school plus an examination to demonstrate competence in reading. Some variation in sequence is permissible with the consent of the faculty adviser.

Plan A (For chemists)		Plan B (For related professions)	
	Units		Units
First year		First year	
Chemistry 1A-1B	5-5	Chemistry 1A-1B	5-5
† Physics 4A	0-4	Physics 2A-2B	3-3
Mathematics 3A-3B	3-3	Physics 3A-3B	1-1
English 1 and 2	3-3	Mathematics 7A-7B	3-3
Psychology 1	3-0	English 1 and 2	3-3
Health Education 21	2-0	Physical Education	1-1
Physical Education	1-1		
	16½-15½		15½-15½
Second year		Second year	
Chemistry 5	3-0	Chemistry 5	3-0
Chemistry 101	0-4	Chemistry 101	0-4
Physics 1C-1D or 4B-4C	3-4 3-4	French or German A-B	5-5
Mathematics 4A-4B	3-3	Health Education 21	2-0
German A-B	5-5	Psychology 1	0-3
Physical Education	1-1	* Elective	6-3
	14½-15½ 15½-16½	Physical Education	1-1
			16½-15½
Third year		Third year	
Chemistry 102-103	3-3	Chemistry 102-103	3-3
Chemistry 110A-110B	3-3	Chemistry 110A-110B	3-3
Chemistry 105	0-3 3-0	Chemistry 105	3-0 0-3
Minor	3-0 0-3	Minor	0-3 3-0
Social Science	6-6	Social Science	6-6
	15-15		15-15
Fourth year		Fourth year	
Chemistry 111	3-0	Chemistry elective	3-2
Chemistry elective	0-2	Minor	3-3
Minor	3-3	Electives	9-10
Electives	9-10		15-15
	15-15		

1A-1B. General Chemistry Lower Division Courses

The general principles of chemistry, and a description of the elements and their common compounds. Three lectures and two laboratory periods per week. The laboratory work in the second semester consists of work in qualitative analysis. Prerequisites: Two years of high school mathematics. Recommended: High school chemistry, physics, and additional mathematics. Chemistry 1A is a prerequisite for Chemistry 1B. Only 2 units of credit per semester will be allowed to students who have credit for Chemistry 2A-2B.

Year course (5-5)

* Should include preparation for minor.

† The physics sequence, 1A-1B-1C-1D, formerly offered, will fulfill the requirement of Physics 4A-4B-4C for students who started physics before September, 1949.

2A-2B. Fundamentals of Chemistry

A general course for those not intending to take advanced courses in chemistry. The work in the first semester stresses inorganic chemistry and fundamental principles; that of the second semester covers an introduction to organic chemistry and biochemistry. Emphasis is placed on applications of chemistry to everyday life. Two lectures and one laboratory period per week. Required of prenursing students and recommended for those desiring chemistry as part of a liberal education. Not open for credit to students who have credit in Chemistry 1A-1B.

Year course (3-3)

5. Elementary Quantitative Analysis

The principles of gravimetric and volumetric analysis. Discussions of the theory of quantitative analysis and practice in the standardization of reagents and the analysis of samples. One lecture and quiz, and two laboratory periods per week. Prerequisite: Chemistry 1A-1B.

Fall or Spring (3)

101. Elementary Organic Chemistry

An introductory study of the chemistry of carbon compounds, both aliphatic and aromatic. The laboratory work illustrates properties and reactions of typical compounds and stresses development of technique. Three lectures and one laboratory period per week. Prerequisite: Chemistry 1A-1B.

Fall or Spring (4)

102. Organic Chemistry Laboratory

Synthesis of typical aliphatic and aromatic compounds. Study of the theory and practice of laboratory distillation, crystallization and related operations. Approximately the last third of the work covers an introduction to the systematic qualitative analysis of organic compounds by group reactions and individual tests. Three laboratory periods per week. Prerequisite: Chemistry 101.

Fall or Spring (3)

103. Intermediate Organic Chemistry

A continuation of Chemistry 101. Further study of types of aliphatic and aromatic compounds, their derivatives and interrelationship. Introduction to mechanisms of organic reactions. Three lectures per week. Prerequisite: Credit or registration in Chemistry 102.

Spring (3)

105. Advanced Quantitative Analysis

Advanced work in the theory and practice of volumetric, gravimetric, and electroanalysis. One lecture, one quiz, and two laboratory periods per week. Prerequisite: Chemistry 5.

Fall or Spring (3)

110A-110B. Physical Chemistry

Theoretical principles of chemistry, with emphasis on mathematical relations. The class will be divided into Sections A and B. Students with credit or registration in Mathematics 4B will be admitted to Section A; others to Section B. In Section B the mathematical treatment of some topics will be less rigorous and discussions will include more descriptive material than in Section A. Three lectures per week, problems and reports. Prerequisites: Chemistry 1A-1B; Physics 1A-1B-1C-1D or 4A-4B-4C or 2A-2B-3A-3B; and Mathematics 4B (or Mathematics 7B) and credit or registration in Chemistry 101. Chemistry 110A is a prerequisite for Chemistry 110B.

Year course (3-3)

111. Physical Chemistry Laboratory

Physico-chemical apparatus and measurements. Discussion period and three laboratory periods per week. Prerequisite: Credit or registration in Section A of Chemistry 110A.

Spring (3)

114. Biochemistry

The chemistry of fats, carbohydrates, proteins, vitamins, hormones and enzymes. Chemotherapy, nutrition, digestion and intermediary metabolism are discussed. Three lectures per week. Prerequisite: Chemistry 103. Recommended: Elementary biology or zoology.

Fall (3)

115. Biochemistry Laboratory

Laboratory work in the synthesis, isolation and analysis of biochemical materials. Chemical rather than biological considerations are emphasized. Two laboratory periods per week. Prerequisites: Chemistry 5, 102, 103 and credit or registration in Chemistry 114.

Spring (2)

118. Colloid Chemistry

The theoretical principles of colloid chemistry and the preparation, properties and practical applications of colloids. Two lectures per week. Prerequisite: Chemistry 101, 110A and 110B.

Fall (2)

122. Glass Blowing

Elementary training in the manipulation of glass. Prerequisite: Chemistry 1A-1B. One laboratory period per week.

Fall (1)

127. Advanced Inorganic Chemistry

A lecture course dealing with such topics as the physical basis of the periodic system, complex inorganic compounds, and the nature of the chemical bond. Three lectures per week. Prerequisite: Chemistry 1A-1B. Recommended Chemistry 110A-110B.

Spring (3)

144A-144B. Principles of Chemical Engineering

Industrial stoichiometry, flow of fluids, heat transfer, unit processes and types of industrial equipment. Three lectures per week, problems and reports. Prerequisite: Credit or registration in Chemistry 110A. Chemistry 144A is a prerequisite for Chemistry 144B.

Year course (3-3)

155. Instrumental Methods of Analysis

Training in the theory and manipulation of instruments used in modern chemical and physical testing laboratories. Discussions, laboratory work and field trips. Two laboratory periods per week. Prerequisite: Chemistry 5.

Fall (2)

199. Special Problems

Supervised individual work in specialized branches of chemistry. Admission only by the consent of the instructor. Hours of credit to be arranged in each case. Open only to students who have shown ability to do A or B work in chemistry.

Fall and Spring (1-2)

200. Seminar**Graduate Courses**

Intensive study of some phase of advanced chemistry under the direction of a member of the staff. Each student will choose a topic from one of the following fields for study and will prepare and present a paper on this topic to the staff members and other seminar students.

- A. Advanced Organic Chemistry
- B. Chemical Kinetics
- C. Chemical Thermodynamics
- D. Molecular Structure
- E. Electrochemistry
- F. Advanced Biochemistry
- G. Spectrographic Analysis

Prerequisite: Graduate standing with suitable background in chemistry and consent of the instructor. Maximum credit 4 units.

Fall and Spring (2-2)

299. Special Problems

Individual work on some topic in advanced chemistry and preparation of formal written report. Problem selected to develop familiarity with chemical literature and research techniques. Prerequisite: Graduate standing with suitable background in chemistry and consent of the instructor. Maximum credit 3 units.

Fall or Spring (1-3)

COMMERCE**IN THE DIVISION OF SOCIAL SCIENCES****Major**

A major in arts and sciences is offered in commerce with concentration in one of the following sub-fields: (A) Accounting, (B) Banking and Finance, (C) Business Administration, (D) Marketing, (E) Secretarial. In addition to meeting the general lower division requirements for all students (except the foreign language requirement), the following courses are required of commerce majors in the lower division: Economics 1A-1B; Commerce 2 (not required in Marketing or Secretarial sub-fields. Students in the Secretarial sub-field are required to take 1A-1B and 5A-5B), 14A-14B (students in the Secretarial sub-field take 16A-16B instead), 18A-18B; Geography 1, (students in the Secretarial sub-field take 16A-16B instead), 18A-18B; Geography 10 or equivalent (not required of students in the Marketing sub-field); English 8 and 2. Students in the Marketing sub-field must also include Commerce 20, 24, 25, 27, and Art 7.

Upper division requirements: A minimum of 24 upper division units. The following courses must be included for students majoring in (A) Accounting, (B) Banking and Finance, (C) Business Administration, and (D) Marketing: Economics 111 or 170 or Commerce 123; Economics 140; Commerce 121; and 15 units selected from one of the following sub-fields:

- a. *Accounting*: Commerce 160A-160B, 161A-161B, 162, 164A-164B, 165A-165B.
- b. *Banking and Finance*: Commerce 133, 134, 137; Economics 131, 135, 142.
- c. *Business Administration*: Commerce 123, 125, 126, 127A, 133, 134, 137, 153, 184; Economics 128, 150, 142, 170.
- d. *Marketing*: Commerce 123, 124, (students who wish to specialize in insurance may elect 127B, 128A, 128B), 137, 153, 184, 185, 186, 187A, 187B, 188, 189; Home Economics 160A-160B.

Students majoring in the *Secretarial* sub-field must include the following courses: Commerce 103A-103B, 113A-113B, 123, 153, 164A, and 9 units of directed electives, with approval of departmental representative, chosen from the following courses: Commerce 121, 186, 188, Economics 111, 135, 142, 150, or 170.

For a complete outline of the curriculum in commerce, refer to the section entitled: Preprofessional and Vocational Curricula.

A *teaching major* is not offered in commerce; however, certain courses in this field are required as part of the *teaching major in business education* for the general field and the special secondary credential in business education. For specific information, refer to the outlines of the requirements for these credentials.

Minor

A *Minor in arts and sciences* is offered in commerce. Lower division requirements: Commerce 14A-14B; Economics 1A-1B. Upper division requirements: 9 units of upper division commerce courses selected from one group as outlined above under the major. Students who elect the marketing group must complete Commerce 24 and 25 or 27 in the lower division.

A *teaching minor* is not offered in commerce; however, certain courses in this field are required as part of the *teaching minor in business education* for the general field, the general junior high school, or the special secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Partial Credit Courses

When a student has had high school credit in typing or shorthand, partial college credit will be allowed for completion of courses as follows:

High school credit received for:	College units allowed as follows:				
	Com. 1A	Com. 1B	Com. 2A	Com. 5A	Com. 5B
$\frac{1}{2}$ year typing	1 $\frac{1}{2}$	3	$\frac{1}{2}$	-	-
1 year typing	0	3	0	-	-
1 $\frac{1}{2}$ years typing	0	1 $\frac{1}{2}$	0	-	-
2 years typing	0	0	0	-	-
$\frac{1}{2}$ year shorthand	-	-	-	3 $\frac{1}{2}$	5
1 year shorthand	-	-	-	2	5
1 $\frac{1}{2}$ years shorthand	-	-	-	$\frac{1}{2}$	5
2 years shorthand	-	-	-	0	4

Lower Division Courses

Note: Courses in commerce may not be used to meet any part of the lower division social science requirement, nor may they be used as part of a social science major or minor.

A. Business Mathematics

A practical course in the mathematics of business. A thorough study of interest, compound interest, discount, insurance rates, etc.

Fall or Spring (1)

1A-1B. Typewriting

A rapid development of a thorough command of a keyboard by the touch method. The acquisition of speed and the artistic arrangement of typewritten material with special reference to commercial forms, tabulation and billing; specifications, legal forms, and preparation of manuscripts; transcription, mimeographing, etc. Seven hours lecture and laboratory practice. (1A is a prerequisite for 1B.)

Year course (3-3)

2. Mathematics of Finance

Interest and annuities; amortization; sinking funds; valuation of bonds; depreciation; mathematics of building and loan associations; mathematics of life insurance. Prerequisites: Two years of algebra in high school, or equivalents.

Fall or Spring (3)

2A. Typewriting

A short course designed for those not wishing to enter the business office but desiring a knowledge of the use of the typewriter. Five hours laboratory practice.

Fall or Spring (3)

3A. Office Procedure

Practice and principles of office management, including organization, arrangement and operation. Study and use of modern office appliances such as the multigraph, mimeograph, filing devices, calculating and bookkeeping machines. Prerequisite: Commerce 1A or its equivalent.

Fall or Spring (3)

5A-5B. Shorthand

An intensive course designed for the practical preparation of office secretaries. A thorough study of the Gregg System. Development of the ability to read and write shorthand rapidly and correctly, both literary and commercial. The shorthand speed necessary to pass a civil service examination is attained by the end of the year. (5A is a prerequisite for 5B.)

Year course (5-5)

6A-6B. Advanced Shorthand

Development of speed in writing and transcription. Advanced dictation on letter forms, legal forms, speeches, and literary and technical material. Prerequisite: Commerce 5A-5B or equivalent. (6A is a prerequisite for 6B.)

Year course (3-3)

English in Business (See English 8)

14A-14B. Principles of Accounting

A knowledge of bookkeeping not required and not advantageous. The balance sheet; profit and loss statement; various types of books of original entry; the opening, conducting, and closing of books for different kinds of businesses; organizations, reorganizations, dissolutions, and consolidations, etc., keeping in view the best modern accounting practice. Five hours lecture and laboratory. (14A is a prerequisite for 14B.)

Year course (3-3)

16A-16B. Secretarial Accounting

A course in secretarial accounting covering the fundamental principles of accounting and the application of those principles to the accounting work done by college graduate secretaries and teachers of business education. Required for four-year secretarial and business education majors. (16A is a prerequisite for 16B.)

Year course (3-3)

18A-18B. Commercial Law

The leading and fundamental principles of business law. Simple cases showing the actual application of the principles to commercial and business transactions, rather than the development of those principles. The subjects covered: contracts, sales, agency, negotiable instruments, insurance, and wills, with a brief study of evidence. Either semester may be taken first.

Fall and Spring (3-3)

20. Consumer Problems

Consumer incomes; bases of consumer choice-making; practical problems of buying food, clothing, shelter, transportation, insurance, etc.; family budgeting; market structure and functions seen from the consumer's point of view; importance to the business man of an understanding of the consumers' needs and problems.

Fall (3)

21. Organization and Management of Small Business

A course dealing with the problems confronting the small business man with regard to finance, organization, management.

(3)

24. Merchandising

A study of retail stores, emphasizing the problems of store managers and merchandising executives; store location, organization, personnel, sales promotion, buying and handling of merchandise, inventory, turnover, and control methods. Changing conditions in retailing, problems of profitable operation under present conditions.

Spring or Fall (3)

25. Salesmanship

Theoretical and psychological backgrounds of salesmanship, newer concepts of selling; the selling of ideas and services; steps in a sale: attention, interest, desire, closing; the development of clientele and of good will; the personal factor in salesmanship.

Spring or Fall (3)

26. Applied Salesmanship

Classroom practice in selling; supervised work in cooperating stores, or outside selling; relationships between theory and practice in specific selling situations; incentive methods of payment in selling; the problem of sales managers in reducing selling costs. Prerequisite: Commerce 25 and consent of instructor.

Spring (2)

27. Advertising Principles

A study of advertising as a sales promotional tool in our modern marketing activities, dealing with the organization of the advertising industry; consumer, market and product analysis; advertising media; preparation of advertisements; measurement of advertising effectiveness; economic and legal aspects of advertising; public relations; advertising campaigns.

Fall or Spring (3)

65A-65B. Record Keeping

A course in the application of accounting practice and principles to accounting practice; the technical arrangement of accounting forms, records and reports found in business. Opportunity afforded students through the use of practice sets, etc., to secure practice in applying principles to actual work done in business. Prerequisite: Commerce 14A-14B or 16A-16B. Commerce 65A is a prerequisite for 65B.

Year course (1 to 3 each semester)

103A. Office Management

A study of the general functions of the office, the duties of the office manager, the organization of the office including record keeping and the efficient use of calculating and other similar equipment. Two hours lecture and 3 hours laboratory per week. Not open to students who have credit for Commerce 3A.

Fall or Spring (3)

103B. Office Management

A study of the organization, direction and improvement of the communication functions and records of the office together with a study of improvement in the uses of dictating machines, duplicating machines and filing techniques. Two hours of lecture and 3 hours of laboratory per week. Not open to students who have credit for Commerce 3A. Prerequisite: Commerce 1A or its equivalent.

Fall or Spring (3)

113A-113B. Secretarial Office Practice

Practice in the duties and routines of office work as required of the stenographer and secretary with special emphasis on the shorthand dictation and transcription problems arising in various types of offices. Prerequisite: Commerce 1A-1B, 5A-5B, or their equivalent.

Year course (5-5)

118A-118B. Advanced Commercial Law

An advanced study of the law of personal and real property, partnership, corporation and the laws regulating trade and trade practices and competition. Elective for commerce majors.

Fall and Spring (3-3)

121. Business Administration

Problems of business administration as an interrelated whole and as an indication of lines of study which may lead to the solution of those problems. A discussion of the problems of the business administrator with particular reference to the character of the problems involved and to the control policies and devices of the manager. Questions, problems, and case studies. Prerequisite: Economics 1A-1B.

Fall or Spring (3)

123. Marketing Principles

A general survey of the field of marketing covering such topics as the place of marketing in our economic structure; consumer demand in relation to the marketing machinery; marketing functions; marketing activities of producers, wholesalers, retailers and other middlemen; channels of distribution; integration of marketing activities; price policies; government regulation; analysis of marketing costs, efficiency and trends. Prerequisite: Economics 1A-1B or Commerce 45A-45B if earned with grades of A or B.

Fall or Spring (3)

124. Marketing Administration

An advanced course dealing with all the phases of marketing utilized in most distributive campaigns. Basic marketing principles are applied to the solutions of practical problems faced by producers, wholesalers, retailers and other middlemen in the marketing of their products. Problems covered include adaptation of products to meet consumer demand; selection of channels of distribution; brand policy; sales promotion; price determination; operating control; legislative regulation of prices; diagnosis marketing policies. Prerequisite: Commerce 123.

Spring (3)

125. General Insurance

Economic theory of risk, its extent and importance to both the individual and business; transfer of risk; distribution and prevention of loss; types of insurance carriers; problems of rate making; the insurance contract; coverages; special forms of life, fire, marine and casualty insurance; state supervision.

Fall (3)

126. Casualty Insurance

The nature and reasons for existing practices in compensation and casualty insurance. The social and legal bases of insurance, fundamental principles of rate making, policy provisions, state regulation and state insurance.

Spring (3)

127A. Life Insurance—Principles and Practice

A study of social and individual values involved in the institution of life insurance. The student is then directed to the types of life insurance companies and associations, home office and agency organization, types of contracts, surrender value, policy loans and extended insurance, surplus and dividend policies, reserves, group, industrial and social insurance, and state supervision.

Fall (3)

127B. Life Insurance Salesmanship

A study of the special problems of life insurance selling, with emphasis on the psychological aspects of insurance selling, and on specific techniques for finding prospects, and for managing the sales interview. A course for students interested in life insurance selling, and for those planning to obtain life underwriter's certification.

Spring (3)

128A-128B. Advanced Life Insurance

An advanced course in life insurance. The emphasis is on preparation for the C. L. U. Certificate. 128A is a prerequisite for 128B.

Year course (3-3)

133. Corporation Finance

The corporate form of organization, instruments of long-time finance, methods of raising capital, efficient financial management, the financing of reorganizations, and governmental control. Prerequisite: Economics 1A-1B. Not open to students who have credit for Economics 133.

Fall (3)

134. Investments

Investment principles and practices with emphasis upon problems of the small investor, such as tests of a good investment, sources of information, types of stocks and bonds, mechanics of purchase and sale, investment trusts, real estate mortgages, and the like.

Spring (3)

137. Credits and Collections

The credit man and his work, including the instruments with which he works, sources of credit information, the technique of his department, collection methods, legislation for the protection of debtor and creditor, and credit insurance.

Fall (3)

153. Personnel Administration

Problems in the management of personnel relations, including techniques of selecting, training, supervising and rating employees. Methods used by management in job evaluation; wage and salary payment plans; employee services; health and safety; union relationships; stimulation of interest; control of turnover and absenteeism, etc. Case studies of personnel department procedures in local business and governmental organizations.

Fall or Spring (4)

160A-160B. Advanced Accounting

An intensive study of the corporation, its accounting and financial problems; a thorough study of the balance sheet; depreciation; factory accounting, etc. Prerequisite: Commerce 14A-14B. (160A is a prerequisite for 160B.)
Year course (3-3) (Offered in 1948-49 and alternate years)

160C. Advanced Accounting

An intensive study of consolidated statements, consolidations, mergers and financing, foreign exchange, estates and trusts, budgets, public accounts, bank accounts, brokerage.

Summer (3)

161A-161B. Cost Accounting

Principles and methods of cost accounting in the mercantile establishment and in the factory. A study of bookkeeping procedure, the forms used, and their application to practical problems. 161A is a prerequisite for 161B.
Year course (3-3)

162. Accounting Systems

The accounting systems used in various types of business and financial concerns. Some practice in devising and installing systems. Prerequisite: Commerce 14A-14B.
Fall (3)

164A-164B. Income Tax Procedure

A consideration of the problems arising from state and federal income, inheritance and corporation tax. The problems are approached from the point of view of the taxpayer who desires to determine the exact application of the law to the interests he represents as well as from the accounting point of view. 164A is a prerequisite for 164B.
Year course (3-3)

165A-165B. Auditing

The fundamental principles of accepted procedures of auditing and related types of accounting engagements. 165A is a prerequisite for 165B.
Year course (3-3)

167. Governmental Accounting

A comparative study of accounting systems used by municipalities, counties, and the State of California; detailed comparisons with commercial practice; procedures in handling budget accounts, appropriations, and encumbrances; subsidiary records; cost records; internal checks; auditing.
Spring (3)

184. Sales Management

Consideration of the problems confronting the modern sales executive. Attention is given to the development of methods of handling internal and external phases of the work of sales departments, including such topics as sales organization; selection, training, compensation and control of the sales force; sales analysis and planning; sales quotas; sales costs and budgets; market and product research and analysis; coordination of personal selling with other form of sales effort.
(3)

185. Advertising Copy and Layout

Introduction to principles and techniques of copy writing; selection and presentation of appeals; types of copy for various types of products, advertisers and media; preparation of layouts; mechanical methods employed by the artist, engraver and printer to give effective interpretation of the idea; legislation and regulations affecting advertising claims. Prerequisite: Commerce 27, or permission of instructor.
(2)

186. Store Management Problems

Locations, buildings, layouts and fixtures; store supplies and maintenance; receiving, marking, storing, wrapping and delivering merchandise; customer service, adjustments, credit and collections; expense control; case studies in store operating problems. Prerequisite: Commerce 24, or permission of instructor.
(2)

187A. Buying Techniques

Buying as a career; merchandising organization in department and specialty stores and chains; customer demand; determination of what to buy; functional bureaus that aid in buying; model stock plans; merchandise resources; foreign buying; trading techniques; terms and discounts; credit and shipping terms; legal aspects or ordering; brands and labels; the regulation of trade practices; case studies in buying problems. Prerequisite: Commerce 24, or permission of instructor.
(2)

187B. Merchandising Techniques

A study of the merchandising operations of retail stores; exclusive of buying functions. Special attention to methods of dollar and unit control; pricing, turnover, inventory methods and control; legislation affecting merchandising methods and prices; merchandise budgets; arithmetic of merchandising; and studies of profitability of specific methods of merchandising. Case studies will be made by students, covering various aspects of merchandise operations in local stores. Prerequisite: Commerce 24, or permission of instructor.
(2)

188. Advertising Media

A thorough coverage of advertising media, including newspapers, magazines, farm papers, business papers, direct advertising, sign advertising, radio advertising and various miscellaneous types of media, considered from the point of view of large and small advertisers in a variety of business situations. Special topics include market characteristics; rates and sources of information; evaluation of media; problems of coverage, duplication, costs and scheduling; advertising salesmanship. Prerequisite: Commerce 27, or permission of instructor.
(2)

189. Advertising Problems

Principles of advertising are applied to the solution of actual advertising problems encountered by business firms. Topics covered include: estimating opportunities for effective use of advertising; building effective promotional campaigns; selection of media; retail advertising, national advertising, advertising agencies; advertising services of publishers. Throughout the course emphasis is upon advertising as a sales promotional tool, viewed from the administrative point of view. Prerequisite: Commerce 27, or permission of instructor.
(3)

198A-198B. Investigation and Report

A comprehensive and an original study of a problem connected with business under the direction of one or more members of the commerce staff. Prerequisite: Senior standing and consent of the instructor. 198A is a prerequisite for 198B.
(1 to 3 each semester)

Graduate Courses**203. Secretarial Administration**

An intensive study of the problems of office management and their solution. The relation of records, reports, budgets and manuals to managerial control. Prerequisite: Commerce 3A, Commerce 14A-14B, 121, and graduate standing.
(2)

213. Problems in Business Education

Designed to fit the needs of individual students and their problems through the writing of research papers, of a term or individual study nature. The studies to be made will cover the principles of good teaching, trends in Business Education, current literature, and similar problems. Prerequisite: Graduate standing.

Spring (2)

223. Problems of Distributive Business

Critical Analysis of distributive business problems in the light of changing economic, social and governmental conditions. Prerequisite: Commerce 121, 123, and graduate standing.

(2)

233. Administration and Supervision of Business Education

Designed to provide students who hold, or who expect to hold, administrative positions in Business Education with the techniques necessary for successful executive work. Topics considered: In-service training, hiring, promotion, research, classroom organization, tests and measurement, guidance, supervision, classroom materials and equipment, and extra-curricular activities. Prerequisite: Graduate standing.

Fall (2)

260. Advanced Problem Analysis (Accounting)

The study of conditions causing various accounting problems with special emphasis upon the theory and practices involved in their solution. Prerequisite: Commerce 160A-160B, 161, 165, and graduate standing.

(2)

COMPARATIVE LITERATURE IN THE DIVISION OF LANGUAGES AND LITERATURE

Major

A *major in arts and sciences* is not offered in comparative literature; however, courses in this field may be used as part of the English major in arts and sciences. For specific information, refer to English.

A *teaching major* is not offered in comparative literature; however, courses in this field may be used as part of the teaching major in English for the general secondary and general junior high school credentials with the approval of the departmental representative. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in comparative literature. The minor must include at least 15 units of work in comparative literature, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in comparative literature; however, courses in this field may be used as part of the teaching minor in English for the general secondary, the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

52A-52B. Masterpieces of World Literature

A chronological survey from Homer to modern times. The first semester stresses the classical epic and tragedy. The second semester, beginning with the Renaissance, stresses prose fiction, the drama, and the essay.

Year course (3-3)

Upper Division Courses

101A. Modern Continental Fiction

A survey of leading French, Russian, Scandinavian, Italian, and German novelists and short story writers, from Tolstoy and his associates to the present day.

Spring (3)

104A-104B. Spanish American Literature

For a description of this course, see Spanish 104A-104B, which may be taken for credit in Comparative Literature by doing the required reading in English translation.

Year course (3-3)

115. The Bible as Literature

A study of the narrative, poetry, and prophecy of the King James version of the Bible. Readings, reports, lectures, and discussions.

Fall (3)

140A-140B. Masterpieces of French Literature

A cultural course designed to be given in introduction to the great French works from the Song of Roland through Cyrano de Bergerac, with emphasis on the 16th, 17th, 18th and 19th century authors. The contributions to world thinking of Rabelais, Montaigne, Moliere, Racine, Descartes, Pascal, Montesquieu, Voltaire, Rousseau, Hugo, Balzac, Flaubert, Maupassant, Zola, will be studied through lectures and outside readings.

Year course (3-3) (Offered in 1949-1950 and alternate years)

152A-152B. Survey of Drama

Study of selected tragedies and comedies from Asiatic, European, English, and American literature, with emphasis upon the human problems depicted therein and upon the timelessness of certain themes, such as those of Electra and Medea. Lectures, discussions, and reports on readings.

Year course (3-3)

155. Literature of the Continental Renaissance

Development of Renaissance literature in western and southern Europe. Studies in the works of Dante, Petrarch, Ariosto, Tasso, Erasmus, Calvin, Cervantes, Rabelais, Montaigne, and other significant authors.
Spring (3)

158. Classicism in European Literature

Aims, ideals, themes, influences, literary manners and methods of the period of classicism in European literatures, particularly that of France. Studies in the writings of Moliere, Racine, Descartes, Boileau, Montesquieu, Voltaire and others.
Fall (3) (Offered in 1949-1950 and alternate years)

159. The Rise of Romanticism in European Literature

Continental origins and growth of the romantic movement. Studies in the works of Rousseau, Goethe, Schiller, Lessing, Chateaubriand, Mme. de Stael, and others.
Spring (3)

199. Special Problems

Students who have demonstrated ability in literary studies may enroll for work other than is outlined in the regular courses. Admission only by consent of the instructor with whom the work is to be done.
Fall or Spring (1-3)

ECONOMICS**IN THE DIVISION OF SOCIAL SCIENCES****Major**

A *major in arts and sciences* is offered in economics. Lower division requirements: Economics 1A-1B; Commerce 14A-14B; and at least one year sequence of 6 units from the following groups: Political Science 1A-1B, or 71A-71B; History 4A-4B, or 8A-8B, or 17A-17B; Psychology 1 and 10; Sociology 50A-50B; or Anthropology 1A-1B. Recommended: Commerce 18A-18B; Geography 1, 10; Mathematics C. Upper division requirements: a minimum of 24 upper division units including Economics 100A, 140, and 18 additional units in economics. A maximum of 6 of the additional units may be chosen from courses in a related field with the approval of the departmental representative.

A *teaching major* is offered in economics for the general secondary credential or as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in economics. The minor must include at least 15 units of work in economics, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in economics for the general secondary credential, or as part of the *social science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses**1A-1B. Principles of Economics**

The basic principles of economics: utility, wealth, value, price; economic production, distribution, and consumption; rent, interest, wages, and profit; competition, monopoly, and large scale production; property, economic waste, and luxury; money and banking, international trade and tariffs; transportation corporations, labor problems, socialism, taxation, etc. Aims of the course: (1) to provide a foundation for further intensive study of economic problems; (2) to furnish to those who expect to follow business pursuits a broad foundation in economic principles; and (3) to introduce future citizens to political and economic problems of our time. Lectures, discussions, quizzes, and collateral reading. Not open to entering freshmen except by special arrangement. (1A is a prerequisite for 1B.)
Year course (3-3)

Upper Division Courses**100A. Modern Economic Thought**

Advanced economic theory with special reference to value and distribution. Special attention is given to marginal utility theory, and to the contribution of modern economic thought. Prerequisite: Economics 1A-1B.
Fall or Spring (3)

100B. Modern Economic Thought

Essentially a continuation of 100A, with emphasis on the income approach, employment, and the Keynesian analysis. Prerequisite: Economics 1A-1B. (Completion of Economics 100A recommended, but not a prerequisite for 100B.)
Spring (3)

102. Comparative Economic Systems

A study of the economic aspects of laissez-faire and regulated capitalism, socialism, communism, Nazism, Fascism. Comparative experience in Russia, Germany, the United States, Great Britain. Criteria for evaluating economic systems. Positions of the individual and government in each system. Planning in a liberal capitalism society. Cooperatives.
Spring (3)

110. Economic History of Europe

A general survey of economic development from the Middle Ages to the present. Particular attention is given to the impact of the Industrial Revolution on national economics, particularly on England's commerce and industry.

Fall (3)

111. Economic History of the United States

A comprehensive survey of American economic development and of national legislation in the field of industry and commerce.

Spring (3)

112. Land Economics

Real estate in all its aspects: property rights, transfer of title, valuation, finance, selling, property management, taxation, insurance, city planning, and the like, with special emphasis upon problems as they exist in San Diego. Prerequisite: Economics 1A-1B.

Fall (3)

113. Public Finance

Principles and practices of taxation and public expenditures. Economic effects of public spending, debts and taxation. Financing social security and other services. Fiscal policy and prosperity. Relation to inflation and deflation. Special emphasis on social problems involved.

Spring (3)

113. Corporation Finance

The corporate form of organization; instruments of long-time finance; methods of raising capital, efficient financial management, financing of reorganizations, and government control. Not open to students who have had Commerce 133.

Fall and Spring (3)

115. Money and Banking

The elements of monetary theory. History and principles of banking with special reference to the banking system of the United States. Prerequisite: Economics 1A-1B.

Spring (3)

140. Statistical Methods

The nature and uses of statistical method in the social sciences. Practice in tabular and graphic presentation of data; analysis of frequency and time series; index number construction and study of correlation techniques. Prerequisite: Mathematics A-B, and C or equivalent. Not open to students with credit for Sociology 103 or Psychology 104A or 104B.

Fall or Spring (3)

142. Business Cycles

Fundamental factors in business cycles are analyzed and cycle theories are examined. Study of current business conditions begins early in the course and develops into practical application of forecasting methods to both business and other data. Prerequisite: Economics 1A-1B.

Spring (3)

150. Labor Problems

A study of labor organizations and their policies, wages, strikes, unemployment, social insurance, child labor, labor legislation, plans for industrial peace, and other labor problems.

Fall (3)

151. Principles of Labor Legislation

Federal, state and local laws and regulations concerning labor problems, industrial relations, and governmental policies with respect to labor; important court decisions; the make-up and functions of commissions and boards; labor union attitudes with respect to legislation and the courts.

Spring (3)

170. Government and Business

General survey of governmental activities affecting business; the state as an entrepreneur and manager; governmental assistance to business; governmental regulation of business in its historical, legal and economic aspects, including recent developments in the United States and abroad; proposed policies.

Fall (3)

171. Transportation

The development of railway transportation; railroad financing; rates and rate making; governmental regulation; government operation of railroads during the war; recent development of motor and air transportation. Prerequisite: Economics 1A-1B.

Fall (3)

172. Public Utilities

The growth of public utilities in the United States; economics of public utility rates; valuation; public regulation and its legal basis; public ownership. Prerequisite: Economics 1A-1B.

Spring (3)

185. Social Insurance

The need for social security and attempts to meet these needs through social insurance and other devices, including old age pensions, health insurance, unemployment insurance, and Social Security Act. Strength and weakness of existing systems. Need for extension; proposals.

Fall (3)

190. Principles of Foreign Trade

National welfare and foreign trade. Principle of comparative costs, comparative advantages in various nations. Foreign exchange and the balance of payments, financing foreign trade. Regulations over trade and obstructing factors. Techniques of exporting and importing. Doctrines of international trade.

Fall (3)

195. International Economic Relations

Important aspects of international cooperation and conflict in the economic sphere, conditions essential to future cooperation. The quest for foreign markets, raw materials, investment opportunities and population outlets. Commercial policies, international economic conferences and organizations. Colonial rivalries and postwar problems.

Spring (3)

198. Investigation and Report

Designed to stimulate independent study and investigation; to furnish guidance in the collection, organization, and presentation of factual material; to improve the technique of term reports. For economics majors only.

Fall and Spring (3-3)

199A-199B. Special Study

Designed exclusively for seniors with a major in economics.

Fall (1), Spring (1 or 2)

Graduate Courses**200A-200B. Seminar in Modern Economic Thought**

A critical study of contemporary economic thought to provide a clearer understanding of major economic problems of the day. Prerequisite: Graduate standing and consent of the instructor.

Fall and Spring (2-2)

EDUCATION IN THE DIVISION OF EDUCATION

Major

A major in arts and sciences is not offered in education; however, education is a major for the general elementary and kindergarten-primary credentials. For specific information, refer to the requirements for these credentials.

A teaching major is offered in education for the general elementary and kindergarten-primary credentials.

Minor

A minor in arts and sciences is offered in education. This minor consists of a minimum of 15 upper division units in education selected from Education 102A-102B, 102C-102D, 115A-115B with the approval of the Dean of Professional Education.

A teaching minor is not offered in education.

Lower Division Courses

- A. Review of Arithmetic
- H. Review of Handwriting
- R. Review of Reading
- S. Review of Spelling

Each of the Review courses is a noncredit course designed to increase competence in the skill subjects. Diagnosis of individual student difficulties will be made followed by directed practice and evaluation of progress. Open only to students who do not qualify on the respective sections of the Fundamentals Test required of all applicants to teacher education.

Fall or Spring (0)

50. The School and Society

A nonprofessional survey of education designed to acquaint the student with the school as a social institution in American life. Lectures will be given by different instructors who will lead discussion periods on the various topics. Students majoring in education should consult the instructor.

Fall or Spring (2)

Upper Division Courses

100B. Methods and Materials of Instruction and Audio-visual Aids

A series of professional courses in specific teaching fields designed to be taken just prior to or concurrently with the first directed teaching assignment. Each course emphasizes the application of principles of best practice with reference to motivation, individual differences, audio-visual aids, evaluation and the achievement of an effective learning situation in the major and minor subject fields.

Subject fields for sections in 100B are as follows:

- 100B-A, Methods in Art
- 100B-B, Methods in Accounting
- 100B-BE, Objectives and Curricula in Business Education
- 100B-E, Methods in English
- 100B-L, Methods in Romance Language
- 100B-MA, Methods in Mathematics
- 100B-ME, Methods in Merchandising
- 100B-MU, Methods in Music
- 100B-PE, Methods in Phys. Ed. (Men)
- 100B-PE, Methods in Phys. Ed. (Women)
- 100B-SC, Methods in Science
- 100B-S, Methods in Shorthand
- 100B-SA, Methods in Speech Arts
- 100B-S.SC, Methods in Social Sci.
- 100B-SS, Methods in Secretarial Subjects
- 100B-T, Methods in Typing

Fall (3) [Major (2)] [Minor (1)]

102A. Measurement and Evaluation in Elementary Education

A course required of all students preparing for an elementary teaching credential. It deals with the use of tests in the diagnosis and improvement of learning; construction of objective examinations; problems of evaluation in education; and the elements of statistical techniques.

Fall or Spring (3)

102B. Child Growth and Development

The course deals with a study of the mental, emotional, social, and physical development during childhood and early adolescence. Directed observation required. Not open for credit to students who have credit for Psychology 102, 106, or Home Economics 102.

Fall or Spring (3)

102C. Growth and Development of the Adolescent

A course to improve understanding of the adolescent's physiological, psychological, social, and emotional development. Field work with adolescent groups in the community is required. To be taken during the junior year. Not open for credit to students who have credit in Psychology 103 or 106.

Fall or Spring (3)

102D. Measurement and Evaluation in Secondary Education

This course deals with problems of evaluation in secondary education, construction of examinations, the elements of statistics, the selection and interpretation of standardized measures. Field work required.

Fall or Spring (2)

112A. Methods in Teaching Americanization Classes

Methods used in teaching the various grade levels found in Americanization classes, beginners, intermediates, and advanced, as well as those preparing for their naturalization, will be discussed. The course includes discussion of new skills and techniques, devices, and short cuts in learning to speak, read, and write English; aids in organizing and conducting classes; and in helping teachers to understand backgrounds of foreign born.

Extension (2)

115A. History and Philosophy of Education

Historical backgrounds and underlying philosophies upon which the public school system has been established. Emphasis will be placed on the meaning of education, educational aims and values, and democracy and education. Prerequisite: Senior standing or the equivalent.

Fall or Spring (2)

115B. Secondary Education

This course will serve as an introduction to understanding the development of secondary education and its present status as a social institution. The topics developed will include: curriculum; teaching methods; organization and administration; guidance; and objectives. Field work required. To be taken during the junior year.

Fall or Spring (3)

116. Directed Teaching

Systematic observation, participation and teaching under supervision in the campus elementary school, the affiliated elementary, junior high and senior high schools. During each semester of student teaching in the secondary schools a weekly conference period is required as indicated in the time schedule.

The general plan is for elementary school credential candidates to take, following the education practicums, a half-day of teaching daily for one semester in the campus elementary school or in one of the affiliated elementary schools. Junior high school and special secondary school credential candidates will be guided by their adviser relative to the distribution of their student teaching. For those seeking a combination of credentials, the requirements for each teaching level must be satisfied. Further information regarding this requirement should be requested of the Dean of Professional Education when the student first registers for directed teaching.

Thirty clock hours of student teaching will usually carry one unit of credit in the course, but the final amount of credit allowed will depend upon the character and quality of the teaching done by the student. Student teaching requirements may be reduced for those who furnish evidence of successful public school experience.

The maximum amount of credit allowed for student teaching is 12 units.

The universities usually reduce the amount of student teaching credit they will allow to four units. Students planning to transfer to such institutions should be prepared to meet this reduction with an equal number of acceptable units in other courses.

No grade below "C" is acceptable for credit in student teaching.

Prerequisites: Completion of 75 units of college work; admission to teacher education; a C average in all college work and in the work of the preceding semester; three units of work in psychology; a minimum of one semester's work in this college. No credit will be given unless the student registers in advance for this course in the office of the Dean of Education.

Fall or Spring (a maximum of 12 units)

117A. Elementary Music Education

Objectives of music teaching in the elementary school. Study of the child voice. Organization of song material by grades. Procedure in presenting rote songs, ear training, elementary notation, music reading, and part singing. Conducting. Prerequisite: Music 1A, or the equivalent. Not open to students who have had Music 7A.

Fall or Spring (2)

117B. Methods in Instrumental Music

A study of the theory of problems or organizing and conducting school bands and orchestras, and the selection of materials. Provides practical experience in conducting a children's orchestra and teaching sectional groups. A study of systematic planning of courses of study for pupils of various ages and abilities will be made.

Fall or Spring (2)

119. Art in the Elementary School

Discussion of the elements and principles of art and their place in the art expression and appreciation of the elementary school child. Lectures illustrated with examples of children's work and opportunity given for experience with media used in elementary school problems. Not open to students taking the elementary credential. Prerequisite: Art 6A.

Fall or Spring (2)

122. Social Studies in the Elementary School

A study of the nature and purpose, scope, organization and instructional procedures in the social studies in the elementary school. Opportunity will be given for the development of curriculum units and the analysis of teaching materials. The summer course provides observation in the demonstration school.

Fall or Spring (2)

123. Science in Elementary Education

A laboratory course designed to assist teachers in developing a science program related to the elementary curriculum. Study will be made of the following topics: Objectives of elementary science, the relation of science experiences to instructional units in the social sciences, the construction and use of equipment, the effective use of audio-visual aids, the use of environmental resources, and the use of texts and supplementary material. Each student in the course will participate in the preparation, demonstration, and evaluation of typical science experiments.

Fall or Spring (3)

125. Curriculum in Elementary Education

A systematic survey of the following elementary subject areas: The language arts, mathematics, music, science, and the social sciences. Emphasis will be placed upon the selection of content, teaching methods, and materials as they relate to social needs, psychological principles, and the nature of the learner.

Fall or Spring (3)

126. Literature in Elementary Education

An introduction to children's literature at all levels of the elementary school. Consideration will be given to the following topics: Criteria for the selection of children's literature, children's reading interests, children's literature and the development of units of instruction in the social studies, the use of the verse choir, dramatic readings and similar procedures, and the use of the library. Each student in the course will have an opportunity to read widely in the field.

Fall or Spring (3)

129. Arithmetic in Elementary Education

A course for teachers of arithmetic in the elementary and junior high school. Emphasis is placed upon the understanding of the systems of notation and language techniques. Opportunity will be given for the development of instructional materials and procedures.

Fall or Spring (2)

130. Educational Psychology

A study of the science of human behavior as it relates to learning. Emphasis is given to the principles of learning and the nature of the learner. Some of the areas treated are the growth of meanings, thinking, memory and habit formation, motivation, transfer of learning, organic and environmental conditions affecting learning, individual differences, and the theory of audio-visual-radio education. Observation and field work required. Prerequisite: Psychology 1. Not open to students with credit for Psychology 130.

Fall or Spring (2)

136. Reading in Elementary Education

A systematic study of the reading process. Emphasis will be placed on reading as a thinking process. Consideration will be given to topics such as: Scientifically developed procedures for determining reading readiness, beginning reading, independence in work recognition, vocabulary development, word analysis, standards of attainment, types of reading programs, and the selection, preparation and use of reading materials. Analysis will be made of individual and group learning problems throughout all levels of the elementary school.

Fall or Spring (3)

143. Adult Education

A study of the aims and scope of adult education and its function as a part of the public school system. Individual and group work will be emphasized. Admission by permission of the instructor.

Fall or Spring (3)

144. Diagnosis and Remedial Treatment of Difficulties in Reading

A study of the causes of reading difficulties and the procedures for diagnosis and remedial treatment. Students will be expected to do practical work with children who have reading difficulty. The work is designed primarily for principals, supervisors and teachers-in-service. Prerequisite: Education 102B or Education 102A, or one year of successful teaching experience.

Fall or Spring (3)

145. Organization and Administration of Music Education

Theory of the general principles of music administration; correlation of music with the various subjects in the public schools; music tests; creative work.

Fall or Spring (2)

146. Education Practicum (Kindergarten-Primary)

This course is a continuation of Education 148 and will accompany Education 116 in the kindergarten. A study of the theory of early childhood education providing experience with children of nursery school and kindergarten ages. Prerequisite: Education 147, 148.

Fall or Spring (4)

146B. Interpretation of Early Childhood Behavior

A course for kindergarten-primary teachers emphasizing the analysis and interpretation of early childhood behavior. Emphasis will be placed on understanding and interpreting the causative factors in typical behavior of children to parents, social workers, teachers, and others concerned with the guidance of kindergarten-primary children.

Summer (3)

147. Education Practicum

This course is required of all students who expect to receive a credential which will qualify them to teach in the kindergarten or in the elementary school. Students should take the course during the next semester after admission to Teacher Education, which is usually the first semester of the junior year. Registration is strictly limited to those who have been approved by the Committee on Admission to Teacher Education.

The content of the Education Practicums include both classroom participation (directed teaching) and the study of the principles of education. Education Practicum is a unified course which deals with the interpretation and intelligent application of theory and practice in elementary education. The child and accumulated knowledge are studied as one affects the other. The psychology of learning is interpreted while the college student is immediately associated with children in the process of learning. Daily classes are held in which the psychology and philosophy of education are studied and analyzed as systems of knowledge and concurrently interpreted in reference to the actual teaching participation to which the student is assigned for one hour daily. The course includes Reading and Elementary School Methods (3); Elementary Art Education (1); Elementary Music Education (1); Language Arts (2); Arithmetic (3). Audio-Visual-Radio Instruction is integrated with the course, equivalent to 2 units.

The course is taught by college teachers who supervise in the Campus Elementary School, and other faculty members.

Fall or Spring (10)

148. Education Practicum

This course is a continuation of Education 147 and is required of all students who are candidates for the general elementary credential or the kindergarten-primary credential. An extended analysis is made of the psychology of education in various fields and application is made through directed teaching in grades 4 to 6. The course includes Elementary Social Studies (1); Elementary Science Education (1); Elementary Art Education (1); Elementary Music Education (1); Education Psychology (learning process and theory of audio-visual education) (2); additional 4 units for General Elementary only: Curriculum in Elementary Education (2); Directed Teaching (2); Audio-Visual-Radio Instruction (0). Prerequisite: Education 147.

Fall or Spring (12)

149A. Laboratory in Elementary Education

A general course in observation and theory, including a study of arithmetic, reading, language, music, science, social studies, art, spelling. Students in this course will observe in the summer demonstration school and discuss with the staff the teaching procedures.

Summer only (3)

149C. Laboratory in Rural Education

Observation in a one-room multigraded summer demonstration school. Students will observe demonstrations, discuss procedures with the staff, and prepare material for their own schools.

Summer only (6)

149D. Workshop in Elementary Education

A workshop laboratory experience designed to meet the needs of individual or groups of teachers who desire to study selected problems in elementary education. Discussions, individual consultations, projects, expert assistance, the utilization of varied library and laboratory facilities, and the observation of classroom teaching will be provided for members in attendance. Interested persons should correspond with the Director of Elementary Education, San Diego State College.

Summer (3 or 6)

155. Principles of Guidance

A study of the basic principles of guidance and their function in the educational process.

Fall or Spring (3)

156. Guidance Conference

A series of lecture and discussion sessions centering on current problems in counseling and guidance. Designed to serve the needs of teachers, administrators, counselors, personnel workers, and others desiring to keep informed of developments in this area. Admission upon permission of the director of this conference.

Summer only (1)

158. Supervision of Child Welfare and Attendance

Content includes laws relating to children, guidance principles, social case work, agency relationships, conference techniques, home visitation methods, employment supervision, attendance work, child accounting, familiarity with testing techniques.

Summer (3)

161. Legal Aspects of Education

A study of the school law of California, important court decisions, rulings of the California State Superintendent of Public Instruction and the Attorney General, historical and current trends, and comparative data from throughout the United States.

Fall or Spring (3)

174. Audio-visual-radio Education

A study of audio-visual-radio aids as they affect learning. Analysis and development of materials of instruction and their presentation; operation of equipment.

Fall or Spring (2)

174BE. Audio-visual Business Education

A review of the skills and knowledges necessary to use audio-visual aids, followed by intensive study and research in the literature available and by practice with the materials and techniques that apply to business education.

Summer (3)

176. Problems of Speech Correction and Articulation

Analysis and discussion of the major articulatory problems as encountered in public school work, particularly in California. Required of all students for the speech correction credential. Not open to students with credit for Speech Arts 176.

(3)

177. The Teaching of Lip Reading

History, theory and methods of lip reading. Aids for the classroom teacher; program and materials of instruction for the specialized teacher. Opportunities for practice teaching are offered.

(2)

178. Problems of the Hard of Hearing

The adjustment of the hard of hearing group with emphasis on the public school child. State and county hearing programs; technique of audiometry; use of hearing aids; educational, classroom, and social problems.

(2)

179A-179B. Nervous Speech Disorders

Classification of speech defects and disorders. Nervous speech disorders; stammering, stuttering, hesitation, cluttering. Teacher training in corrective technique for use in public schools; clinic observation. Required of candidates for the Special Secondary Credential in Correction of Speech Defects. Not open to students with credit in Speech Arts 179A-179B.

Year course (3-3)

181. Exceptional Children

A course designed to meet the needs of teachers of the mentally handicapped, but also open to all teachers interested in studying the problems of exceptional children. A study will be made of mental, physical, and emotional deviates.

Fall (3)

182. Curriculum and Methods for Teaching Mentally Retarded Children

The course deals with the selection, organization and presentation of curricular materials for teaching mentally retarded children.

Spring (3)

183. Practicum for Teaching Mentally Retarded Children

Interpretation and application of educational procedures utilized in teaching the retarded learner. A demonstration class will be available for observation. Education 182 must be taken prior to, or concurrently with, Education 183.

Summer only (3)

189. Workshop in Secondary Education

This course is designed to meet the needs of individual or groups of teachers who wish to develop or continue the study of some problem with the consultation of the College Staff and the San Diego County Curriculum Staff.

Summer (3, 6)

191. Driver Education

A workshop type course designed to prepare teachers of the course in high school. Enrollment by permission of the instructor.

Summer (2)

199. Educational Problems

A course for senior and graduate students in residence and enrolled in teacher education who have shown ability to work independently on educational problems. The problem will be chosen after consultation with a staff member. Admission by consent of the staff. Credit and hours to be arranged.

Fall or Spring (1-6)

Graduate Courses

For general requirements for admission to graduate courses, see statement on admission to graduate status in section on Admission and Registration. In addition to these general requirements, 12 units of professional education are prerequisite for enrollment in all graduate courses.

230. Guidance Problems in Secondary Education

Individual and group study of the theory and practice of guidance with emphasis upon practical problems of the members of the class.

Fall or Spring (3)

232. Problems in Vocational Guidance

A course to prepare teachers for vocational guidance in the secondary schools. Includes occupational information, vocational aptitude measurement, and educational guidance.

(3)

233. Guidance Counseling Techniques

A course designed for school counselors. To stress the understandings and procedures necessary for effective interviewing.

(3)

237. Research in Guidance Problems

Individual study by graduate students who have demonstrated exceptional ability and a need for such work. Admission by consent of the Director of Secondary Education.

Fall or Spring (1 to 3)

241. Problems in the Teaching of Arithmetic

A study of research and practice in the methods of teaching and in the curriculum of elementary and junior high school arithmetic. Prerequisite: Education 129 or equivalent.

(3)

242. Problems in the Teaching of Reading

Advanced study of developmental instruction in reading. Problems to be considered include reading readiness, the teaching of word recognition, developmental sequences in reading skills and abilities, reading in the content fields, individual differences, measurement, and interests. Students will select projects or problems of immediate interest to them. Prerequisites: Education 136 and 144 or equivalents.

Fall or Spring (3)

245. Seminar in Elementary Education

A study of the methodology of research with particular reference to the basic research in the psychology and teaching of the elementary school subjects. Prerequisite: 12 units in elementary education and consent of the instructor.

Fall or Spring (3)

250. Curricular Problems in Secondary Education

A study of the present status and development of the secondary school curriculum. Emphasis will be placed upon individual study and development of solutions of problems of the students. Prerequisite: Graduate standing and consent of the instructor.

Fall or Spring (3)

252. General Education in Secondary School

A course designed for teachers in service. A study of the function and implementation of general education in the secondary school.

256. Recent Trends in Secondary Curriculum

A survey of current practices and trends in secondary schools with special emphasis on general education. There will be opportunities for individual work on related problems of interest to members of the class.

(3)

257. Workshop in Intercultural Education

A cooperative workshop sponsored by the College and the San Diego City Schools in which opportunity will be provided to study trends in intercultural education in American schools. Major attention will be devoted to development of units of work and curricular materials, and opportunity will be provided for participants to become acquainted with audio-visual aids and other resources in the field of intercultural education. Enrollment only by previous application to the Dean of Education and limited to persons who have been admitted to graduate standing.

(4)

258. Research in Curricular Problems

Individual study by graduate students who have demonstrated exceptional ability and a need for such work. Admission by consent of the Director of Secondary Education.

Fall or Spring (1 to 3)

260. Federal, State, County and City School Organization and Administration

A study of the organization, administration and supervision of federal, state, city and county school systems. Includes school finance, housing, and business administration.

(3)

262. The Organization and Administration of Elementary Schools

A study will be made of the problems of personnel, local finance, curriculum, plant, community relations, and legal aspects of elementary schools. Required as a prerequisite to Education 266. Prerequisite: Teaching experience.

(3)

263. The Organization and Administration of the Secondary School

A course designed for persons preparing for secondary school administration. Topics will cover all aspects of the duties of an administrator, including personnel, finance, curriculum, equipment and supplies, public relations, transportation, and law. Prerequisite: Possession of a valid General Secondary Credential.
(3)

264. Elementary School Supervision

Principles and practices of supervision and methods of evaluating instruction and the curriculum in elementary education. Prerequisite: General Elementary Credential, teaching experience, and Education 262, or equivalent.
(3)

265. Secondary School Supervision

A course designed for those who will be responsible for the supervision and evaluation of the curriculum and teaching methods in the secondary school. Prerequisite: Possession of a valid General Secondary Credential.
(3)

266. Field Work in Elementary School Administration and Supervision

A first-hand study of the administration and supervision of an elementary school, as required for the Elementary School Administration and Supervision Credentials. Field work will be carried on by all students under the direction of a college staff member. Prerequisite: Education 262 or 264.
Fall (2)

267. Field Work in Secondary School Administration and Supervision

A study of practices as they are found in secondary schools relative to administration and supervision; to insure direct contact with existing programs and procedures. Prerequisite: Education 263 or 265.
(2)

316. Directed Teaching

Systematic observation, participation, and teaching under supervision in an affiliated high school. Thirty clock hours of student teaching will usually earn one unit of credit, but the credit finally allowed will depend upon the nature and quality of the teaching done. Any work below a C grade is unacceptable for credit in this course.

No student can enroll in this course until he has completed at least 5 units of work in education.

During the semester in which the student takes his first assignment in student teaching, he must meet with the college supervisor one hour each week for conference and discussion of problems encountered in his teaching.

Students who have had student teaching in preparation for the junior high school or special secondary credentials should confer with their departmental and educational advisers concerning partial fulfillment of this requirement as the result of having completed the student teaching required for the credentials mentioned above.

Year course (3-3)

ENGINEERING

IN THE DIVISION OF PHYSICAL SCIENCES

Major

A major in arts and sciences is offered in engineering. Lower division requirements. Physics 1A-1B-1C-1D, or 4A-4B-4C; Mathematics 3A-3B, 4A-4B; Chemistry 1A-1B, Engineering 21, or their equivalent. Upper division requirements: A minimum of 24 upper division units including the group required of all engineering students as outlined in the Engineering Curriculum in the section entitled: Preprofessional and Vocational Curricula.

A teaching major is not offered in engineering.

Minor

A minor in arts and sciences is offered in engineering. The minor must include at least 15 units in engineering, 9 units of which must be from courses carrying upper division credit. The courses selected must be a logical sequence approved by faculty adviser.

A teaching minor is not offered in engineering.

Lower Division Courses

NOTE: Courses in engineering may not be used to meet any part of the lower division natural science requirement, nor may they be used as part of a physical science major or minor.

1A-1B. Plane Surveying

Use and adjustment of surveying instruments, computations and map-making, together with a study of land, topographic, city and mine surveying. Two instruction periods and one three-hour period for field work and mapping each week. Prerequisites: Trigonometry and Mechanical Drawing, or equivalent, and sophomore standing.

Year course (3-3)

2. Mechanical Drawing

Freehand lettering, use and care of drafting equipment, simple orthographic projection, introduction to problems of dimensioning. Open to students lacking credit for a year course in senior high school mechanical drawing. Not open to students with credit for Industrial Arts 2.

Fall or Spring (2)

21. Descriptive Geometry

Fundamental principles of descriptive geometry and their application to problems of engineering. Lectures and drafting. Prerequisites: One year of mechanical drawing, and sophomore standing.

Fall (3)

22. Machine Drawing

Design and drawing of simple machine parts with emphasis upon the production of standard drawings. Lectures and drafting. Prerequisite: Engineering 21, Mathematics 3A-3B.

Spring (3)

23. Materials of Construction

Manufacturing processes, structural properties and adaptability of the principal materials used in engineering. Lectures. Prerequisite: Sophomore standing.

Spring (2)

Upper Division Courses**100A-100B. Elements of Electrical Engineering**

Theory and characteristics of electrical equipment with emphasis on industrial applications.

100A. Direct current circuits, generators and motors. Introduction to alternating current circuits.

100B. Alternating current circuits, transformers, alternators, induction and synchronous motors, conversion apparatus and transmission lines. Lectures and problems. Prerequisites: Mathematics 4A, Physics 1C or 4B or permission of the instructor.

Year course (3-3)

101A. Electrical Engineering Laboratory

Laboratory determination of the characteristics of direct current machinery and circuits, single phase alternating current circuits. One three-hour lab. and report per week. Prerequisite: Engr. 100A (may be taken concurrently).

Fall (2)

101B. Electrical Engineering Laboratory

Laboratory determination of the characteristics of single phase and polyphase circuits, machines, and related equipment. One three-hour laboratory period and report per week. Prerequisite: Engr. 100B (may be taken concurrently).

Spring (2)

102A-102B. Analytical Mechanics

Treatment of the fundamental principles of Newtonian mechanics. First semester: Study of the statics and kinematics of particles and rigid bodies. Second semester: Study of the dynamical principles underlying linear and rotary motion of rigid bodies, with additional work in elastic and inelastic impact. Use of elementary vector analysis in solving engineering applications in mechanics. Prerequisites: Physics 1A-1B or 4A-4B or 2A-2B, and a working knowledge of the calculus. (Engineering 102A is a prerequisite for 102B.) Students with credit in Physics 105A-105B may not receive credit in this course.

Year course (3-3)

104. Communications

Study of class C amplifiers, oscillators, modulators and detectors. Amplitude and frequency modulation, television systems, transmission lines, antennas and electromagnetic radiation. Students with credit for Physics 104 may not receive credit for this course. Prerequisite: Physics 102 or permission of the instructor.

Spring (3)

105. Hydraulics

A general course in hydraulics including the fundamental principles of hydrostatics and hydrodynamics applied to the flow of water through orifices, over weirs, through pipes and canals. Lectures and problems. Prerequisites: Mathematics 4A, Physics 1C or 4B. Recommended: Engr. 102A-102B.

Spring (3)

106. Hydraulics Laboratory

Laboratory determination of the characteristics of fluid flow and hydraulic equipment. Includes flow through pipes, orifices, weirs; characteristics of various types of pumps. One three-hour lab. period and report per week. Prerequisite: Engr. 105 (may be taken concurrently).

Spring (2)

122. Machine Design

A study of motions, velocities, and accelerations in linkages, cams, gears, and related mechanisms. Designs of riveted and welded joints. Design of simple machine parts such as clutches, gears, and couplings. Two lectures, one three-hour drafting period per week. Prerequisite: Engineering 102A (may be taken concurrently), Engineering 22.

Fall (3)

124. Radio Measurements

A laboratory course on measurements of the parameters of resonant circuits at radio frequencies. Study of the properties of oscillators, modulators, detectors and wave guides. Prerequisite: Previous or concurrent enrollment in Engineering 104. Students with credit in Physics 124 may not receive credit for this course.

Spring (2)

128. Applied Engineering Thermodynamics

Principles of thermodynamics. Application of principles in study of combustion process, boiler, steam engines, turbines, auxiliary apparatus. Prerequisites: Math 4A, Physics 1B or 4C.

Fall (3)

129. Heat Power Laboratory

Boiler testing and heat balance. Flue gas analysis, testing of steam power equipment. One three-hour lab. and report per week. Prerequisite: Engr. 128 (may be taken concurrently).

Fall (2)

130. Route and Construction Surveying

Application of surveying to engineering problems. Reconnaissance, preliminary, location, and maintenance surveys for highways, railroads, and airfields. Construction surveys for buildings and other structures. Earthwork computations. Two lectures and one three-hour field period per week. Prerequisites: Engr. 1B, Ast. 3.

Fall (3)

131. Advanced Surveying

Special problem in surveying. Methods of geodetic surveying; adjustment of observations, geodetic positions, map projections. Two lectures and one three-hour field period per week. Prerequisites: Engr. 1B, Ast. 3, recommended Engr. 130.

Fall (3)

140. Strength of Materials

Elastic and ultimate strengths of materials. Analyses of types of failure. Stress analysis and deformation of simple structural and machine members. Photoelasticity. Lectures and problems. Prerequisite: Engr. 102A.

Spring (3)

141. Materials of Engineering Laboratory

Theory and operation of testing machines and auxiliary apparatus. Standard tests to determine the significant characteristics of the commonly used engineering materials. Heat treatment of metals. One laboratory period plus outside reading and report per week. Prerequisite: Engr. 140 (may be taken concurrently).

Spring (2)

142. Stress Analysis

Determination of stresses in simple framed structures such as roof trusses and highway bridges. Aircraft structures. Effects of combined stresses. Statically indeterminate beams. Special problems. Analytical and graphical methods of solution. Lectures and problems. Prerequisites: Engr. 102A-102B, 140.

Fall (3)

145. Internal Combustion Engines

Application of theory of thermodynamics to internal combustion engines. Essential features of design, operating characteristics, and application of gasoline, diesel, and gas engines, and the gas turbine. Lectures and problems. Prerequisites: Physics 1B or 4C, Math. 4A. Recommended: Engr. 128.

Spring (3)

150. Industrial Electronics

The application of electron tubes in fields other than communications; consideration of high power rectification, induction and dielectric heating, measurement and control systems. Prerequisite: Physics 102.

Fall (2)

156. Aerodynamics

Properties of air, air flow, air foils, drag, engines and propellers, aircraft performance and stability, types of aircraft, aircraft instruments. Lectures and problems. Prerequisites: Engr. 102A-102B.

Spring (3)

199. Senior Report

Investigation of specific problems of advanced nature. Preparation of report. Prerequisite: Advanced senior standing.

Fall or Spring (2)

NOTE.—In laboratory courses special emphasis is placed upon the preparation of neat, concise, complete and intelligent reports.

ENGLISH**IN THE DIVISION OF LANGUAGES AND LITERATURE****Major**

A *major in arts and sciences* is offered in English. Lower division requirements: at least 15 units of work, including English 1, 6A-6B, and 56A-56B or 60A-60B. Upper division requirements: a minimum of 24 upper division units in English and comparative literature, selected with the approval of the departmental representative; 2 years of lower division work in a foreign language approved by the departmental representative or the equivalent reading knowledge determined by examination. Further work in the language, in upper division courses, is highly recommended.

A *teaching major* is offered in English for the general secondary credential or the general junior high school credential. For specific information, refer to the outlines of requirements for these credentials. English majors who have been admitted to candidacy for the general secondary credential may satisfy the foreign language requirement by one year of lower division foreign language, or equivalent, if 9 units of professional education units have been completed.

Minor

A *minor in arts and sciences* is offered in English. The minor must include at least 15 units of work in English, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in English for the general secondary, the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credential. For specific information, refer to the outlines of requirements for these credentials.

Comparative Literature

For courses in world literature, giving credit toward the English major or minor or toward the Comparative Literature minor, see Comparative Literature, page 95.

Lower Division Courses**A. English Fundamentals**

The elements of composition, including drill in grammar and usage; exercises in vocabulary building and in fundamental reading skills; theme writing. Credit in this course is equivalent to passing the English A examination and may be counted toward graduation as an elective but not to satisfy lower division English requirements in any curriculum.

Fall or Spring (2)

R. Reading Laboratory

A semi-tutorial service offered by the English Department to those wishing to improve reading ability. Open to all students at any level of college work. Consult department chairman.

Fall or Spring (0)

W. Writing Laboratory

A semi-tutorial service offered by the English Department to those wishing assistance in writing projects, either remedial or advanced. Open to students at any level of college work. Consult department chairman.

Fall or Spring (0)

1. Freshman Composition

Study and practice in the expression of ideas and factual materials; principles of organization and of effective style, with emphasis on exposition. Prerequisite: Satisfactory English A examination or credit in English A.

Fall or Spring (3)

2. Freshman Literature

A course designed to develop college reading skills through practice in the analysis of materials at varying levels of difficulty. Emphasis on the student's problems in reading rapidly and accurately mature books in literature, history, psychology, science, philosophy, etc. Prerequisite: English 1 or 8.

Fall or Spring (3)

6A-6B. The Study of Literature

A basic course in the techniques of reading imaginative literature with sympathy, insight, and vividness. Methods of developing the informed and trained attention requisite to comprehension and appreciation of literary works, motion pictures, and radio presentations. Plays, stories, and poems contemporary or universal in appeal constitute the readings. Required of English majors; open to other students as an elective. English 6A is a prerequisite for 6B.

Fall and Spring (3-3)

8. English in Business

Theory and practice of business correspondence. Business letters as applied to salesmanship; problems in writing credit and collection letters, applications for employment, adjustment letters, and sales letters. Prerequisite: English A or equivalent, as indicated by Subject A Examination, or record from college and by test to be given by Commerce Department. This course is planned for students in the accounting and secretarial fields; units obtained in it cannot be used to meet English requirements in other fields.

Fall or Spring (3)

10. Recreational Reading

Development of personal tastes for leisure-time reading through lectures and written reports. May be taken a second time with new materials.

Fall or Spring (1)

50A-50B. Survey of American Literature

Semester I: Major American writers from the beginning to 1860. Semester II: American literature from 1860 to the present.

Year course (3-3)

56A-56B. Survey of English Literature

The study of some important works of English literature from the Anglo-Saxon period through the Victorian age, with emphasis upon the literary history of each period.

Year course (3-3)

60A-60B. Literature and Personality

This course is devoted to the close study of a limited number of the great creators of English and American literature. Its object is to study, in several representative great writers, the way in which a trained attention to masterpieces reveals to us the statement and resolution of the great issues of life, both in the individual self and in the cultural world. From such a study the goal of the course is to derive, from markedly different specific works, orderly and generalized methods for the interpretation of great literature.

Year course (3-3)

61. Sophomore Composition

An elective course designed to give further training to the student who wishes practice in writing beyond the freshman level. Prerequisites: English 1 and English 2, or equivalent.

Fall (3)

62. The Short Story

A practical course in writing, including a study of short story techniques and purposes, and the writing of complete short stories. Prerequisites: English 1 and English 2, or equivalent.

Spring (3)

63. Foundations of the Language

A study of the important features of English grammatical structure, with emphasis on present-day usage. Designed to make more significant the native language through a study of the elements which compose it.

Spring (3)

Upper Division Courses**106. Creative Writing**

A writing workshop in which students are given opportunity to criticize each other's work. Emphasis on narrative and description, but freedom to pursue whatever writing forms may interest the student most. May be taken a second time with new material.

Fall (3)

110. Recreational Reading

An advanced course in the group reading of modern drama, poetry and fiction.

Fall or Spring (1)

113. American English

The development of American English; regional and cultural differences in pronunciation, grammar, and vocabulary.

Fall (3) (Offered in 1949-1950 and alternate years)

116A-116B. The Age of Elizabeth

Semester I: Poetry and prose, exclusive of drama. Semester II: The drama to 1642, excluding Shakespeare.

Year course (3-3)

117A-117B. Shakespeare

A chronological survey. The first semester gives special emphasis to the histories and chronicles; the second, to tragedy and the dramatic romances.

Year course (3-3)

118A-118B. Eighteenth Century English Literature

The first semester emphasizes the social satire of Swift, Pope, Addison, Steele, Dryden, Gay, Prior; and also the first stirrings of the romantic revolt in a number of important poems and prose works. The second semester is devoted to Johnson and Boswell and their circle and to a significant romantic literature antedating the romantic outburst.

Year course (3-3)

119A-119B. Nineteenth Century English Poetry

Semester I: The culmination of the romantic movement in the poetry of Wordsworth, Coleridge, Byron, Shelley, and Keats, in relation to the thought of the revolutionary period. Semester II: Tennyson and Browning with their contemporaries and successors, relating English poetry to nineteenth century life and thought.

Year course (3-3)

120. The Age of Milton

A study of the literature of the earlier seventeenth century, with emphasis on Jonson, Donne, and Milton. Consideration is given to the political, religious, and social backgrounds of the seventeenth century.

Spring (3)

126A-126B. Nineteenth Century English Prose

Semester I: Romantic and mid-Victorian prose writers, including Coleridge, Hazlitt, Lamb, DeQuincey, Carlyle, Landor, Macaulay, and Mill, related to the literary, political, and social movements of the period. Semester II: Late nineteenth century essays of Arnold, Thomas Huxley, Newman, Pater, Ruskin, and Stevenson. Study of scientific, aesthetic, and ethical backgrounds.

Fall (3)

129. Contemporary British Literature

Selected prose and poetry of England and Ireland from 1914 to the present, including Shaw, Yeats, Synge, Joyce, Maugham, Huxley, D. H. Lawrence, Eliot, the Oxford poets, and the principal authors belonging to the two wars.

Spring (3)

- 131. American Literature: 1820-1860**
The study of the important romantic writers, with emphasis on the New England group.
Fall (3)
- 132. The Frontier and American Literature**
The influence of the frontier upon American literature studied through various regions and movements. Examinations of source materials, biographies, and representative writers.
Fall or Spring (3)
- 133. American Literature: 1860-1910**
The rise of realism in American literature. Influences, foreign and native, which promoted the movement. Definition of realism. The literary creed of the realists. The romantic attack and the realist defense.
Spring (3)
- 134. American Literature: 1910 to the Present**
Ideas and forms in representative poetry and prose.
Fall or Spring (3)
- 135. American Colonial and Revolutionary Literature**
The Puritan system of thought and way of life, and the literary and intellectual movements of the eighteenth century, studied in the works of such representative writers as Mather, Franklin, Paine, Freneau, and Brockden Brown.
Fall (3)
- 143A-143B. The English Novel**
History of the English novel from the beginnings to the present. Extensive reading of novels with reports, lectures, and discussions. The first semester covers the nineteenth century; the second semester deals with the more modern works.
Year course (3-3)
- 149. The Study of Poetry**
A course proceeding from simpler to more complex poetic productions, and designed to bridge the widening chasm between the poet and the ordinary man. Emphasis on current directions in poetry, and on poetry as an oral and auditory art.
Spring (3)
- 151. Chaucer**
A study of Chaucer's works, with emphasis on "The Canterbury Tales" and "Troilus and Criseyde."
Fall (3)
- 162. Magazine Fiction**
Coaching in constructing and writing short stories for commercial publications. Admission by consent of the instructor.
Fall (3)
- 166. Honors Course**
Type I: Special study. Open to members of the Honors Group in English (see The Honors Group under General Regulations). May be repeated with different materials. Type II: Reading and discussion devoted to analyzing literature as an expression of a cultural field and to exploring the values of literature in the studies of the life of man. Registration limited to majors and graduate students in English, and to majors in art, anthropology, economics, history, philosophy, political science, psychology, and sociology. Admission by consent of the instructor.
Type I: Fall or Spring (3)
Type II: Year course (3-3)
- 191. Advanced Composition**
A course designed for prospective teachers of secondary school English. This is not a methods course, but a content course in grammar, composition, and journalism. Required of all teaching majors in English; open to other students as an elective.
Fall (3)

192. The English Language

The study of the history of the English language, of its words and structure, of the changes in inflections, pronunciation, vocabulary, and meaning, and of its use as an instrument of communication and human living. Open only to seniors and graduate students.

Spring (3)

195. Literary Criticism

A historical survey of the principles and practices of literary criticism from Greek times to the nineteenth century. Readings in the works of Aristotle, Horace, Longinus, Sidney, Boileau, Dryden, Lessing, Sainte-Beuve, Coleridge, and Arnold. Open only to senior and graduate students.

Fall (3)

199. Special Problems

Students who have demonstrated ability in literary studies may enroll for work other than that outlined in the regular courses. Admission only by consent of the instructor with whom the work is to be done.

Fall or Spring (1-3)

Graduate Courses**201. Shakespeare**

Bibliography, critical study, special problems, criticism. Prerequisite: Graduate standing. Recommended: At least one undergraduate course in Shakespeare.

Spring (2)

202. Mark Twain

Studies in the numerous aspects of Mark Twain's work and in his significance as a product of the Frontier and as a representative American voice. Prerequisite: Graduate standing.

Fall (2)

221. Regionalism in American Literature

Bibliography, special problems, with concentration on selected regions. Prerequisite: Graduate standing. Recommended: At least one undergraduate course in American literature.

Fall (2)

222. Utopias

A study of Utopian thought from a literary rather than a sociological viewpoint. Comparative study of the forms of the projected ideal and of the satirical dream from Plato through Sir Thomas More, Shakespeare, Swift, Shelley, Morris, Wells, A. Huxley, and others. Prerequisite: Graduate standing.

Spring (2)

FRENCH IN THE DIVISION OF LANGUAGES AND LITERATURE

Major

A *major in arts and sciences* is offered in French. Lower division requirements: French A-B-C-D; German A-B or Spanish A-B or Latin A-B; History 4A-4B. Upper division requirements: A minimum of 24 upper division units, at least 21 units of which must be in French, including French 199. The remaining 3 units may be selected from Geography 118; History 143, 121; or Comparative Literature 118, 155, or 158, in consultation with the Chairman of the Department. An average of C grade or better is required in upper division major courses.

A *teaching major* is offered in French for the general junior high school credential. For specific information, refer to requirements for this credential.

Minor

A *minor in arts and sciences* is offered in French. The minor must include at least 15 units of work in French, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in French for the general secondary, the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credential. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

A-B. Elementary

Intensive study of French grammar and syntax; daily written work discussed in class; class drill in conversational idiom and pronunciation; reading with oral discussion and résumés; dictation; introduction to contemporary prose writers. Credit not given for French A unless followed by French B. Students who have had one year of French in high school should register for French A for which only 2 units will be allowed. Those who have had two years of French in high school should register for French B for which only four units will be allowed. For specific information, refer to page 17. French A, or its equivalent, is a prerequisite for French B.

Year course (5-5)

C-D. Intermediate Reading

Reading and composition; study of standard prose as a basis for class work, collateral reading with résumés and written reports; dictation. Prerequisite for C: French B or three years of high school French. Prerequisite for D: French C or four years of high school French.

Year course (3-3)

SC. Scientific Reading

Reading taken from the fields of chemistry, physics, medicine, zoology, biology, etc. Outside readings of books and periodicals, with written reports. Prerequisite: French B or equivalent.

Fall (2)

Upper Division Courses

101A-101B. Conversation and Composition

Translation into French from moderately difficult English prose. Outside reading of modern French prose, with written reports in French monthly. Readings and oral discussions in French of various facets of French life and culture.

Prerequisite: French D, or its equivalent, with grade of C.

Year course (3-3) (Offered in 1950-51)

105A-105B. Modern French Drama

Plays of Victor Hugo, de Vigny, de Musset, Scribe, Augier, Dumas fils, Pailleron, Brieux, Hervieu, Maeterlinck, Rostand, and others read and discussed as to subject matter and technique. Outside reading and reports. Prerequisite: French D, or its equivalent, with grade of C.

Year course (3-3)

107A-107B. Eighteenth Century Literature

The works of Montesquieu, Voltaire, Rousseau, the Encyclopédistes, and others. Prerequisite: French D, or its equivalent, with a grade of C.

Year course (3-3) (Offered in 1952-53)

110A-110B. Modern French Novel

The French novel from Victor Hugo to the present day, including such authors as: Hugo, Dumas, Stendhal, Balzac, Flaubert, Loti, Anatole France, Bourget, Bordeaux, Bazin, Barrès, Romain Rolland, A. Gide, Marcel Proust, and others. Class reading, outside reading, and reports. Prerequisite: French D, or its equivalent, with grade of C.

Year course (3-3) (Offered in 1951-52)

111A-111B. Seventeenth Century Dramatic Literature

Reading in class of plays of Molière, Corneille, and Racine. Outside readings and lectures on the background of the seventeenth century in France. Prerequisite: French D or its equivalent, with a grade of C.

Year course (3-3) (Offered in 1950-51)

199. Comprehensive Reading and Survey Course

Designed to fill up the gaps in the reading done in courses. Class meeting once a week for guidance, reports, and quizzes. Required of all seniors majoring in French.

Spring (3)

GENERAL LANGUAGE

IN THE DIVISION OF LANGUAGES AND LITERATURE

Major and minor work are not offered in general language.

Lower Division Course

A. Latin and Greek Word Derivation

A general and elementary course in philology. A study of Latin and Greek roots of most frequent occurrence in English, and of the English words derived from them.

Fall (3)

B. Pronunciation of French, Italian and German

A course designed especially for the use of singers, radio announcers, etc. No prerequisite. This course may be taken for one, two or three units of credit depending on the individual student's need. Credit in this course does not count toward the 10 unit foreign language requirement.

Spring (1-3)

GEOGRAPHY IN THE DIVISION OF SOCIAL SCIENCES

Major

A *major in arts and sciences* is offered in geography. Lower division requirements: Geography 1, 2; Geology 1A-1B. Recommended: A reading knowledge of French or German. Upper division requirements: a minimum of 24 upper division units in geography, or 18 units in geography and 6 units selected from related fields with approval of the departmental representative.

A *teaching major* is not offered in geography; however, courses in geography may be used as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines for requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in geography. The minor must include at least 15 units of work in geography, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in geography for the general secondary credential; however, it may be used as a part of the *social science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to requirements for these credentials.

Lower Division Courses

NOTE: Geography 1, 3, or 4 may not be used to meet any part of the 12-unit social science requirement. Geography 1 or 3 (but not both) may be used to meet part of the 12-unit natural science requirement.

1. Introduction to Geography: Physical Elements

The nature of maps, weather and climates of the world; natural vegetation; land forms and their associated soils, with reference to their climatic relationships; the seas and their coasts. One field trip. This course is classified as a natural science. (See lower division requirements.)

Fall or Spring (3)

2. Introduction to Geography: Natural and Cultural Regions

The regional differentiation of the world by human activity; areal bases of economy and nationality. Prerequisite: Geography 1.

Fall or Spring (3)

3. Elementary Meteorology

An elementary study of the earth's atmosphere and changes in it which produce our weather and influence human affairs. Special attention given to local conditions, instruments, and records. Aeronautical meteorology stressed in the fall semester. This course is classified as a natural science. (See lower division requirements.)

Fall or Spring (3)

4. Map Reading and Map Interpretation

Representation of geographic data by means of maps. Interpretation of projections, scales, symbols, land forms, and culture from topographic maps; measurements of cultural data on maps. This course may not be counted toward lower division social science requirement.

Fall (2)

10. Economic Geography

Beginning course in economic geography designed for commerce and economic majors. Prerequisite: Geography 1.

Fall or Spring (3)

Upper Division Courses

112. Geography of California

The physiographic regions of California and the cultural landscapes developed by the successive cultural groups. Prerequisite: Geography 1 or consent of instructor.

Spring (3)

113. Climatology

A survey of the principal classifications of climates of the world; regional characteristics of climate; relations to soils, vegetation, and human activities. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

116. Geography of Latin America

The natural regions of Latin America; their occupational condition and historical evolution. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

117. Geography of Northern and Eastern Europe

A study of the cultural development of the countries of northern and eastern Europe in relation to physical background and historical evolution. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

118. Geography of the Mediterranean Area

A study of the cultural development of the countries of Southern Europe, Western Asia, and North Africa in relation to physical background and resources. Prerequisite: Geography 1 or consent of instructor.

Spring (3)

119. Geography of South America

A study of the physical regions and human geography of South America, including a review of the history of colonization and the exploitation of resources. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

120. Geography of Middle America

A study of the physical and human geography of Mexico, Central America, and the islands of the Caribbean, including a review of the history of colonization and the exploitation of resources. Prerequisite: Geography 1 or consent of instructor.

Spring (3)

121. Geography of North America

The natural regions of North America, their formation and economic and historical development. Prerequisite: Geography 1 or consent of instructor.

Spring (3)

124. Geography of Asia

The cultural regions of Asia, their physical environment, and historical development. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

135. Geography of the San Diego Area

Directed individual urban and rural field work in the San Diego area; the mapping of a small area and making its geographic interpretations. Prerequisites: Geography 1 and 2 or consent of instructor.

Spring (3)

141. Advanced Economic Geography

A survey of the raw materials of world trade; their production and distribution as related to major geographic regions of the world. Prerequisite: Geography 1 or consent of instructor.

Fall (3)

145. Conservation of Natural Resources

Nature and extent of mineral, soil, water, forest, and wild life resources and their conservation; with particular emphasis on the United States, against a general background of world resources. Conservation philosophies and practices, and their geographic bases. Prerequisite: Geography 1 or consent of instructor.

Spring (3)

166. Honors Course

To be arranged after consultation with the chairman of the department. (See page 15)

Fall or Spring (Credit to be arranged)

GEOLOGY**IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is not offered in geology. Students preparing for later professional training in geology should plan on completing Chemistry 1A-1B; Physics 1A-1B-1C-1D or 4A-4B-4C; Mathematics 3A-3B; Engineering 1A-1B, 21A; and Geology 1A-1B, 21A-21B.

A *teaching major* is not offered in geology; however, courses in this field may be used as part of the *general science major* for the general junior high school credential. For specific information, refer to the outline of requirements for this credential.

Minor

A *minor in arts and sciences* is offered in geology. The minor must include at least 15 units of work in geology, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in geology; however, courses in this field may be used as part of the *general science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses**1A. Physical**

The composition, origin, and distribution of earth materials, and their modification through mechanical and chemical process of change. Three lectures and one three-hour laboratory period weekly with related field study during the semester. (Not open to students who have had Geology 2A except for one unit upon the completion of the laboratory section.)

Fall (4)

1B. Historical

Theories of earth origin, and the evolutionary history of the earth as traced through rock and fossil records. Consideration of the Paleontologic Sequence. Three lectures and one three-hour laboratory period weekly, with arrangement for field study and conference during the semester. Prerequisite: Geology 1A or equivalent.

Spring (4)

2A. General

Similar to Geology 1A but without laboratory. Emphasis upon origin and development of earth's surface features. Open to all students except those already presenting credit in Geology 1A. Two lectures and one demonstration and discussion hour weekly.

Fall (3)

2B. Physiography of United States

A study of the land forms of the United States and their physiographic history as illustrative of universal geologic conditions. Two lectures and one discussion hour weekly. Prerequisite: Geology 1A or 2A.

Spring (3)

21A-21B. Mineralogy

Study of the common minerals and rocks. Use of the blowpipe, simple chemical reagents, and the petrographic microscope, but with emphasis upon sight determination. Prerequisite: Geology 1A and high school chemistry, or equivalents.

Year course (3-3)

Upper Division Courses**100. Structural Geology**

The evolution and description of the structural and topographical features of the earth. Faulting, folding, and orogenic forces with practical illustrations from the North American Continent and California geologic conditions. Lectures, discussions, and occasional field trips. Prerequisite: Geology 1A-1B or 2A-2B.

Fall (3)

101. Museum Work

Selection and preparation of materials for the college museum collections. Emphasis upon creation of self instructive displays for use on the elementary and secondary as well as the collegiate level. Prerequisite: Geology 1A-1B, and consent of the instructor.

Fall or Spring (1 to 2)

102. Geology of California

Directed reading and group discussion of California geologic literature. Designed to acquaint the student not only with the important structural and geomorphic units of the State but with the variety of important source materials of geologic literature as well. Use of bibliographies, state and federal surveys, research publications, etc. Prerequisite: Geology 1A-1B, and consent of the instructor.

Spring (2)

108. Field Geology

Field instruction in geologic methods. Reconnaissance of adjacent unmapped areas with preparation of a geologic map and accompanying report. Work accomplished primarily on week-ends with minimum classroom activity during the week for organizational details. Prerequisite: Geology 1A-1B, and consent of the instructor.

Fall or Spring (1 to 4)

199. Special Study

Individual work in field, library, laboratory, or museum under staff supervision. Open only to qualified students upon consultation.

Fall or Spring (1 or 2)

GERMAN**IN THE DIVISION OF LANGUAGES AND LITERATURE**

Major and minor work are not offered in German; however, students desiring to carry advanced work in German should consult with the Chairman of the Department of Foreign Languages.

Lower Division Courses**A-B. Elementary**

Pronunciation, reading and grammar, with practice in simple conversation, narration and description, both oral and written. Credit not given for German A unless followed by German B. Students who have had one year of German in high school should register for German A for which only two units will be allowed. Those who have had two years of German in high school should register for German B for which only four units will be allowed. For specific information, refer to the section entitled: Lower Division Requirements for All Curricula. German A, or its equivalent, is a prerequisite for German B.

Year course (5-5)

C-D. Intermediate Review and Reading

Reading and composition; study of standard prose as basis for class work; collateral reading with written reports; German conversation, with the texts read as a basis; dictation. Prerequisite: German B or three years of high school German, or its equivalent. Students with credit for four years high school German, or its equivalent, should enter German D.

Year course (3-3)

SC-SD. Scientific Reading

First semester, readings in scientific reader on chemistry, physics, etc.; occasional written reports on scientific subjects read outside of class; sight reading. Second semester, readings in special scientific or technical works; weekly written reports required; sight reading. Prerequisite for SC: German B with a grade of C or three years of high school German; for SD: German SC, German C, with a grade of C, or four years of high school German.

Year course (3-3) (Not offered in 1949-50)

Upper Division**101A-101B. Advanced Conversation and Composition**

Translation into German of moderately difficult English prose. Free composition in German, written and oral. Outside reading of modern German plays and prose, dealing with various aspects of German life and culture, with written reports and oral discussions in German. Oral and written practice in conversational German. Prerequisite: German D, or equivalent, with grade of C.

Year course (3-3) (Not offered in 1949-50)

HEALTH EDUCATION**IN THE DIVISION OF HEALTH, PHYSICAL EDUCATION,
AND RECREATION**

Major work is not offered in health education.

Minor

A *minor in arts and sciences* is offered in health education. The minor must include at least 15 units of work, 9 units of which must be from courses carrying upper division credit. The minor must include the following courses: Physical Education 51, Home Economics 61A, Health Education 65, 152, 153, and 199.

A *teaching minor* is offered in health education for the general secondary, the general junior high school, and the special secondary credentials. Physical education majors may use health education as a second teaching minor only. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses**21. Principles of Healthful Living**

A course concerned with the personal health problems of college students; designed to provide scientific health information; promote wholesome attitudes and practices relating to healthful living. Required of all freshmen.

Fall or Spring (2)

65. Community Health

A study of community health problems; the role of the citizen, the public and private (or voluntary) agencies in promoting and protecting the health of the community. Prerequisite: Health Education 21. Required of physical education major students.

Fall (3)

90. Physiology of Reproduction

A course consisting of a series of lectures and discussions dealing with normal and abnormal physiology and anatomy of reproduction; facts and frauds in sex hygiene, and related topics. Prerequisite: Health Education 21.

Fall or Spring (1)

Upper Division Courses**151. Health Education for Teachers**

A course for teacher education students designed to develop a teacher awareness of pupil health needs. The elements of the health education program are considered, emphasizing the responsibility of the teacher in health guidance; observation of school children; techniques and procedures for screening defects; promoting health instruction; and providing a safe, sanitary, healthful school environment. A study of the community agencies promoting the health and welfare of the school child.

Fall or Spring (2)

152. Health Education Programs

The construction of the health education program including objectives, scope and sequence of instruction, teaching methods, source materials and evaluation procedures; with practice in building functional instructional units. Prerequisite: Health Education 151.

Fall (3)

153. Administration of School Health Program

The principles, policies and practices in organizing and conducting the school health program as an integral part of the total school and community program. A study of the administrative aspects of the divisions of the school health program; health instruction, health service (including health guidance), healthful school living, and relationship to physical education and recreation. Partially fulfills Health and Development Credential requirement for nurses.

Spring (3)

199. Special Study in Health

An opportunity is presented for extensive review of pertinent literature, individual research, and advanced study of problems in the profession. Credit will range from 1 to 3 units according to the type and amount of work. Prerequisite: Approval of the Chairman of the Division.

Fall or Spring (1 to 3)

Graduate Courses**202. Problems in Health Education**

A survey of current problems facing the Health Education profession is studied through a review of the literature, discussion of trends, observation of school situations together with the analysis and evaluation of actual problems. Written reports are required. Prerequisite: Graduate standing.

Fall or Spring (2)

HISTORY

IN THE DIVISION OF SOCIAL SCIENCES

Major

A major in arts and sciences is offered in history. Lower division preparation for the major: History 4A-4B, or 8A-8B, or 9A-9B, and either Political Science 1A-1B, or 71A-71B, or Economics 1A-1B. Two of the above history courses are recommended for students planning to major in history, and it is suggested that History 4A-4B be included as one of them. No freshman shall enroll in more than one lower division course in history during any one semester without the permission of the department. Upper division requirements: a minimum of 24 upper division units in history, including History 199, and a minimum of a year of concentration in each of three of the following fields: (a) Ancient and Medieval; (b) Modern Europe; (c) United States; (d) Latin America; (e) Pacific Area and the Far East. These courses must be selected under the guidance of the chairman of the department. A reading knowledge of one foreign language is strongly recommended.

A teaching major is offered in history for the general secondary credential. History may also be used as part of the social science major for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A minor in arts and sciences is offered in history. The minor includes from 15 to 18 units of work in history, 9 units of which must be from courses carrying upper division credit including a year course.

A teaching minor is offered in history for the general secondary credential or as part of the social science minor for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Explanation of Courses

NOTE: History 17A-17B does not count toward credit for a major or minor in history.

Any history course, with the exception of History 270A-270B, may be taken either semester, the A part not being a prerequisite to the B part.

Lower Division Courses**4A-4B. History of Modern Europe**

A survey of European society, institutions and politics from about 1500 to the present. Fall semester: 1500-1799. Spring semester: 1799 to the present.

Year course (3-3)

8A-8B. History of the Americas

Survey of the history of the western hemisphere from its discovery to the present time.

Year course (3-3)

9A-9B. History of the Pacific Ocean Area

A general survey of the history and civilization of the peoples of the Pacific, with special emphasis upon exploration, trade, international rivalries, and social evolution of the island areas.

Year course (3-3)

17A-17B. History of American Civilization

Survey of the political and social development of the United States, with emphasis upon the rise of American civilization and ideals.

NOTE: This course is not open to freshmen.

Year course (3-3)

Upper Division Courses**111A-111B. Ancient History**

Fall semester: Greek history to the Roman conquest. Spring semester: Roman history to the fourth century A.D.

Year course (3-3)

121A-121B. Medieval History

Survey of the main events of European social, cultural, religious, political and economic history, between 500 and 1300 A.D.

Year course (3-3)

131A-131B. Renaissance, Reformation and Counter-reformation

A history of personalities and events connected with the social, political, cultural, economic and religious change between 1300 and 1600.

Year course (3-3)

141. Europe in the Seventeenth and Eighteenth Centuries

European thought, politics and international relations from the Thirty Years' War and Louis XIV to the Seven Years' War.

Fall (3)

142. The French Revolution and Napoleonic Era

Study of conditions in France prior to 1789, the Revolution, 1789-1799, the organization of France and Europe under Napoleon, character of his empire, and the reorganization of Europe at the Congress of Vienna.

Spring (3)

143A-143B. Europe in the Nineteenth Century

Reaction in Europe, the development of nationalism, the impact of industrialism, and the background of World War I. Covers period 1815-1914.

Year course (3-3)

144A-144B. Europe and the World Wars

Developments in Europe from 1914 to the present. Fall semester: 1914-1939; Spring semester: 1939 to present.

Year course (3-3)

151A-151B. History of England

A survey of political and constitutional development in England since 1066; the transition from medieval England to modern; Tudor despotism; struggle for self-government under the Stuarts; rise and development of present-day political and social institutions. This course is designed for pre-legal students, majors in English, and as a background for American history.

Year course (3-3)

156A-156B. History of British Expansion

A study of the growth, development, and break-up of the older overseas empire; the beginnings of the newer empire after 1783; the rise, federation, and imperial relations of the British Commonwealth of Nations; the crown colony system; India under British rule; British expansion in Africa and the Pacific; development of the British mandates. History 156B is not open to students with credit for Political Science 160.

Year course (3-3)

161. Mexico and Caribbean Countries

Special attention to relations between the United States and these countries, and to recent developments in Mexico.

Fall (3)

162. South America Since Independence

Republics of South America. Development of nationality, struggles for political stability, exploitation, diplomatic and commercial relations with the United States, and other international problems of South America. Survey of present-day conditions.

Spring (3)

171A-171B. The Rise of the American Nation

Semester I: Lectures and readings on English colonization in North America, the development of colonial institutions and political customs, and areas of international conflict during the eighteenth century. Semester II: The revolutionary movement and the establishment of the government under the Constitution of 1787 to the close of the War of 1812.

Year course (3-3)

172A-172B. Constitutional History of the United States

Colonial governments, formation of the national Constitution, historical development of constitutional government, and significant phases of American constitutional law. Not open to students with credit for Political Science 139A and 139B.

Year course (3-3)

173A-173B. The Expansion of the United States

Lectures and readings on Jacksonian democracy, territorial expansion and the Mexican War, the slavery controversy, Civil War and Reconstruction, and attention to the growth and progress of the United States to the close of the nineteenth century.

Year course (3-3)

175. The United States in the Twentieth Century

The rise of the United States to the position of a world power; social and economic problems posed by the machine age; political action and adjustment, actual and proposed, intended as solutions for these problems.

Spring (3)

176A-176B. History of American Foreign Policy

Lectures and readings in the field of American foreign relations since 1776, with special emphasis, in the second semester, upon affairs since 1900. A general survey course. Not open to students with credit for Political Science 158A-158B.

Year course (3-3)

179A-179B. Intellectual History of the American People

A study of the ebb and flow of ideas in the United States since the founding of the English colonies, with special attention devoted to social and political thought.

Year course (3-3)

181A-181B. History of the West

The American frontier: Expansion, exploration, settlement and building of the new states, with emphasis upon frontier problems of defense, communications, finance, etc.; the development of cultural institutions. A critical examination of the causes, effects and results of the frontier experiences of the American people. Second semester deals chiefly with the Far West and its political influence upon the American people. Frontier influences on American ideals and politics.

Year course (3-3)

189. History of California

The economic, social, intellectual, and political development of California from the earliest times. Emphasis will be on the founding of California, international struggles for California; American conquest and Gold Rush Era; development of California as a state.

Fall or Spring (3)

191A-191B. History of the Far East

Particular emphasis during the first semester upon the history, both internal and international, of the Far East through the nineteenth century. The second semester will be devoted to a consideration of developments in the twentieth century.

Year course (3-3)

192. Modern Russia

A general survey of Russian history, with emphasis upon the period since Peter the Great; the relations between the Russian Empire and its national minorities; Tsarist experiments in political and social reform; the rise and spread of revolutionary socialism; the collapse of the Russian Empire; the development of the U. S. S. R.

Spring (3)

193. History of China

A survey of Chinese history and institutions from antiquity to the present.

Fall (3)

194. History of Japan

A general survey of the political, economic and social development from the foundation of the empire to contemporary times. Special attention will be given to religions, philosophy, literature and the arts.

Fall (3)

199. Special Course for Advanced Students

Required of all students with a history major in liberal arts and those working toward a General Secondary credential with a history major. To be attended during the senior year.

Spring (2)

Graduate Course

270A-270B. Seminar

Required of all candidates for a General Secondary credential with history as the major. Special emphasis upon the application of research in American history to teaching in junior high school, high school, and junior college. History 270A is a prerequisite to 270B. Prerequisite: Restricted to students having completed sixteen to eighteen units in upper division history including History 199, or with the consent of the instructor.

Year course (2-2)

HOME ECONOMICS

IN THE DIVISION OF SOCIAL SCIENCES

Major

A *major in arts and sciences* is not offered in home economics; however, students may elect a *general major* with the field of concentration in home economics. For specific information on the home arts curriculum, refer to the Home Arts Curriculum in the section entitled: Preprofessional and Vocational Curricula, and for further information on the general major, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

A *teaching major* is not offered in home economics.

Minor

A *minor in arts and sciences* is offered in home economics. The minor must include at least 15 units of work in home economics, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in home economics for the general secondary, general junior high, and special secondary credentials. Home economics may also be used as a second minor for the general elementary credential. For specific information, refer to the outline of requirements for these credentials.

Lower Division Courses

NOTE: Courses in home economics may not be used to meet any part of the 12-unit social science requirement, nor may they be used as part of a social science major or minor.

1. Home and Family Life

Consideration of necessary preparation for marriage, family budgets and money management; recreation, entertaining and social usage; finding a home, its furnishings and equipment with consideration of arrangement and care; child care, proper training and guidance. Open to men and women.

Fall or Spring (3)

5. Food Preparation

Principles of food selection, preparation and service with consideration of aesthetic and nutritional values. Experience in food preparation and meal service. One lecture and two three-hour laboratories per week.

Fall (3)

10. Fundamentals of Clothing

Selection of clothing with self-analysis as a basis; wardrobe planning and buying procedures. A study of commercial patterns and principles of garment construction. Two three-hour laboratories and lecture per week.

Fall (3)

11. Clothing Design

Selection and construction of children's and adults' garments; care, repair and make-over problems of clothing. One lecture and two three-hour laboratories per week. Prerequisite: Home Economics 10 or equivalent.

Spring (3)

55. Household Equipment

The selection and utilization of household equipment and storage space.

Fall (2)

61A. Nutrition

Practical problems of nutrition including food requirements, food selection, and food habits. For men and women. One two-hour lecture per week.

Spring (2)

61B. Nutrition Laboratory

Nutrition principles applied to food preparation, meal preparation, and special diets. One three-hour laboratory per week.
Spring (1)

62. Food and Nutrition

Selection, purchase, and service of meals with a consideration of nutritional needs of family groups, food habits and social customs. One two-hour lecture and one three-hour laboratory per week. Open to all students except prenursing students.
Spring (3)

Upper Division Courses**100. Advanced Clothing Design**

Design and construction of tailored silk and wool garments, informal and formal type dresses. Costume assembling. One lecture and two three-hour laboratories per week. Prerequisite: Home Economics 11 or equivalent.
Spring (3)

101. Clothing Selection

Aims to develop taste in dress through a better understanding of the relation of art principles, psychology, fashion trends, personality and physical characteristics to individuals. History of costume is studied briefly as an aid in understanding recurring cycles in fashion. A consideration of buymanship information necessary in wardrobe selection to insure satisfaction and economy.
Spring (3)

102. Child Growth and Development

This course deals with a study of the mental, emotional, social, and physical development during childhood and early adolescence. Directed observation required. Not open to students who have credit for Psychology 102, 106, or Education 102B.
Fall or Spring (3)

105. Family Meals

This course deals with the planning, preparing, and serving of attractive, well-balanced meals for different income levels, and for various occasions. The student will have responsibility for menu making, food purchasing, and meal management. Two three-hour laboratories, one hour lecture per week.
Fall (3)

108. Marriage and the Family

Preparation for marriage. Prediction scales for evaluating success or failure in marriage. Parent-child relationships; factors in successful and unsuccessful marriages; higher education and the birth rate; married women in industry and professions; desertion and divorce. Not open to students who have credit for Sociology 45, 55, or 108.
Fall or Spring (3)

150. Home Management

Integration of the learning activity around a living situation. Management of money, time and energy in the home. Principles underlying the most efficient management of an average home will be put into practice. Three lectures per week.
Fall or Spring (3)

160A. Merchandise Analysis—Textiles

Properties, uses, selection and care of textile fibers and fabrics. The aim is to develop judgment in the evaluation involved in the selection of textiles.
Fall (2)

160B. Merchandise Analysis—Nontextiles

Properties, uses, selection and care of metals, glass, rubber, fur, enamels and plastics.
Spring (2)

161. General Textiles

Factors involved in fundamental weaves, fabrics, color, and finishes with reference to selection of fabrics for home decoration and clothing. Relationships to durability and cost are emphasized. Open to all students except merchandising majors.
Spring (2)

170. Child Care and Development

A study of the prenatal and pre-school periods of child development. Directed observation and participation in the nursery school.
Spring (3)

INDUSTRIAL ARTS**IN THE DIVISION OF PHYSICAL SCIENCES****Major**

Major and minor work in industrial arts are not offered in the arts and sciences curricula. Courses are divided into two groups: (1) those leading to Professional Education for teachers; and (2) those designed for General Education. Students desiring practical training in shopwork on an elective basis should make their course selections from general education shop courses. Special emphasis is given to individual interests and objectives on a general shop basis.

Minor

A *teaching minor* in industrial arts is offered for the general junior high, special secondary, and general secondary credentials. Industrial arts may also be used as a second minor for the general elementary credential. For specific information, refer to the outline of requirements for these credentials.

Lower Division Courses

NOTE: Courses in industrial arts may not be used to meet any part of the 12-unit physical science requirement, nor may they be used as part of a major in the physical sciences.

1. General Shop Theory and Practice

A study of shop practices in the processing and fabrication of various engineering materials. Students investigate standard tools and equipment used in modern technology and learn how to obtain data from tables and formulas necessary to successful shop work.
Fall (3)

2. Mechanical Drawing

Freehand lettering, use and care of drafting equipment, simple orthographic projection, introduction to problems of dimensioning. Not open to students who have credit for a year course in senior high school mechanical drawing or to students who have credit for Engineering 2.
Fall or Spring (2)

31. Introductory General Shop

A general introductory shop course covering the areas of wood, machine and bench metal, sheet metal, foundry, forge, welding, and electricity. Basic elements of the above areas will be mastered during the first half of the semester with special consideration given to individual interests and needs during the second half.
Fall (3)

32. Intermediate General Shop

Shop training in any two of the following fields: woodworking, metalworking, welding, forging and machining. Work will be largely on an individual project basis with emphasis on acquiring skills which have value in a liberal education.
Spring (2)

41. Elements of Metalworking

Training in the use of hand tools commonly used in metalworking. Discussion and demonstration of the principles and techniques of metalworking. Required of candidates for teaching credentials in industrial arts.

Spring (3)

51. Elements of Woodworking

Training in the use of hand tools commonly used in woodworking. Discussion and demonstration of the principles and techniques of woodworking. Required of candidates for teaching credentials in industrial arts.

Spring (3)

61. Elements of Electricity

Elementary electricity as related to the home and industry; includes the study of basic principles of electricity and application to household appliances and related projects.

Fall (3)

Upper Division Courses**121. Advanced Mechanical Drawing**

Lettering, orthographic and isometric projection of machines and machine parts, dimensioning, working drawings, and reproduction. Prerequisite: Industrial Arts 2 or equivalent. Not open to students with credit for Engineering 22.

Spring (3)

141. Advanced Metalworking

Plumbing and pipefitting including threading, cutting, and installation of pipes and fittings. Household maintenance. Sheet metal development and fabrication. Prerequisite: Industrial Arts 41.

Fall (2)

143A. Machine Shop Practice

The use and care of common machine tools. Lathe work stressed. Prerequisite: Industrial Arts 41.

Fall (3)

143B. Machine Shop Practice

Shaper and milling machine work with advanced lathe work. Prerequisite: Industrial Arts 143A.

Spring (3)

146. Forging and Welding

Elementary and fundamental principles of forging and welding; including oxy-acetylene and electric welding. Prerequisite: Industrial Arts 41.

Spring (2)

151A. Furniture Making

Designing and constructing furniture. Prerequisite: Industrial Arts 51.

Fall (2)

151B. Furniture and Cabinet Making

Advanced problems in woodwork. Mill cabinet work and original furniture design and construction. Prerequisite: Industrial Arts 151A

Spring (2)

161. Advanced Applied Electricity

Study and analysis of commonly used electrical equipment. Prerequisite: Industrial Arts 61

Spring (2)

190. Experimental Shop

Individual shop work on complex projects on an experimental basis.

Spring (2)

JOURNALISM**IN THE DIVISION OF LANGUAGES AND LITERATURE****Major**

A major in arts and sciences is not offered in journalism. Students desiring major work in journalism at this college should plan for a general major with the field of concentration in journalism. For specific information regarding this plan, refer to the curriculum in pre-journalism in the section entitled: Pre-professional and Vocational Curricula, and to the description for the general major in the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

Minor

A minor in arts and sciences is offered in journalism. The minor must include at least 15 units of work in journalism, 9 units of which must be from courses carrying upper division credit.

A teaching minor is not offered in journalism.

Lower Division Courses**51A. Elements of Journalism**

Theory of news writing; introduction to the newspaper as an institution in modern society. Prerequisite: Sophomore standing and grade of B in Freshman composition, or consent of instructor.

Fall (3)

51B. News Gathering and Reporting

Practice in writing news copy, both for class criticism and for publication in *The Aztec*. Prerequisite: Grade of C or better in Journalism 51A.

Spring (3)

92. Special Projects

Special work in journalism by arrangement with instructor. Work on *The Aztec*, yearbook and other publications, with consent of instructor. (NOTE: A maximum of 6 units of Special Projects courses may be credited toward satisfaction of General Major or Journalism Minor requirements. The number of such units taken as elective credit is not limited except at the instructor's discretion.)

Fall and Spring (1-3)

Upper Division Courses**101A. Magazine Article Writing**

The technique of the magazine article; article types; research techniques. Prerequisites: Junior standing, with average grade of B in all previous composition and journalism courses, plus permission of instructor.

Fall (3)

101B. Magazine Article Marketing

Market analysis; slanting; the business of writing. Production of at least two full-length magazine articles, and marketing of same, required during the course. Prerequisite: Journalism 101A with grade of C or better.

Spring (3)

151. Advanced Editing and Reporting Techniques

Editing copy, writing headlines, making up pages, handling telegraph copy. Practice in specialized forms of journalistic writing. Prerequisite: Journalism 51A-51B.

Fall (3)

191. City and County Newspaper Practice

A special course in applied journalism during which students work on nearby daily and weekly newspapers by special arrangement with editors. Prerequisite: Journalism 51A and 51B with grade of B, plus permission of instructor.

Fall or Spring (1-3)

192. Special Projects

Special work in journalism by arrangement with instructor. Work on *The Aztec*, yearbook and other publications, with consent of instructor. (See "Note" under Jour. 92, above.)

Fall or Spring (1-3)

LATIN**IN THE DIVISION OF LANGUAGES AND LITERATURE**

Major and minor work are not offered in Latin.

Lower Division Courses**A-B. Elementary**

Thorough study of Latin grammar with daily written exercises and the translation of selected passages from Caesar, Cicero, and Pliny. The importance of these authors and their culture to western civilization will be considered. Students who have had one year of Latin in high school should register for Latin A for which only 2 units will be allowed. Those who have had two years of Latin in high school should register for Latin B for which only 4 units will be allowed. For specific information, refer to page 17. Latin A, or its equivalent, is a prerequisite for Latin B.

Year course (5-5)

C-D. Intermediate

Survey of Latin poetry with chief emphasis upon Vergil's *Aeneid*. Selections will be read from Catullus, Horace, Ovid, and others. Parallel European poetry will be considered. Latin B or equivalent is a prerequisite for Latin C. Latin C or equivalent is a prerequisite for Latin D.

Year course (3-3) (Not offered in 1949-50)

LIBRARY SCIENCE**IN THE DIVISION OF SOCIAL SCIENCES**

Major and minor work are not offered in library science.

Lower Division Courses

NOTE: Library science may not be used to satisfy any part of the 12-unit social science requirement, nor may it be used as part of a social science major or minor.

10. Use of the Library

The chief object is to give a working knowledge of some of the resources of the library which every teacher and student should understand—the decimal classification, the card catalog, periodical indexes, and the most important reference books, together with some instruction in the preparation of bibliographies. The course will be a requirement of those students added to the library's staff of student assistants, although it will not prepare the student to become a librarian.

Fall or Spring (2)

MATHEMATICS**IN THE DIVISION OF PHYSICAL SCIENCES****Major**

A *major in arts and sciences* is offered in mathematics. Lower division requirements: Mathematics 3A-3B, 4A. Recommended: Two or more of the following: Astronomy 1; Economics 1A-1B; Commerce 2, Engineering 1A, 21; French A-B; German A-B; Physics 1A-1B or 4A-4B or 2A-2B-3A-3B. Upper division requirements: a minimum of 24 upper division units in mathematics, or 18 units in mathematics and 6 units selected from the following with approval of the Chairman of the Department: Astronomy 107; Chemistry 110A-110B, 144; Physics 105A-105B, 112; or other courses approved by the Chairman of the Department.

A *teaching major* is offered in mathematics for the general junior high school credential and for the general secondary credential. For specific information, refer to the outline of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in mathematics. The minor must include at least 15 units of work in mathematics, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in mathematics for the general secondary, the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

NOTE: Courses in mathematics may not be used to meet any part of the 12-unit natural science requirement.

A. Basic Mathematics

Fundamentals of algebra and arithmetic with applications to everyday problems. For students who have had less than two years of high school mathematics or who desire or need mathematics training in this area.

B. Basic Mathematics

Fundamentals of geometry including applications to everyday problems. For students who have less than two years of high school mathematics or for students who desire or need work in this area.

C. Intermediate Algebra

The course begins with an extensive review of elementary algebra. Topics covered include quadratic equations, simultaneous equations, ratio and proportion, variation, arithmetic and geometric progressions, binomial expansion and logarithms. It is equivalent to the second year-course in high school algebra. Prerequisites: Elementary algebra and geometry or Mathematics A-B.

Fall and Spring (3)

D. Trigonometry

Roughly equivalent to the high school course in plane trigonometry but with more attention than is often given to those aspects needed in analytic geometry and calculus. Prerequisites: Intermediate algebra, Mathematics C.

Fall and Spring (3)

E. Solid Geometry

A course in solid geometry with much attention to the calculation of surfaces and volumes for the simpler solids and for certain others used in industry. Prerequisites: Intermediate algebra, Mathematics C.

Fall (2)

S. Slide Rule

Theory and use of the slide rule. Practice in performing the fundamental operations of arithmetic. Some attention is given to more involved computations. Prerequisites: Trigonometry, Math. D.

Fall and Spring (1)

1. College Algebra

Review of algebra and trigonometry. New material includes identities, graphs, solution of algebraic and trigonometric equations, determinants, and mathematical proofs. Prerequisites: Two years of algebra and trigonometry.

Fall and Spring (3)

3A. Plane Analytic Geometry

Equations and loci, conic sections, coordinate transformations, Cartesian and polar coordinates, and parametric representation. Prerequisites: Algebra, plane geometry, intermediate algebra, and plane trigonometry, with a high degree of proficiency, or a satisfactory grade in Mathematics 1, College Algebra. In order to determine the degree of proficiency, examinations in intermediate algebra and plane trigonometry will be given during the first week of the semester. Students falling below the required standard will be assigned to Mathematics 1.

Fall and Spring (3)

3B. First Course in Calculus

Introduction to differential and integral calculus, with applications to problems involving variable rates and summations. Prerequisite: Mathematics 3A.
Spring (3)

4A. Second Course in Calculus

Differentiation, integration, infinite series, and a brief treatment of solid analytic geometry. Prerequisite: Mathematics 3B. Solid geometry is recommended.
Fall (3)

4B. Third Course in Calculus

Partial differentiation, successive integration, and applications. Prerequisite: Mathematics 4A.
Spring (3)

7A-7B. Mathematical Analysis

Designed for students who do not intend to prepare for a professional career in physical science or in engineering but who desire or need one year of college mathematics. Consideration is given to the processes and applications of algebra, trigonometry, and differential and integral calculus. Prerequisites: High school algebra and plane geometry. 7A is a prerequisite to 7B. Students with credit for Math 1 or 3A will not receive credit for 7A. Students with credit for Math 3B will not receive credit for 7B.

Year course (3-3)

Upper Division Courses**104. History of Mathematics**

History of mathematics down to early modern times. Prerequisite: Mathematics 3A-3B or 7B.
Spring (3) (Offered in 1949-50 and alternate years)

105. College Geometry

A continuation of the geometry of the high school with emphasis on modern topics. Prerequisite: Mathematics 3B or 7B.
Fall (3) (Offered 1950-51 and alternate years)

106. Projective Geometry

Concurrence of lines, collinearity of points and other properties of figures not altered by projections; construction and study of ellipses, hyperbolas and parabolas by means of projections. Prerequisite: Mathematics 3A-3B or 7B.
Fall (3) (Offered in 1949-50 and alternate years)

111. Theory of Algebraic Equations

Determinants, complex numbers, and theory of algebraic equations. Prerequisites: Mathematics 3A and 3B or 7B.
Spring (3) (Offered in 1950-51 and alternate years)

112. Analytic Geometry of Space

The coordinate systems in space; lines, planes, and quadric surfaces; applications. Prerequisite: Mathematics 4A.
Spring (3) (Offered in 1950-51 and alternate years)

117. Intermediate Calculus

Essentially the same as Mathematics 4B with additional special work for advanced students. Prerequisite: Mathematics 4A. Credit not allowed for both 4B and 117.
Spring (3)

118. Advanced Mathematics for Engineering Students

Hyperbolic, elliptic, Bessel and gamma functions; line integrals; Fourier series, etc. Applications. Prerequisites: Mathematics 4A-4B. (4B concurrently if desired).
Fall (3)

119. Differential Equations

Ordinary differential equations of first and second order, with applications. Prerequisite: Mathematics 4A-4B (4B concurrently if desired).
Spring (3)

121. Advanced Calculus

Review of fundamental aspect of calculus, partial differentiation, multiple integrals and change of variable, series, line and surface integrals, Stokes' and Green's theorems, Beta and Gamma functions. Prerequisite: Mathematics 118 or 119.

124. Vector Analysis

Theory and applications to engineering problems. Prerequisites: Mathematics 4A-4B (4B concurrently if desired).
Fall (3)

140. Probability and Statistics

Statistical theory and method from the mathematical standpoint; applications in social and natural science. Prerequisite: Mathematics 4A or 7B.
Spring (3) (Offered in 1950-51 and alternate years)

199. Special Study

Study of materials mainly supplementary to the courses listed above. Prerequisite: Average grade of B or better in at least 12 units beginning with Mathematics 3A.
Fall and Spring (1 or 2, each semester)

Graduate Courses**201. Concepts of Geometry From an Advanced Point of View**

A course covering fundamental concepts of geometry and processes of mathematical thinking in this area. Recommended for candidates for the general secondary credential.
(2)

202. Concepts of Algebra From an Advanced Point of View

A course covering fundamental concepts of algebra and processes of mathematical thinking in this area. Recommended for candidates for the general secondary credential.
(2)

204. Advanced Work in the History of Mathematics

Intensive study of specific phases of the history of mathematics with attention to implications for teaching mathematics. Prerequisite: Mathematics 104.

MUSIC**IN THE DIVISION OF FINE ARTS****Major**

A major in arts and sciences is offered in music. Lower division requirements: Music 1B-1C-1D, 4A-4B, 4 units of applied music (study of piano, voice, or orchestral instrument); Aesthetics 1A-1B. Upper division requirements: a minimum of 24 upper division units in music selected from the following: Music 105A-105B, 106, 107, 119A, 120A, 121A-121B, 128; 4 units of applied music, Aesthetics 102A-102B, and 4 units of music activity (Music 109, 110, 111, 112, 113, 114, 115, 125, 126, or 130). As laboratory work, each music major is required to carry one music activity per semester. It is recommended that both vocal and instrumental activities be included at some time during the college course. At least a C average in upper division music courses is necessary.

At least two months before graduation, each senior music major will present a recital before the music faculty. At this time, the faculty will select those students who are to be granted the privilege of a public recital.

A teaching major is offered in music for the general secondary credential and the special secondary credential in music. For specific information, refer to the outlines of requirements for these credentials.

Minor

A minor in arts and sciences is offered in music. The minor must include at least 15 units of work in music, 9 units of which must be from courses carrying upper division credit.

A teaching minor is offered in music for the general secondary, the general junior high school, and the special secondary credentials. It may be offered only as a second teaching minor for the general elementary and the kindergarten-primary credentials. For specific information, refer to the outlines of the requirements for these credentials.

Lower Division Courses

(Descriptions of courses in the field of music appreciation and history of music are listed under *aesthetics*.)

1A. Musicianship—Fundamentals of Music

The elements of music; scale construction; elementary music theory; drill in music reading both with syllables and with words; ear training, elementary music dictation. Basic course for all general elementary credential students. Music majors receive no credit toward graduation. All music majors are required to register for Section 1, only.

Fall or Spring (3)

1B. Musicianship—Music Reading and Ear Training

Tonal and rhythmic dictation; rhythmic writing; sight singing. Basic course for majors and minors. Prerequisite: Music 1A.

Fall or Spring (2)

1C-1D. Musicianship—Advanced Music Reading and Ear Training

Tonal work in minor keys; modal scales; dissonant triads and seventh chords; interval feeling in all chords; rhythmic progression and elementary forms; rhythmic, melodic and harmonic dictation. Prerequisite: Music 1B. 1C is a prerequisite for 1D. Year course (2-2)

2A. String Instruments

Beginner's class in violin, viola, 'cello and string bass. Required of all music majors working for a Special Secondary credential unless this orchestral section is the major or minor field.

Fall or Spring (1)

3A. Woodwind Instruments

Beginner's class in oboe, clarinet, flute and bassoon. Required of all music majors working for a Special Secondary credential unless this orchestral section is the major or minor field.

Fall or Spring (1)

4A-4B. Elementary Harmony

Scale construction, intervals, by-tones and diatonic harmonies. Transposition and original composition in the simpler forms. Prerequisites: Music 1A-1B, or the equivalent, and at least one year of piano study. 4A is a prerequisite for 4B. Year course (3-3)

5A. Percussion Instruments—Drums

Snare drum, bass drum, cymbals and small instruments of percussion group techniques from beginning work through all phases of concert and marching band requirements.

Fall or Spring (1)

5B. Percussion Instruments—Mallet Played

Necessary technique and applied elementary theory to prepare the student in the fundamentals of playing the Tympani, Glockenspiel, Xylophone, Marimba, Vibraphone, Orchestra Bells and Chimes.

Fall or Spring (1)

6A. Brass Instruments

Beginner's class in trumpet, French horn, baritone, trombone and tuba. Required of all music majors working for a Special Secondary credential unless this orchestral section is the major or minor field.

Fall or Spring (1)

7A. Music Materials for the Elementary School

Study of the song material in the state music texts and in the supplementary texts. Appreciation materials applicable to the elementary school. Required course for all general elementary credential students. Prerequisite: Music 1A.

Fall, Spring and Summer I, II (3)

9A-B-C-D. Treble Clef Sextette

Members selected by auditions from Treble Clef (Music 10).

Fall and Spring (1-1)

10A-B-C-D. Women's Glee Club—Treble Clef

Entrance upon examination.

Fall and Spring (1-1)

11A-B-C-D. Men's Quartet

Members selected by auditions from Men's Glee Club (Music 12).

Fall and Spring (1-1)

12A-B-C-D. Men's Glee Club

Entrance upon examination.

Fall and Spring (1-1)

13A-B-C-D. Orchestra

Permission of the conductor required for membership.

Fall and Spring (1-1)

14A-B-C-D. Vocal Ensemble

Members selected by auditions from Choral Club (Music 15).

Fall and Spring (1-1)

15A-B-C-D. Choral Club

Entrance upon examination.

Fall and Spring (1-1)

*16A-16B-16C-16D. Individual Study of an Orchestral Instrument

Fall and Spring (1-1)

*17A-17B-17C-17D. Individual Study of Voice

Fall and Spring (1-1)

*18A-18B-18C-18D. Individual Study of Piano or Organ

Prerequisite: The ability to play artistically hymns and folk songs of the type found in the Golden Book of Favorite Songs.

Fall and Spring (1-1)

20A-B-C-D. Chorus

Open to anyone interested in singing standard choral works. No examination required. No public performances.

Fall and Spring (1-1)

24A. Beginning Instrumental Ensemble

Open to all instrumental students. Group playing of simple orchestral and band scores. Prerequisite: Music 2A, 3A, 6A, or equivalencies, one or more.

Fall or Spring (1)

* See explanation below for conditions under which credit may be given for music study under private instructors.

24B. Intermediate Instrumental Ensemble

Construction of group performance of orchestral and band scores of more advanced grade. Material covered will prepare the student for minor parts in either concert orchestra or symphonic band. Prerequisites: Music 24A or equivalent. Fall or Spring ($\frac{1}{2}$)

25A-B-C-D. Marching Band

Permission of conductor required for membership. Fall and Spring (1-1)

26A-B-C-D. Symphonic Band

Permission of the conductor required for membership. Fall and Spring (1-1)

28A-28B. Piano

Fundamental playing and reading technics for the pianoforte. Emphasis upon playing by ear, and the development of interpretative ability. For beginners only. No credit for music majors and minors. Year course (1-1)

28C-28D. Continuation of First Year Piano

Study of more advanced piano literature. Considerable emphasis upon ensemble piano playing and accompanying. Prerequisites: Music 28A-28B, and consent of instructor. No credit for music majors. Credit will be given to music minors. 28C is a prerequisite for 28D. Year course (1-1)

29A-29B. Class Voice

A class for beginners in the vocal field taking up the problems of breath control, tone placement, articulation and enunciation. Frequent performance before class required. Limited to 15. 29A or equivalent is a prerequisite for 29B. Year course (1-1)

29C-29D. Continuation of First Year Voice

Study of more advanced songs with attention being given to interpretation, as well as continued work on tone, articulation and placement. Frequent performance before class required. Limited to 15. 29C or equivalent is a prerequisite for 29D. Year course (1-1)

30A-30B. Chamber Music

String and woodwind ensembles. The consent of the instructor necessary for admission to class. Year course (1-1)

Upper Division Courses

(For description of courses in the field of music appreciation and history of music, see *aesthetics*).

105A-105B. Advanced Harmony and Composition

Study of the possible types of modulation and chromatic harmonies: continuation of harmonic analysis and original composition. Prerequisite: Music 4A-4B. 105A is a prerequisite for 105B. Year course (3-3)

106. Counterpoint

Study of the five species of counterpoint with much practice in writing in such forms. Application of contrapuntal style to modern composition. Prerequisite: Music 4A-4B. Fall (2)

107. Form and Analysis

Aural and visual analysis of music forms through a consideration of structure, harmonic content, and style. Prerequisite: Music 105A-105B. Spring (2)

109A-B-C-D. Treble Clef Sextette

Members selected by auditions from Treble Clef (Music 110). Fall and Spring ($\frac{1}{2}$)

110A-B-C-D. Women's Glee Club—Treble Clef

Entrance upon examination. A maximum of 2 units in glee club may be counted toward the A.B. Degree. Fall and Spring ($\frac{1}{2}$)

111A-B-C-D. Men's Quartet

Members selected by auditions from Men's Glee Club (Music 112). Fall and Spring ($\frac{1}{2}$)

112A-B-C-D. Men's Glee Club

Entrance upon examination. A maximum of 2 units in glee club may be counted toward the A.B. Degree. Fall and Spring ($\frac{1}{2}$)

113A-B-C-D. Orchestra

Permission of the conductor required for membership. A maximum of 4 units in orchestra may be counted toward the A.B. Degree. Fall and Spring ($\frac{1}{2}$)

114A-B-C-D. Vocal Ensemble

Members selected by auditions from Choral Club (Music 115). Fall and Spring ($\frac{1}{2}$)

115A-B-C-D. Choral Club

Entrance upon examination. A maximum of 2 units in choral club may be counted toward the A.B. Degree. Fall and Spring ($\frac{1}{2}$)

***116A-B-C-D. Advanced Individual Study of an Orchestral Instrument**

Fall and Spring (1-1)

***117A-B-C-D. Advanced Individual Study of Voice**

Fall and Spring (1-1)

***118A-B-C-D. Advanced Individual Study of Piano or Organ**

Fall or Spring (1-1)

119A. Instrumental Conducting

Conducting and reading of orchestral scores. Fall or Spring (1)

120A. Vocal Conducting

The theory of vocal conducting together with practical experience gained from directing the college chorus. Prerequisite: Upper division music major or minor. Fall or Spring (1)

121A-121B. Instrumentation and Arranging

Arranging of music for full orchestra. Selected works of pupils to be performed by standard orchestras. 121A is a prerequisite for 121B. Year course (2-2)

124A. Beginning Instrumental Ensemble

Open to all instrumental students. Group playing of simple orchestral and band scores. Prerequisite: Music 2A, 3A, 6A, or equivalencies, one or more. Fall or Spring ($\frac{1}{2}$)

124B. Intermediate Instrumental Ensemble

Continuation of group performance of orchestral and band scores of more advanced grade. Material covered will prepare the student for minor parts in either concert orchestra or symphonic band. Prerequisites: Music 24A or 124A, or equivalent. Fall or Spring ($\frac{1}{2}$)

* See explanation below for conditions under which credit may be given for music study under private instructors.

125A-B-C-D. Marching Band

Permission of conductor required for membership.
Fall and Spring (1-1)

126A-B-C-D. Symphonic Band

Permission of the conductor required for membership. A maximum of 4 units in band may be counted toward the A.B. Degree.
Fall and Spring (1-1)

128. Methods in Teaching Piano

Teaching of beginning, intermediate and beginning piano. Survey of materials available for child and adult classes. Special consideration of the problems of the adult beginner. Supervised teaching of beginning students in individual lessons and in class groups.

Summer (3)

130A-130B. Chamber Music

String quintet and woodwind ensembles only. Permission of the instructor necessary for class membership.
Year course (1-1)

Graduate Courses**200A-200B. Special Problems in Music**

A graduate course in which students may carry out projects in various fields of music under the direction of faculty members who are specialists in the field chosen. Students registering for this course must apply for work within a certain field after conference with the music faculty. Prerequisite: Graduate standing.
Fall and Spring (2-2)

Music 203. Musicology

Survey of bibliography and methods of research in music history and literature. Emphasis upon inter-relationship of musical developments and trends in other arts. Completion of an acceptable thesis in fields of investigation chosen by the student. Prerequisites: Aesthetics 102A-102B, graduate standing and consent of the instructor. Advanced courses in Harmony, Composition, and Form and Analysis are desirable.
Fall (2)

Music 206. Composition

Music composition in the larger forms. Students will be required to submit a complete work in one of the larger musical forms as thesis in the course. Prerequisites: Music 105A-105B, 106A, 107A, 121A, graduate standing and consent of the instructor.
Spring (2)

CONDITIONS UNDER WHICH CREDIT MAY BE GIVEN FOR MUSIC STUDY UNDER PRIVATE INSTRUCTORS

Credit may be allowed for private instruction in music under the following conditions:

1. The applicant for such credit must be a regularly enrolled student in the music department of the college.
2. The instructor giving such private work must be approved by the Music Department. All private work and the names of all such teachers must be registered in the office of the music department chairman at the beginning of the semester.
3. In the case of first semester private study, a placement examination conducted by the music department faculty at the beginning of the semester will show the status of the student at the beginning of his work.
4. Evidence that the standards of the Music Department have been met will be shown by an examination conducted by the music department faculty at the end of the semester.
5. Ten clock-hours of lessons, and 100 hours of practice per semester are required for one unit of credit.

PHILOSOPHY IN THE DIVISION OF SOCIAL SCIENCES

Major work is not offered in philosophy.

Minor

A *minor in arts and sciences* is offered in philosophy. The minor must include at least 15 units of work in philosophy, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in philosophy.

Lower Division Courses

NOTE: Courses in philosophy may not be used to meet any part of the 12-unit social science requirement, nor may they be used as part of a social science major or minor.

1A-1B. Introduction to Philosophy

An exploration of the major problems of philosophy and some significant approaches to their solution. The treatment is primarily critical and analytic rather than historical. Through free class discussion, each student is encouraged to develop for himself a world-view which to him will seem most congenial and logical. Prerequisite: 1A is prerequisite for 1B.

Fall and Spring (3-3)

3A-3B. History of Philosophy

A historical account of the development of the major concepts of philosophers in the western tradition. Relations of philosophy to science, art, religion, and social and political conditions. 3A covers the ancient and medieval periods, 3B the modern. 3A is not prerequisite for 3B.

Year course (3-3)

20. Logic

Logic and language. The logic of argument and proof. Analysis of fallacies. Application of formal principles to scientific and everyday thinking.

Spring (3)

Upper Division Courses**101. Contemporary Philosophy**

The major philosophical issues, movements, and figures in American and European philosophy of the twentieth century. Prerequisite: 3 units selected from Philosophy 1A, 1B, 3A, or 3B.

Spring (3)

111A-111B. Theory of the State

The nature of the state, its organization and activities, and its relation to the individual and to other states. Special attention is given to recent developments in the field of political thought. Not open to students with credit in Political Science 111A-111B.

Year course (3-3)

130. Ethics

The search for the Good Life. The principal theories of ethical obligation, the sources of moral authority, and the various views regarding the nature of the "highest good" and the related goals of intelligent living.

Fall (3)

136. Philosophy of Art

A study of the nature of esthetic experience, both in itself and in relation to the rest of human experience. Particular effort is made to disentangle man's esthetic attitude and activity (whether in the field of art, nature or daily life) from those experiences and evaluations with which the esthetic is frequently confused. The principal theories of art, both traditional and contemporary, are studied at length—both in relation to actual artistic production and to art's role in society.

Spring (3)

137. Philosophy of Science

A critical examination of the basic concepts and methods underlying contemporary scientific thought. Nature of scientific knowledge, conceptions of nature, natural law, relation of the scientific interest to other interests, and contributions of the special sciences to a view of the universe as a whole. Prerequisite: 3 lower division units in philosophy.

Fall (3)

PHYSICAL EDUCATION**IN THE DIVISION OF HEALTH, PHYSICAL EDUCATION AND RECREATION****Major**

A *major in arts and sciences* is not offered in physical education.

A *general major* is offered in the field of recreation. For specific requirements, refer to the outline for the curriculum in recreation in the section on Preprofessional and Vocational Curricula, and for further information on the general major to the section on Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

A *teaching major* is offered in physical education for the general secondary and the special secondary credentials. Refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in physical education or in recreation. The plan for these minors must be approved by the departmental representative. A minor consists of at least 15 units of work in one field, 9 units of which must be from courses carrying upper division credit. For further information on the minor in recreation, refer to the section entitled: Upper Division Requirements for the Bachelor of Arts Degree in Arts and Sciences.

A *teaching minor* is offered in physical education for the general secondary, the general junior high school, and the special secondary credentials. It may be offered only as a second teaching minor for the general elementary and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

A *teaching minor in recreation* is offered only as a second minor for students majoring in physical education. Non-physical education majors may select recreation as a teaching minor for the general junior high school or the special secondary credential. For specific information, refer to the outlines of requirements for these credentials.

MEN'S DEPARTMENT

Candidates for a teaching credential in physical education should refer to the section on Admission to Teacher Education, and to the curriculum outline entitled: A.B. Degree with Special Secondary Credential in Physical Education.

With the exceptions listed, all lower division students must elect one or more courses each semester. Two units of activity credit must be offered for graduation. Exceptions: (a) veterans of World War II; (b) students over 25 years of age. Students carrying fewer than 12 units during any semester may postpone taking physical education, but not be exempted therefrom. No permanent excuses from required activity courses will be granted. The college physician, in conjunction with the chairman of the department, will consider stringent cases on an individual basis and recommend.

A medical examination is given each student when entering and recommendation is made as to type of activity most beneficial. Developmental physical education classes to care for special needs are offered. The content of the required courses is planned to give each student an opportunity to participate in many activities of carry-over value, developmental nature, and recreational interest. An opportunity is afforded for students to participate in competitive sports and intramural programs.

Freshmen are required to choose from courses numbered 1-10. Sophomores and upper division students may choose from all courses offered. An activity course may be taken for credit once only. The complete uniform will be furnished by the student.

Lower Division Courses**ACTIVITY COURSES**

- | | |
|--|--------------------------------------|
| 1A-1B-1C-1D. Developmental Physical Education
Fall and Spring (1-1-1-1) | 9. Volleyball
Fall and Spring (1) |
| 2. Basketball
Fall and Spring (1) | 10. Wrestling
Fall and Spring (1) |
| 3. Boxing
Fall and Spring (1) | 13. Archery
Fall and Spring (1) |
| 4. Gymnastics
Fall and Spring (1) | 14. Badminton
Fall and Spring (1) |
| 5. Soccer
Fall (1) | 15. Fencing
Fall and Spring (1) |
| 6. Softball
Spring (1) | 16. Golf
Spring (1) |
| 7. Touch Football
Fall (1) | 17. Handball
Fall and Spring (1) |
| 8. Track and Field
Spring (1) | 18. Tennis
Fall and Spring (1) |

INTERCOLLEGIATE SPORTS

- | | |
|-------------------------------|------------------------------|
| 23. Baseball
Spring (1) | 30. Gymnastics
Spring (1) |
| 24. Basketball
Fall (1) | 34. Tennis
Spring (1) |
| 26. Cross Country
Fall (1) | 35. Track
Spring (1) |
| 28. Football
Fall (1) | 35. Wrestling
Spring (1) |
| 29. Golf
Spring (1) | |

WOMEN'S DEPARTMENT

Candidates for a teaching credential in physical education should refer to the section on Admission to Teacher Education, and to the curriculum outline entitled: A.B. Degree with Special Secondary Credential in Physical Education.

With the exceptions listed, all lower division students must elect one or more courses each semester. Two units of activity credit must be offered for graduation. Exceptions: (a) veterans of World War II; (b) students over 25 years of age. Students carrying fewer than 12 units during any semester may postpone taking physical education, but not be exempted therefrom. No permanent excuses from required activity courses will be granted. The college physician, in conjunction with the chairman of the department, will consider stringent cases on an individual basis and recommend.

A medical examination is given each student when entering and recommendation is made as to type of activity most beneficial. Developmental physical education classes to care for special needs are offered. The content of the required courses is planned to give each student an opportunity to participate in many activities of carry-over value, developmental nature, and recreational interest.

Freshmen are required to choose from courses numbered 1-10. Sophomores may choose from all courses offered. An activity course may be taken for credit once only. The complete uniform will be furnished by the student.

The individual activities, tennis, golf, archery, badminton, and dancing are offered through the year. Candidates for the special secondary credential in physical education must select one as a major activity and two others as minors. Skills in the activities must be maintained as prerequisite to the senior course, Physical Education 185.

Lower Division

ACTIVITY COURSES

1A-1B. Fundamental Skills

Practice in efficient fundamental body movements.
Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

2A-2B. Folk Dancing (Men and Women)

(2A is a prerequisite for 2B)
Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

3A-3B. Modern Dance

Practice in dance techniques and rhythms.
(3A is a prerequisite for 3B)
Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

TEAM SPORTS

4. Fieldball, Soccer, Speedball

Fall or Spring ($\frac{1}{2}$)

5. Softball, Volleyball, Hockey

Fall or Spring ($\frac{1}{2}$)

6. Basketball

Fall or Spring ($\frac{1}{2}$)

11A-11B. Ballroom Dancing (Men and Women)

(11A is a prerequisite for 11B)
Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

12A-12B. Advanced Modern Dance (Men and Women)

Laboratory experiments in advanced choreography and percussion accompaniment. Prerequisites: 3A and 3B.
Year course (1-1)

13A-13B. Archery

Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

14A-14B. Badminton

Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

16A-16B. Golf

Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

18A-18B-18C. Tennis (Beginning, intermediate, advanced)

(18A is a prerequisite for 18B; 18B is a prerequisite for 18C)
Fall and Spring ($\frac{1}{2}$ - $\frac{1}{2}$)

20A. Swimming (Nonswimmers only)

Fall and Spring ($\frac{1}{2}$)

20B. Swimming (Intermediate)

Fall and Spring ($\frac{1}{2}$)

21. Life Saving

Learning of safety in and on the water and the ability to assist or rescue a person in danger of drowning. Course content qualifies for the American Red Cross Life Saving Certificate.

Fall and Spring ($\frac{1}{2}$)

PROFESSIONAL THEORY COURSES

Men and Women Lower Division Courses

43. Professional Activities (Men)

This course presents an opportunity for majors to develop the skills and techniques of the dance as well as other phases of the activity program. Organization and presentation of materials are emphasized.

Fall (2)

44. Professional Activities (Men)

Emphasis is placed on acquiring the skills, teaching techniques, and development of knowledge and interests in the combative activities, tumbling, apparatus, and stunts.

Spring (2)

51. First Aid and Safety Education

The accepted procedure in meeting the emergencies which arise daily in any of the many places where the physical education teacher is called on for first aid. Attention is given to the prevention and minimizing of common accidents. Course contents qualifies for American Red Cross Certificate.

Fall or Spring (2)

53. Physical Education in the Elementary School

The content of the State program in physical education for the elementary school forms the basis of the course. Candidates for the Elementary Credential are required to take the course section which includes two lectures and two laboratory periods per week.

Fall or Spring (2 $\frac{1}{2}$)

Candidates for the Special Secondary Credential in physical education may take the course section which includes two lectures without laboratory periods.

Fall (2)

72. Introduction to Physical Education

The history and principles of physical education and sports movements of the past. The aims and objectives of the modern school program are studied and an effort is made to give the student a basic philosophy or a background for his professional training. Required of all physical education majors and minors.

For Men: Fall (2)

For Women: Spring (2)

Upper Division Courses

145. Professional Activities: Team Sports (Men)

The skills, rules, teaching techniques, officiating, and organization of materials in such sports as soccer, touch football, softball, hockey, basketball, and others are emphasized.

Fall (2)

146. Professional Activities: Individual Sports (Men)

The skills, rules, teaching techniques, officiating, and organization of materials in such sports as handball, tennis, badminton, archery, golf, and others are emphasized.

Fall (2)

147. Professional Activities: Coaching Baseball and Track (Men)

Organization of practice sessions, drills for developing fundamental skills and special abilities. Problems of scheduling, handling teams and game strategy are taken up. Rules, sessions, and officiating techniques are given attention.

Spring (2)

148. Professional Activities: Coaching Football and Basketball (Men)

Organization of practice sessions, drills for developing fundamental skills and special abilities. Problems of scheduling, handling teams, and game strategy are taken up. Rules, sessions, and officiating techniques are given attention.

Fall (2)

155. Applied Anatomy and Kinesiology

Anatomical and kinesiological analysis of human structure and movement. Application of analysis relative to mechanical principles as influenced by efficiency factors of body functions. Prerequisite: Zoology 8 or 20.

Fall (3)

156A-156B. Sports Methods (Women)

Analysis of skills in basketball, hockey, soccer, speedball, volleyball, and softball; methods of presenting sports to large groups; study of rules and officiating. Prerequisites: Physical Education 4, 5, and 6.

Fall and Spring (2-2)

160. Teaching of Body Mechanics (Women)

A study of efficient use of the body in daily living; evaluation and classification of exercises, methods, and practice in planning and presenting material.

Fall (2)

161. Folk Dancing Materials and Advanced Techniques (Women)

A study of folk customs, festivals, and costumes. Selection of dance materials for various age groups. Practice in advanced techniques. Prerequisite: Physical Education 2A.

Fall (2)

164A-164B. Methods in Modern Dance

Methods in the teaching of modern dance techniques and choreography. Selection of materials and course planning for the secondary school. Prerequisite: Physical Education 12A-12B.

165. Administration of Community Recreation

An introductory course in the principles of organization and promotion of leisure time and recreation activities. Content consists of a study of recreation leadership, the growth of the recreation movement, the operation of areas and facilities, program of activities, features, services, organization and administration problems. A required course for Recreation minors.

Fall (3)

168. Physiology of Exercise

A non-laboratory course emphasizing the relation of physiology to muscular exercise in physical activities. Prerequisites: Physiology 1A and Zoology 8 or equivalent.

Spring (3)

170. Recreational Leadership

A study of the practical application of the activities adapted to group recreation programs. Activities include arts and crafts, special athletic events, drama, dancing, music, hobbies, camping and hiking, socials, games and contests and stunts. This course is presented through lectures, discussions, field trips and actual class participation in the above activities. Required of all Physical Education majors, Physical Education and Recreation minors.

Spring (3)

177. Individual Program Adaptation

The adaptation of programs to the capacities and physical needs of individuals, including analysis and evaluation of aims, techniques and procedures in developmental, preventive and corrective measures. Special problems, such as survey of the situation, recognition of divergencies, selecting and assigning of students, instructional problems, motivation, follow-up, teacher limitations and public relations are considered. Prerequisites: P.E. 155 and senior standing.

Spring (3)

185. Techniques of Individual Sports (Women)

A course summarizing rules and teaching methods and testing individual playing techniques and knowledge in tennis, archery, badminton, and swimming. Prerequisite: Senior standing.

Fall (1)

190. Administration of Physical Education in the Secondary School

Consideration of the problems and practices in the organization and administration of the secondary school activity program. Study and selection and adaptation of activities, examination, and grouping of pupils, use and evaluation of tests. Selection and maintenance of equipment and facilities. Women must take this course only when offered in the women's department.

For Women: Fall (3)

For Men: Spring (3)

199. Special Study in Physical Education or Recreation

An opportunity is presented for extensive review of pertinent literature, individual research and advanced study of problems in the profession. Credit will range from 1 to 3 units according to the caliber of work. Prerequisite: Approval of the Chairman of the Division.

Fall or Spring (1 to 3)

Graduate Courses**200. Evaluation Procedures in Health, Physical Education and Recreation**

A study of tests and measurements in the profession with practice in their use, construction and interpretation of results. Prerequisite: Graduate standing.

Spring (2) (Offered in 1948-1949)

201. Developmental Physical Education

Intensive study of postural divergencies, lack of physical development, and methods of correcting such conditions through exercise are studied. Practice in making physical examinations, constructing individual exercise programs, teaching remedial exercises, as well as ethical procedures and limitations are considered. Prerequisite: Applied Anatomy and Kinesiology and graduate standing.

Fall (2)

203. Problems in Physical Education

A survey of current problems facing the Physical Education profession is studied through a review of the literature, discussion of trends, observation of school situations together with the analysis and evaluation of actual problems. Written reports are required. Prerequisite: Graduate standing.

Summer 1949 (2)

204. Problems in Recreation

A survey of current problems facing the Recreation profession is studied through a review of the literature, discussion of trends, observation of school situations together with the analysis and evaluation of actual problems. Written reports are required. Prerequisite: Graduate standing.

Summer 1949 (2)

PHYSICAL SCIENCE IN THE DIVISION OF PHYSICAL SCIENCES

Major and minor work are not offered in physical science.

Lower Division Courses**1A. Introduction to Physical Science**

A survey course dealing with the nature of man's physical universe. Emphasis will be upon materials chosen from topics in astronomy and physics to show the nature and development of the scientific method and man's use of energy. Not open to students who have had a high school course in physics with grades of A or B or who have credit for a college course in physics or astronomy or Physical Science 40. May be taken with or without plans to continue with 1B.

Fall and summer (3)

1B. Introduction to Physical Science

A continuation of Physical Science 1A. Emphasis will be upon units chosen from geology and chemistry to show the origins of natural materials and their use by man in the modern world. Not open to students who have had a high school course in chemistry with grades of A or B or who have credit for a college course in either chemistry or geology. May be taken with or without credit in Physical Science 1A.

Spring (3)

PHYSICS

IN THE DIVISION OF PHYSICAL SCIENCES

Major

A *major in arts and sciences* is offered in physics. Lower division requirements: Physics 1A-1B-1C-1D or 4A-4B-4C; Mathematics 3A-3B, 4A-4B; Chemistry 1A-1B or their equivalents. Recommended: A reading knowledge of French or German. Upper division requirements: A minimum of 24 upper division units in physics including Physics 105A-105B, 110A, 3 units chosen from 102 or 110B, and 199 (2 units). Six of the 24 units may be selected from a related field with approval of the Chairman of the Department.

A *teaching major* is offered in physics for the general secondary credential or as part of the *general science major* for the general junior high school credential or as part of the *physical science major* for the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in physics. The minor must include at least 15 units of work in physics, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in physics for the general secondary credential or as part of the *general science minor* for the general junior high, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

Note: A maximum of 12 units of lower division physics credit may be applied toward the A.B. degree.

1A-1B-1C-1D. Principles of Physics

A four semester course developing the fundamental ideas which underlie the subject of physics, with applications in the discussion of practical problems. This course is designed for students in the various fields of science and engineering who desire a thorough background of the elementary principles. Prerequisites: Concurrent or previous registration in Mathematics 3A. Physics 1A is a prerequisite to Physics 1B, 1C or 1D. Students are expected to take the courses in the following sequence and deviations from this may be made only with the permission of the instructor. Each course provides two lectures and one three-hour laboratory period per week. This sequence of courses will be discontinued after the Spring semester, 1950. (See Physics 4A-4B-4C)

1A. Mechanics of Solids

Fall, spring, summer (3)

1B. Mechanics of Fluids, Heat and Sound

Spring, summer (3)

1C. Electricity and Magnetism

Fall (3)

1D. Light and Atomic Physics

Spring, summer (3)

2A-2B. General Physics

A year course covering the elementary principles of physics. This course is primarily for liberal arts and certain pre-professional students who do not desire an intensive preparation in the field. Lectures, demonstrations and discussions. First semester: Properties of matter, mechanics and heat. Second semester: Electricity and magnetism, sound and light. Prerequisite for 2A: Two years of high school mathematics. Prerequisite for 2B: Physics 2A.

Year course (3-3)

3A-3B. Physical Measurements

A year course in laboratory physics designed to accompany Physics 2A-2B. First semester: Properties of matter, mechanics and heat. Second semester: Electricity and magnetism, sound and light. One three-hour laboratory period per week.

Prerequisite for 3A: Concurrent or previous registration in Physics 2A. Prerequisite for 3B: Concurrent or previous registration in Physics 2B.

Year course (1-1)

4A-4B-4C. Principles of Physics

A three semester course developing the fundamental principles which underlie the subject of physics, with applications in the discussion of practical problems. This course is designed for students who desire a thorough background in introductory physics. Each course provides three lectures and one three-hour laboratory per week.

4A. Mechanics

The mechanics of solids and fluids. Prerequisites: Credit in Mathematics 3A, or concurrent registration with permission of the Chairman of the Department of Physics. Not open to first semester freshmen. Fall or Spring (4) (Beginning Fall 1949)

4B. Electricity

Magnetism, electricity and elementary electronics. Prerequisite: Physics 4A. Fall or Spring (4) (Beginning Spring 1950)

4C. Heat, Sound and Light

Heat and elementary thermodynamics, sound and light. Prerequisite: Physics 4B. Fall or Spring (4) (Beginning Fall 1950)

Upper Division Courses

102. Basic Electronics

Principles of electron tubes and resistance loaded amplifiers. Negative feedback and its application to regulated power supplies, cathode followers and direct coupled amplifiers. Study of Class A and Class B power amplifiers. Prerequisites: Physics 1C or 4B and Mathematics 4A.

Fall (3).

104. Communications

Study of Class C amplifiers, oscillators, modulators and detectors. Amplitude and frequency modulation, television systems. Transmission lines, antennas and electromagnetic radiation. Students with credit for Engineering 104 may not receive credit for this course. Prerequisite: Physics 102 or permission of the instructor.

Spring (3)

105A-105B. Analytical Mechanics

Treatment of the fundamental principles of Newtonian mechanics. First semester: Study of the statics and kinematics of particles and rigid bodies. Second semester: Study of the dynamical principles underlying linear and rotary motion of rigid bodies, with additional work in vibration and impact. Use of elementary vector analysis in solving of physical applications in mechanics. Students with credit in Engineering 102A-102B may not receive credit for this course. Prerequisites: Physics 1A-1B or 2A-2B or 4A; and a working knowledge of the calculus. Physics 105A is prerequisite for Physics 105B.

Year course (3-3)

106. Optics

A study of reflection, refraction and dispersion of light, with applications to optical instruments, followed by a survey of phenomena indicative of the physical nature of light, including interference, diffraction, polarization and spectral radiation. Prerequisite: Physics 1D or 2B-3B or 4C.

Fall (3) (Offered in 1950-51 and alternate years)

107. Electrical Measurements

The theory and use of electrical measurements, including measurements of current, voltage, power, resistance, capacitance, inductance, and the parameters of resonant circuits. One hour of lecture and three hours of laboratory work per week. Prerequisites: Physics 1C or 2B-3B or 4B and a working knowledge of the calculus.

Spring (2)

108. Atomic Particles

A study of the experimental evidence for the existence of the elemental physical particles and their properties and of the physical concepts to which this experimental evidence has led. Prerequisites: Physics 1C or 2B-3B or 4B.

Spring (3)

110A. Principles of Electronic Circuits

Elements of the mathematical theory of steady and quasi-steady electric and magnetic fields with applications. Prerequisites: Physics 1C or 2B-3B or 4B and a working knowledge of the calculus.

Fall (3)

110B. Electromagnetism

Extension of the material covered in Physics 110A, including alternating and transient current phenomena and electromagnetic radiation. Prerequisite: Physics 110A.

Spring (3) (Offered in 1950-51 and alternate years)

112. Heat and Thermodynamics

A study of the thermal properties of matter with an introduction into the kinetic theory of gases and the laws of thermodynamics. Prerequisites: Eight units in physics and a working knowledge of the calculus.

Fall (3) (Offered in 1949-50 and alternate years)

114. Acoustics

A study of wave motion and its applications to the production, transmission and reception of sound. Material in architectural acoustics, speech and hearing, and acoustical instruments is presented. Prerequisites: Physics 1C or 2B-3B or 4C.

Spring (3) (Offered in 1949-50 and alternate years)

122. Electronics Laboratory

An experimental study of electron tubes and their associated circuits. Study of the cathode ray oscilloscope, vacuum tube voltmeter, characteristics of power supplies, amplifiers and filter systems. One hour of lecture and three hours of laboratory work per week. Prerequisite: Previous or concurrent registration in Physics 102, or permission of the instructor.

Fall (2)

124. Radio Measurements

A laboratory course in measurements of the parameters of resonant circuits at radio frequencies. Study of the properties of oscillators, modulators, detectors and wave guides. Students with credit in Engineering 124 may not receive credit for this course. Prerequisite: Previous or concurrent registration in Physics 104.

Spring (2)

126. Optical Measurements

An experimental study of lenses, optical systems and instruments, including the study of the wave character of light and the measurement of the wave length of light. One hour of lecture and three hours of laboratory work per week. Prerequisite: Previous or concurrent registration in Physics 106, or permission of the instructor.

Fall (2) (Offered in 1950-51 and alternate years)

128. Experimental Atomic Physics

Laboratory measurements in the fundamental properties of atomic particles. Prerequisite: Previous or concurrent registration in Physics 108 or permission of the instructor.

Spring (2) (Offered in 1950-51 and alternate years)

132. Heat and Pyrometry Laboratory

Laboratory work selected from experiments in thermal expansion, specific heat, heat of combustion, radiation, calibration and use of various temperature measuring devices. One hour of lecture and three hours of laboratory work per week. Prerequisite: Previous or concurrent registration in Physics 112 or permission of the instructor.

Fall (2) (Offered in 1949-50 and alternate years)

134. Acoustical Measurements

Experimental study of wave motion, velocity of sound in various media, diffraction, refraction and reflection of sound, microphone and loudspeaker characteristics. One hour of lecture and three hours of laboratory work per week. Prerequisite: Previous or concurrent registration in Physics 114 or permission of the instructor.

Spring (2) (Offered in 1949-50 and alternate years)

152. Vacuum Tubes

A study of the internal behavior of electron tubes with an introduction to electron optics; consideration of special tubes used in physics and engineering. Prerequisite: Physics 102.

Spring (2)

166. Honors Course

An individual study arrangement for students admitted to the Honors Group. Enrollment through the Department Chairman, subject to the approval by the Committee on Honors. For requirements for admission to this group, refer to The Honors Group in the section on General Regulations.

Fall or Spring (Credit to be arranged)

199. Special Study

Reading and laboratory work on a special problem in physics selected by the student. Each student will be assigned a member of the staff who will supervise his work. All candidates for the A.B. Degree in physics are required to enroll for two units of this course during the upper division work. Credit, hours and topics to be arranged in each case.

Fall and Spring (1 or 2—1 or 2)

Graduate Courses**200. Seminar**

An intensive study of some phase of advanced physics under the immediate direction of a member of the staff. Each student will choose a problem from one of the following fields for study and will prepare and present a paper to the combined staff and all students enrolled in this course.

- A. Mathematical Physics.
- B. Theoretical Mechanics.
- C. Kinetic Theory of Gases.
- D. Advanced Acoustics.

- E. Advanced Electronics and Electricity.
- F. Electromagnetic Radiation.
- G. Atomic Physics.

Prerequisite: Graduate standing.
Fall and Spring (2-2)

299. Special Study

Independent theoretical and experimental investigation of some topic in physics chosen by the student. Each student taking work in this course will be required to write a paper reporting his results. A member of the staff will be assigned to supervise the work. Prerequisite: Graduate standing.

Fall and Spring (1 or 2—1 or 2)

PHYSIOLOGY IN THE DIVISION OF LIFE SCIENCES

Major and minor work are not offered in physiology. Courses in physiology, however, may be used as part of the major in zoology and are recommended as part of the lower division requirements for the major in psychology. For specific information, refer to these departments.

Lower Division Courses

1A. Human Physiology

A lecture course considering the functions of the human body, and including a brief review of the microscopic and gross anatomy of the structures discussed. Prerequisites: Elementary chemistry and high school or college biology or zoology. Three hours of lecture per week. Credit reduced to 2 units, for students having credit for Zoology 20.
Spring (3)

1C. Human Physiology

A study of the human functions through laboratory experiments and demonstrations. Prerequisites: Physiology 1A completed or in progress. Six hours of laboratory per week.
Spring (2)

Upper Division Courses

101. General Physiology

Fundamentals of plant and animal functions. Two lectures and two laboratory periods per week. Prerequisites: Biology 10A-10B or Zoology 1A-1B and Chemistry 1A-1B or Chemistry 2A-2B.
Spring (4)

POLITICAL SCIENCE IN THE DIVISION OF SOCIAL SCIENCES

Major

A *major in arts and sciences* is offered in political science. This major consists of 36 units of work in political science and closely related work chosen from the fields of economics, geography, history, philosophy, psychology, and sociology. Under the direction of the Chairman of the Department, the 36 units will be distributed as follows:

(a) Required courses: Political Science 1A-1B and 71A-71B (one year-course of which should be taken in the lower division) and Political Science 199.

(b) Eighteen upper division units in political science distributed among two of the following groups: Group I: theory and government—courses numbered 100-139; Group II: administration—courses numbered 140-149; Group III: international affairs—courses numbered 150-179.

(c) Six units of upper division work selected from the related fields listed above, this work to be chosen under the direction of the Chairman of the Department and to be outside the field of the student's minor.

Students majoring in political science are advised to become as familiar as possible with the related fields listed above. Majors should have a reading knowledge of at least one foreign language.

A *teaching major* is not offered in political science; however, courses in political science may be used as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in political science. The minor consists of 15 units of work, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in political science for the general secondary credential; however, courses in political science may be used as part of the *social science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. Refer to the outlines of requirements for these credentials.

Lower Division Courses

1A. Introduction to Government

Theories and principles of government, with special attention to the problems created by modern industrialism and population pressures.
Fall (3)

1B. Introduction to Government

A comparative survey of selected foreign governments: their constitutional principles, political institutions, and governmental problems.
Spring (3)

71A-71B. Introduction to American Government and Politics

Semester I: Governmental organization in the United States; the federal system; the organization, powers and functions of the legislative, executive and judicial branches of the government; the relations between federal, state and local units of government.

Semester II: Expansion of governmental functions and the development of means of democratic control; an examination of the increased use of government as an instrument of social control; the history, motivation, methods and control of political parties; nominations, elections and minority groups; pressure politics.

NOTE: Not open to freshmen.

Year course (3-3)

Upper Division Courses

101. American Institutions

A study of the principles of the Constitution of the United States of America, and a survey of the political and social institutions which have developed under the Constitution.

Fall (3)

105. American Political Theory

A survey of the development of American ideas concerning political authority from the period of colonial foundation to the present time.

Fall (3)

111A-111B. Theory of the State

The nature of the state, its organization and activities, and its relation to the individual and to other states. Special attention is given to recent developments in the field of political thought. Not open to students with credit in Philosophy 111A-111B.

Year course (3-3)

120. Political Parties

A critical analysis of the political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. Special emphasis will be placed upon the function of the two-party system in American government.

Fall (3)

121. Basic Factors in American Politics

An analysis of American political, legal, economic, and social factors in their relation to our political system and the public interest.

Spring (3)

122. Propaganda and Public Opinion

A study of the forces which mold the American public mind, the practice of propaganda, a description and analysis of public relations, pressure groups and their effect in American public life.

Spring (3)

139A-139B. American Constitutional Development

A study of the work of the Convention of 1787 and of significant phases of American constitutional law. (Formerly Political Science 175A-175B.) Not open to students with credit for History 172A-172B.

Year course (3-3)

140. Principles of Public Administration

A study of the function of administration in the government of the United States: administration in a federal state; relations between administration and the legislative and judicial branches of government; bureaucracy; administrative "legislation" and "adjudication"; administration and democratic controls. (Formerly Political Science 143A.)

Fall (3)

141. Organization and Procedure in Public Administration

An introduction to management in the administration of public affairs: detailed examination of the forms and purposes of administrative organization; types of government agencies, their purposes and effectiveness; internal management and control; interagency relationships; personnel administration; budgets and auditing as administrative control devices; methods of administrative action. (Formerly Political Science 143B.)

Spring (3)

142. State Government

A study of the political structure and its operation used in the carrying on of the functions exercised by the states; state-federal relations; state-local government relations; particular emphasis on California government.

Fall or Spring (3)

143. Municipal and County Government

A study of the organization and its operation used to carry into effect the functions assigned to local governmental units; particular emphasis upon local government in California.

Fall or Spring (3)

144. Introduction to Public Personnel Administration

An introduction to the field, giving general coverage of the problems involved in recruitment, placement, supervision, etc. of public employees. Prerequisite: Permission of instructor.

Fall (2)

145. Public Personnel Management

An advanced course involving detailed examination of management of personnel in public service. Prerequisite: permission of instructor.

Spring (2)

150A-150B. International Relations

An historical and analytical consideration of the basic factors—historic, geographic, economic, ideologic, and strategic—which underly and condition the modern conflict between the "sovereign state" and the "community of nations." Fall semester: Origins and development through the nineteenth century. Spring semester: Twentieth century experimentation and conflict.

Year course (3-3)

151SP. The Contemporary World

A series of lectures by members of the faculty on selected problems of the current international scene. Reports required of students enrolled for credit.

Spring (1)

152. International Organization

A critical analysis of the organization by which the international community seeks to provide for the exercise of legislative, administrative and judicial functions on the international level: Diplomatic and consular corps; conferences; administration through commissions and unions; amicable procedures for settlement of disputes; The League of Nations-United Nations experiment. (Formerly part of Political Science 141A-141B.)

Spring (3)

153. Principles of International Law

The function of law in the international community. The historical development of the ideas and rules of international law and their place in the modern diplomatic and legal structure. (Formerly part of Political Science 133A-133B.)

Fall (3)

154. International Law and the Courts

A case study of the application of the rules of international law in national and international courts. (Formerly part of Political Science 133A-133B.)

Spring (3)

158A-158B. American Foreign Policy

Lectures and reading in the field of American foreign relations since 1776, with special emphasis, in the second semester, upon affairs since 1900. A general survey course. (Formerly Political Science 176A-176B.) Not open to students with credit for History 176A-176B.

Year course (3-3)

160. Government of the British Dominions

Development of the new British Empire and imperial relations of the self-governing dominions; government of Canada, Australia, New Zealand, and South Africa; conditioning historical, economic and racial factors. Not open to students with credit for History 156B.

Spring (3)

198. Special Studies in Government

Directed study and research in the field of government. Admission by permission of the instructor.

Fall or Spring (2-6)

199. Special Studies in Political Science

Directed study in research techniques in the field of political science. Limited to Political Science majors.

Fall or Spring (2)

PSYCHOLOGY IN THE DIVISION OF SOCIAL SCIENCES

Major

A *major in arts and sciences* is offered in psychology. Lower division requirements: Psychology 1, 10, and 11 or 12; 6 units in biology, zoology, or physiology; 6 units in philosophy, anthropology, or sociology. Recommended: Mathematics C. Upper division requirements: a minimum of 24 upper division units in psychology including Psychology 104A and 160A.

A *teaching major* is offered in psychology for the general secondary credential. Refer to the outline of requirements for this credential.

Minor

A *minor in arts and sciences* is offered in psychology. The minor must include at least 15 units of work in psychology, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in psychology.

Lower Division Courses

NOTE: Courses in psychology may not be used to meet any part of the 12-unit social science requirement, nor may they be used as part of a social science major or minor.

1. General

An elementary survey of normal adult psychology, descriptive and organizational; the subjective and objective aspects of behavior. Furnishes basis for all other courses in psychology and is prerequisite therefor.

Fall or Spring (3)

10. Advanced General Psychology

A comprehensive treatment of the fundamentals of psychology as the science of behavior and experience through a historical and an experimental approach. Required of all majors. Prerequisite: Psychology 1.

Fall or Spring (3)

11. Applied Psychology

A survey of the fields in which the basic principles of psychology may be applied. An introduction to an interpretation of statistical data and its utilization in the application of psychological principles to problems of daily living. Required of all nonmajors who plan to take upper division courses in psychology. Prerequisite: Psychology 1.

Fall or Spring (3)

12. Mental Hygiene

An examination and interpretation of the factors which go into the making of the person as he adapts himself to the social world about him. The development of the normal personality. Prerequisite: Psychology 1.

Fall or Spring (3)

Upper Division Courses**104A. Statistical Methods in Psychology**

An introduction to the use of quantitative methods in psychology, with emphasis upon measures of central tendency and variability, graphic methods and percentiles, linear correlation, and the applications of the normal probability curve. Prerequisite: Psychology 10, 11, or 12. Not open to students with credit for Economics 140 or Sociology 103.

Fall or Spring (3)

104B. Advanced Statistics

A further study of quantitative methods in psychology with particular emphasis on methods of correlation, chi-square, and contingency, and an introduction to the analysis of variance. Prerequisites: Mathematics C and Psychology 104A, or permission of the instructor.

Spring (3)

105A. Psychological Testing (Group)

A critical review of the principal intelligence, personality, aptitude and vocational interest tests, with emphasis upon problems of measurement in the various fields. Attention is given to procedures used in test construction and administration. Prerequisite: Psychology 11 or Psychology 104A.

Fall (3)

105B. Psychological Testing (Individual)

A course offering instruction in the principles of individual testing and practice in the administration of the Stanford-Binet, Wechsler-Bellevue and the more widely used individual mechanical aptitude tests. Prerequisite: Psychology 105A or Psychology 104A and consent of instructor.

Spring (3)

106. Developmental Psychology

A study of the psychological development of the normal individual from conception through childhood, adolescence, maturity, and old age. Stress is laid upon the interdependence of the various periods of the individual's life. Prerequisite: Psychology 1. Not open to students with credit for Psychology 102 or 103, or Education 102B or 102C, or Home Economics 102.

Fall or Spring (3)

121. Personnel and Industrial Psychology

Psychological principles applied to problems of selection and assignment of industrial personnel, employee training, and fatigue. Prerequisite: Psychology 104A, or Economics 140, or Sociology 103.

Fall or Spring (3)

122. Measurement of Public Opinion and Attitude

A survey of the history, methods, and problems of public opinion and attitude measurement. Emphasis will be placed upon the polling of consumers and voters. In order to give students experience in field work, they will be asked to serve as interviewers in several community investigations. Prerequisite: Psychology 11 or 104A, or Economics 140, or Sociology 103.

Spring (3)

130. Educational Psychology

A study of the science of human behavior as it relates to learning. Emphasis is given to the principles of learning and maturation of the organism. Special aspects treated are the growth of meanings, thinking, memory and habit formation, motivation, transfer of learning, organic and environmental conditions affecting learning, individual differences, and the theory of audio-visual education. Not open to students with credit in Education 130. Prerequisite: Psychology 1.

Fall or Spring (2)

131. Psychological Foundations of Personality

The nature of the human organism, its interaction with social and material stimuli in the environment, and the resultant changes in the development of the personality. Methods of studying and evaluating personality. A study of concepts that are basic in the development of a genuine mental hygiene. Course designed for persons engaged in social work or similar professions. Prerequisite: One full year of psychology or equivalent.

Fall (2)

132. Problems of Personality Adjustment

A study of the application of the fundamental principles of personality to problems of adaptation. Included will be such topics as the mental hygiene of the infant, the child, and the adolescent, and mental hygiene in relation to school, home, marriage, religion, vocational selection and occupational adjustment, and the adjustment problems of war veterans. Prerequisite: Psychology 131 or permission of instructor.

Spring (2)

140. Physiological Psychology

Topics covered include the history of physiological psychology, neurophysiology with emphasis upon integrative activities, receptor and effector processes, and the effects of hormones and narcotics upon behavior. Prerequisite: Psychology 10, 11 or 12 and Physiology, Biology or Zoology.

Spring (3)

145. Social Psychology

Personality as it develops in relation to social environment. Suggestion, imitation, leadership, the crowd, public opinion, social control, prejudice, propaganda, sex differences, race differences, etc. Prerequisites: Psychology 11 or 104A.

Fall (3)

150. Abnormal Psychology

The relation of psychology to the psychoneuroses and insanity; the appearance of abnormal traits in incipient stages of mental disturbances. Methods of diagnosis and early treatment. Prerequisites: Psychology 10, 11, or 12 and Physiology, Biology or Zoology.

Fall or Spring (3)

151. Introduction to Clinical Appraisal

A study of diagnostic devices in psychology, tests of clinical significance, ratings, interviewing for securing information, projective and case study analyses; problems of insight, rapport, empathy, and prediction of individual behavior. Prerequisites: Psychology 105A, 105B, 140, or 150.

Fall (3)

152. Introduction to Methods of Counseling

An introduction to problems and methods of counseling and adjustment. The utilization of psychological principles and techniques in dealing with various types of guidance situations. Prerequisite: Psychology 151 or consent of instructor.

Spring (3)

160A-160B. Experimental Psychology

An experimental approach to the fundamental principles of psychology. The first term deals with the fields of memory and learning, including conditioning, problem solving, and thinking. The second term deals with the sensory and motor processes, including such topics as errors of perception, work and fatigue. Two laboratory sessions and one hour of lecture each week. Laboratory work includes group and individual experiments, demonstrations of classical experiments, and extensive readings. Prerequisites: Psychology 10 and 104A. Either semester course may be taken independently of the other.

Fall and Spring (3-3)

166. Honors Course

A special study arrangement for students admitted to the Honors Group. Enrollment through the Department Chairman, subject to approval by the Committee on Honors. (See The Honors Group under General Regulations.)

Fall or Spring (Credit to be arranged)

170. Comparative Psychology

A study of the behavior of animals with a view to gaining a better understanding of human behavior. An analysis of the leading experimental work on sensory discrimination, learning, and intelligence of each animal group, from amoeba to man. Prerequisites: Psychology 1 and 10.

(3)

199. Individual Studies in Psychology

Limited to students in the senior year. Permission to enroll must be obtained from a member of the staff. Credit limited to three units.

Fall or Spring (1-3)

Graduate Courses**200. Seminar**

The application of the findings of recent published research. Each student will select a problem for intensive study and discussion. Enrollment limited to graduate students who are candidates for the General Secondary School Credential with a major in Psychology.

Spring (2)

SOCIOLOGY**IN THE DIVISION OF SOCIAL SCIENCES****Major**

A *major in arts and sciences* is offered in sociology. Lower division requirements: Sociology 50A-50B. Upper division requirements: a minimum of 24 upper division units in sociology, including Sociology 103, 105, 108 and 152.

A *teaching major* is not offered in sociology; however, courses in sociology may be used as part of the *social science major* for the general junior high school credential or the general secondary credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in sociology. The minor must include at least 15 units of work in sociology, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in sociology for the general secondary credential; however, courses in sociology may be used as part of the *social science minor* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses**50A. Introduction to Sociology**

A study of modern social problems recognizing the geographic, economic, psychological, and sociological factors involved. Emphasis is on a scientific method of approach. An evaluation of various causes and solutions of problems is made. A prerequisite for upper division courses in sociology. Sophomore standing required. Not open to students who have credit for Social Science 40.

Fall or Spring (3)

50B. General Sociology

The development and use of the concepts of sociological analysis, such as human nature, the effects of isolation and social contacts upon the development of personality; social interaction; social processes; social forces; social control; collective behavior; and social progress. A prerequisite for upper division courses in sociology. Sophomore standing required.

Fall or Spring (3)

Upper Division Courses**103. Elementary Social Statistics**

Analysis and presentation of elementary material in the fields of sociology and social work. Tabular and graphic presentation, analysis of frequency distributions, trends, simple correlation, sampling and reliability techniques. Prerequisites: Mathematics A-B and Sociology 50A-50B. Mathematics C or 7A recommended. This course is a prerequisite for most upper division sociology courses. Not open to students who have credit for Economics 140 or Psychology 104A or 104B.

Fall or Spring (3)

105. Social Pathology

A study of the alleged abnormal phenomena in society; family disorganization and personal demoralization; pathology of individual and group relationships and of economic, social, and cultural relationships. Prerequisite: Sociology 50A-50B.

Spring (3)

106. Criminology and Penology

The extent and characteristics of crime; consideration of physical, mental, economic, and sociological causes of crime; study of methods of penal discipline, prison labor, parole, and probation; programs of prevention. Prerequisite: Sociology 50A-50B.

Fall (3)

107. Juvenile Delinquency

A study of the causative factors of antisocial behavior from the viewpoints of economics, psychology and sociology. Particular emphasis will be placed upon the influence of the school, home and neighborhood. Protective and remedial measures such as the Visiting Teacher, Juvenile Court, Probation, Parole and Reformatories will be studied. Prerequisite: Sociology 50A-50B.

Spring (3)

108. Marriage and the Family

Preparation for marriage. Prediction scales for evaluating success or failure in marriage. Parent-child relationships; factors in successful and unsuccessful marriages; higher education and the birth rate; married women in industry and professions; desertion and divorce. Not open to students who have credit for Sociology 45 or 55, or Home Economics 108. Prerequisite: 60 units of credit.

Fall or Spring (3)

109. Fields of Social Work

A survey of the nature of social work and the various kinds of social work which are found in the modern urban life. The student is familiarized with the various social agencies in the community, their problems and methods of work, by readings and field trips. Volunteer social work in some social agency recommended. Prerequisites: Sociology 50A-50B and 103.

Spring (3)

110. Race Relations

A study of the Negro, Oriental, and other minority groups in the United States. A study of mental capacities, education, cultural achievement, family life, delinquency and other social factors of each group. Race prejudice, racial consciousness, theories of racial superiority and inferiority will be considered. Prerequisite: Sociology 50A-50B.

Fall (3)

115. Population Problems

Problems of population increase, migration, shifts in composition of population relative to age, sex, and racial distribution. Population practices and theories. Biological and geographical aspects of population problems. International population movements. Prerequisite: Sociology 50A-50B and 103.

Spring (3)

152. History of Social Thought

The origin and development of social theory in Europe and America; consideration of the fields and specialization and research in contemporary American sociology. Prerequisite: Sociology 50A-50B.

Spring (3)

195. Community Welfare Organization

An analysis of the structure and process of community organization for social welfare as well as the functional relationships between public and private welfare agencies. Field work will be required to study some of the social agencies of San Diego. Prerequisite: Sociology 50A-50B and Sociology 103.

Spring (3) (Offered in 1949-50 and alternate years)

197. Urban Sociology

A study of the structure and function of the modern city; types of neighborhoods; forms of recreation; social forces in a metropolitan area; types of urban personalities and groups; rural-urban conflicts of culture. Practical field studies required. Prerequisite: Sociology 50A-50B and 103.

Fall (3)

SPANISH**IN THE DIVISION OF LANGUAGE AND LITERATURE****Major**

A *major in arts and sciences* is offered in Spanish. Lower division requirements: Spanish A-B-C-D; French A-B or German A-B or Latin A-B; History 4A-4B or 8A-8B. Upper division requirements: a minimum of 24 upper division units, at least 21 units of which must be in Spanish, including Spanish 199. The remaining 3 units may be selected from Geography 116, 118; History 161, 162; or Comparative Literature 155 or 158 in consultation with the departmental representative. An average grade of C or better in upper division major courses is required.

A *teaching major* is offered in Spanish for the general junior high school credential. For specific information, refer to the outline of requirements for this credential.

Minor

A *minor in arts and sciences* is offered in Spanish. The minor must include at least 15 units of work in Spanish, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in Spanish for the general secondary, the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credential. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses**A-B. Elementary**

Intensive study of Spanish grammar and syntax, with daily written work; class drill in conversational idiom and pronunciation; reading with oral discussion and resúmenes; dictation; introduction to contemporary prose writers. Credit not given for Spanish A unless followed by Spanish B. Students who have had one year of Spanish in high school should register for Spanish A for which only two units will be allowed. Those who have had two years of Spanish in high school should register for Spanish B for which only four units will be allowed. For specific information, refer to page 17. Spanish A, or its equivalent, is a prerequisite to Spanish B.

Year course (5-5)

C-D. Intermediate Spanish

Reading and composition: study of standard prose as basis for class work; collateral reading in prose and drama, with written reports in Spanish; dictation. Class work conducted mainly in Spanish. Individual conferences. Prerequisite for C: Spanish B or three years of high school Spanish. Prerequisite for D: Spanish C or four years of high school Spanish.

Year course (3-3)

50. Spanish Commercial Correspondence

A one-semester intermediate course in Spanish composition, directed along the line of commercial correspondence. A practical course, with translation of business letters, and supplementary reading in Spanish on commercial subjects. Prerequisite: Three years of high school Spanish, or completion of Spanish B. This course may substitute for Spanish C in the C-D sequence.

Fall (3)

70. Spanish for Elementary-School Teachers

Elementary Spanish to meet the needs of elementary-school teachers. Emphasis on the oral aspects of the language with reading centering around Mexico. Open only to students enrolled in the general elementary school curriculum. Prerequisite: Two years of high school Spanish or one year of college Spanish or permission of instructor.

Spring (3)

Upper Division Courses

101A-101B. Conversation and Composition

Translation into Spanish of moderately difficult English prose passages. Free composition in Spanish. Outside reading of modern Spanish plays, with written reports in Spanish. Oral practice in colloquial Spanish with extensive use of phonograph recordings. Prerequisite: Spanish D, or its equivalent, with grade of C.

Year course (3-3)

102A-102B. Introduction to Spanish Classics

Reading from several types of classical literature. Lazarillo de Tormes and other novels of Roguery; selections from Don Quixote, and the Cien Mejores Poesias Castellanas; one drama each from the works of Lope de Vega, Calderon, Alarcon, and Moreto; collateral reading and reports. Prerequisite: A grade of C in Spanish D or permission from the instructor.

Year course (3-3)

104A-104B. Spanish-American Literature

Reading from representative Spanish-American authors during the colonial revolutionary and modern periods. Lectures, class reading, collateral reading and reports. Prerequisite: A grade of C in Spanish D or permission from the instructor. Students who do not read Spanish may take this course for credit in comparative literature, doing the required reading in English translation.

Year course (3-3) (Offered in 1950-51)

105A-105B. Modern Spanish Drama

The development of the drama of Spain from the beginning of the nineteenth century to the present time. Prerequisite: A grade of C in Spanish D or permission from the instructor.

Year course (3-3) (Offered in 1950-1951)

110A-110B. Novel and Short Story in Spain

The development of the novel and short story in Spain from 1830 to the present time. Prerequisite: A grade of C in Spanish D or permission from the instructor.

Year course (3-3) (Offered in 1951-52)

199. Comprehensive Reading and Survey Course

Designed to fill up the gaps in the reading done in courses. Class meeting once a week for guidance, reports, and quizzes. Required of all seniors majoring in Spanish.

Spring (3)

Graduate Courses

Spanish 201. Old Spanish

A study of the language and literature of Spain from the 12th to the 15th centuries. Prerequisite: Graduate standing and permission of instructor.

Fall (2)

Spanish 202. Seminar in Spanish-American Literature

Intensive investigation of some phase of Spanish-American literature. A single country, an author, or some special problem will be studied and reported upon. Prerequisite: Graduate standing and permission of instructor.

Spring (2)

SPEECH ARTS

IN THE DIVISION OF LANGUAGE AND LITERATURE

Major

A *major in arts and sciences* is offered in speech. Lower division requirements: A minimum of 15 units of lower division courses in speech arts, specializing in the field of dramatic art, radio, public speaking or a guided combination of the three. Upper division requirements: a minimum of 24 upper division units including Speech Arts 150; 6 units selected from 155, 140A-140B, 179A-179B, 192A-192B (the first semesters of any of these courses may be combined); 6 units selected from 181, 182, 183 or 184, 159A-159B, 161 and 191, or combinations of the first semesters of any of these courses; 6 units selected from 152, 154A, 154B, 108, 118A, 176, 192A, 192B.

A *teaching major* is offered in speech for the general secondary and the special secondary credentials. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in speech. The minor must include at least 15 units of work in speech arts, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is offered in speech for the general secondary, the general junior high school, and the special secondary credentials. It may be offered only as a second teaching minor for the general elementary and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

1. Voice and Diction

Exercises and drills to improve the quality, flexibility and effectiveness of the speaking voice leading to good usage in standard American speech. Preparatory to further courses in public speaking and dramatic art.

Spring (3)

2A. Fundamentals of Public Speaking

Training in fundamental processes of oral expression; method of obtaining and organizing material; outlining principles of attention and delivery; extemporaneous speaking and open forum debating; practice in construction and delivery of type forms of speech.

Fall or Spring (3)

2B. Extemporaneous Speaking (or Forum Speaking)

Practice in extemporaneous speaking on subjects of current interest, both national and local, with stress laid on the organization and delivery of content material. Forum discussion will provide speakers with the opportunity of assembling facts quickly to meet such questions as any audience situation might demand.

Fall or Spring (3)

11A. Interpretation

Application of the principles involved in "making words come alive": response to thought and mood, sensory association, emphasis, climax. Practice selections in poetry and prose.

Fall or Spring (3)

11B. Interpretation

Application of techniques of interpretation to poetry of various types: ballads, odes, sonnets, dramatic monologues, free verse. Prerequisite: 11A, or equivalent.

Fall or Spring (3)

20. Remedial Speech

Corrective laboratory training prescribed on the basis of vocalization tests made on recording machine. Required of education majors who fail to meet speech requirements tests. Private assistance given to stutterers and lisps.

Fall or Spring (1)

55A-55B. Elementary Acting

The fundamentals of voice and pantomime applied to the problems of characterization in group scenes in modern plays. The aims of this course include the discovery and development of talent and the understanding of the problems of the actor for directors and teachers. Acting experience is available in workshop productions and also in the major productions of the department. (Speech Arts 55A prerequisite for Speech Arts 55B).

Year course (3-3)

56A-56B. Dramatic Production

A general survey of the process of play production for lower division students planned to introduce them to the whole organization of the college and school theater, with particular emphasis on back-stage methods and practice, including stagecraft and elementary lighting. Technical crews for the departmental productions are taken from this class. (56A is a prerequisite for 56B.)

Year course (3-3)

60A-60B. Argumentation and Debate

Obtaining and organizing of evidence and the construction and use of the brief; study and discussion of current issues; the presentation of formal and informal debates. Attention to intramural and intercollegiate debating.

Year course (3-3)

61A-61B-61C-61D. Intercollegiate Debate

Fall or Spring (1-1-1-1)

63A-63B-63C-63D. Verse Choir

Participation in verse speaking chorus to develop quality, range of tone, and ability in dramatic visualization of poetry.

Fall or Spring (1-1-1-1)

81. Survey of Radio

A course presenting the background, theory, and fundamentals of radio broadcasting. The subject material includes history of broadcasting; types of radio programs; broadcast operation.

Fall or Spring (3)

82. Radio Announcing

The fundamentals of radio announcing. Class time will be divided between lecture and laboratory practice of announcing styles. Voice training for radio will be stressed. Prerequisite: Speech Arts 81.

Fall or Spring (3)

83. Radio Acting and Directing

For students interested in the production of dramatic radio programs. Lecture and laboratory for radio techniques in characterization. The use of sound effects and music cues and bridges will be considered. Emphasis will be on production analysis. Actors for Radio Guild productions will be taken from this class. Prerequisite: Speech Arts 81.

Spring (3)

Upper Division Courses**108. Advanced Interpretation**

Analysis of techniques of literary composition as guides to oral interpretation. Achievements of the creative artist as they affect the interpretative artist. Prerequisite: 11A or 11B or permission of instructor.

Fall or Spring (3)

118A-118B. Playwriting

The first semester of this course deals with the one-act play, its problems and technique. A number of one-act plays are analyzed and creative writing in this medium is encouraged. Plays written by the students are read and discussed in class during their period of development. Students will have an opportunity to see their plays produced. The second semester continues with analyses of long plays and assumes that the students are planning a continuous program of writing. (118A is a prerequisite for 118B or permission of instructor.)

Year course (3-3)

140A-140B. Stage Design

The application of the principles of design, color and perspective to the design of settings for the production of period and modern plays. Students will learn to make sketches and models and paint the scenery for the departmental productions. Prerequisite: 56A-56B or equivalent.

Year course (3-3)

145. Stage Lighting

A course for directors, designers and technicians in school and community theaters concerning the principles and practice of light, color, lighting instruments, and control equipment, including the design and planning of lighting of plays. Students will serve as light crews for departmental production.

Spring (3)

150. Phonetics

Auditory and kinesthetic analysis of the sounds of the English language. Valuable as a corrective course in pronunciation and articulation. Required of speech majors and those seeking the Speech Correction Credential.

Fall (3)

152. Stage Costume

Principles of design of stage costume. Consideration of materials, color, and dyeing. Study of history of costume of important periods. Projects in design of costumes for plays of various periods.

Fall (2)

154A-154B. History of the Theater

A study of the theater from primitive times to the present. Special attention will be given to the theater as a mirror of the social and cultural background of the various countries and periods in which it is studied. Carries aesthetics credit. (Speech Arts 154B may be taken without 154A.)

Year course (3-3)

155. Advanced Acting

Problems in characterization: acting styles of the Elizabethan and Eighteenth Century periods. Prerequisite: 55A-55B or the equivalent.

Fall (3)

156. Advanced Dramatic Production

Problems and projects in scenery and lighting in connection with the workshop and major productions of the department.

Offered in summer session only (3)

159A-159B. Stage Direction

This course is planned for prospective directors of plays in schools, colleges and community theaters. Through lectures, discussions, and exercise projects the student will become acquainted with the principles, procedure and methods of stage direction. Each student will be required to direct several short plays during the year (159A is a prerequisite for 159B.)

Year course (3-3)

161A-161B-161C-161D. Advanced Intercollegiate Debate

Fall and Spring (1-1-1-1)

162. Advanced Argumentation

Presents a further and more detailed study in the preparation of briefs and the organizing of evidence; opportunity for participation in intramural debates, intercollegiate debate, and community speaking activity. Prerequisite: 2A or 2B.

Fall (3)

163A-163B-163C-163D. Advanced Verse Choir

Participation in verse speaking chorus to develop quality, range of tone, and ability in dramatic visualization of poetry.

Fall and Spring (1-1-1-1)

176. Problems of Speech Correction and Articulation

Analysis and discussion of the major articulatory problems as encountered in public school work, particularly in California. Required of all students for the speech correction credential. Not open to students with credit for Education 176.

Spring (3)

179A-179B. Nervous Speech Disorders

Clinical survey of newest methods of speech correction with special emphasis given to stammering. Required course for Special Corrective Credential. Not open to students with credit in Educ. 179A-179B. (Speech Arts 179A is a prerequisite for 179B.)

Year course (3-3)

181. Radio Sales and Advertising

A study of advertising trends in radio advertising; time buying, audience surveys, and program types in relation to products to be advertised via radio broadcasting. Includes publicity and promotion of radio programming organization of a radio station; relationship between the business and entertainment factors of radio broadcasting. Open to students with consent of instructor.

Fall or Spring (3)

182. Advanced Radio Production

Advanced radio production techniques. Students are responsible for the execution of Radio Guild productions. Projects in program types include the use of sound and music. Material includes production analyses and script editing. Prerequisite: Speech Arts 83.

Spring (in alternate years) (3)

184. Radio Writing

Includes original half-hour scripts, play or novel adaptations for radio, and the documentary program. Study of pacing and timing, the use of sound and music for bridges and cues, and radio format. Plays written by students are read and discussed during their development; the better plays to be produced by the Radio Guild for broadcast. Open to students with consent of instructor.

Spring (3)

191. Organized Discussion

Consideration of the symposium, the panel, the open forum, the business session, and varieties of conference speaking. Emphasis upon organization and presentation. Attention to parliamentary procedure for informal groups. Prerequisite: Speech Arts 60 or equivalent.

Spring (3)

192A-192B. Advanced Public Speaking

Careful attention given to the preparation and delivery of longer speeches, using as models classics in the field of oratory. Prerequisite: 2A or 2B.

Year course (3-3) (Not offered 1948-1949)

199. Special Problems in Speech and Dramatic Art

Fall or Spring (1-3)

Graduate Courses**200. Seminar in History of Oratory**

An advanced course for those already familiar with the techniques and theories of public speaking and debate. A history of public address from the time of Greece up to the present, organized around the theories of representative orators and their relationships to the social environment. Prerequisite: Graduate standing.

Spring (2) (Offered in 1949-1950)

221. Articulatory Problems of Speech

Analysis and discussion of articulatory problems as encountered in public school work, particularly in California. Required of all students for the speech correction credential. Prerequisite: Speech Arts 150 and graduate standing.

Fall (2)

245. Seminar in Technical Practice

Advanced technical projects in planning school theaters and their mechanical equipment, lighting control and lighting instruments and the design of lighting layouts for elaborate plays will be assigned, executed and discussed. Prerequisite: Graduate standing.

(2)

259. Seminar in Stage Direction

An advanced course for those who are ready to direct full-length plays and to consider the problems of handling various styles and types of drama in the great periods of dramatic literature for modern production. For graduates with experience in directing plays. Prerequisite: Graduate standing.

Fall (2) (Offered 1949-1950)

260. Seminar in Oral Interpretation

Application of the aesthetic discipline to the oral reading of masterpieces of poetry and prose. Projects will include analysis of thought and emotional content and aesthetic form, including unity and harmony, variety and contrast, balance and proportion, rhythm, and the interpretation to an audience of the results of the study. Prerequisite: Graduate standing.

(2)

ZOOLOGY

IN THE DIVISION OF LIFE SCIENCES

Major

A *major in arts and sciences* is offered in zoology. Lower division requirements: Zoology 1A-1B; Chemistry 1A-1B or 2A-2B. Recommended: German or French; Botany 2A-2B, 4. Upper division requirements: a minimum of 24 upper division units, at least 18 units of which must be in zoology and 6 units of which may be in related courses in botany, chemistry, physics, physiology, or bacteriology selected with approval of the departmental representative.

A *teaching major* is not offered in zoology; however, courses in zoology may be used as part of the *life science major* for the general secondary credential or as part of the *general science major* for the general junior high school credential. For specific information, refer to the outlines of requirements for these credentials.

Minor

A *minor in arts and sciences* is offered in zoology. The minor must include at least 15 units of work in zoology, 9 units of which must be from courses carrying upper division credit.

A *teaching minor* is not offered in zoology; however, it may be used as part of the *teaching minor in life science* for the general secondary credential, or as part of the *teaching minor in general science* for the general junior high school, the special secondary, the general elementary, and the kindergarten-primary credentials. For specific information, refer to the outlines of requirements for these credentials.

Lower Division Courses

1A-1B. General Zoology

An introduction to animal biology dealing with structures, functions, evolution of animal life. Designed primarily for those who expect to do advanced work in the department. Two lectures and 6 hours of laboratory work each week. Students who have credit for Biology 10B do not receive credit for Zoology 1A but may for Zoology 1B. Prerequisite for Zoology 1B: Biology 10B or Zoology 1A.

Year course (4-4)

8. Human Anatomy

A study of human structure through the use of models, prepared dissections and microscope slides. Prerequisite: high school biology, Biology 10A, 1, or Zoology 1A. Two hours of lecture and three hours of laboratory per week. Required of prenursing students. Credit reduced to 2 units if student has credit for Zoology 20.

Fall (3)

20. Human Anatomy and Physiology

An elementary course in human anatomy and physiology. Prerequisite: High school biology, or Biology 1 or 10A or Zoology 1A. Lectures three hours per week. Credit reduced to 2 units if student has credit for Zoology 8 or Physiology 1A.

Fall and Spring (3)

Upper Division Courses

100. Embryology

The development of vertebrates as illustrated by the frog, chick, and pig. Six hours of laboratory and two hours of lecture and quiz per week. Prerequisite: Zoology 1B or Biology 10B.

Fall or Spring (4)

101. General Physiology

Fundamentals of plant and animal functions. Two lectures and two laboratory periods per week. Prerequisites: Biology 10A-10B or Zoology 1A-1B, Chemistry 1A-1B or Chemistry 2A-2B.

Spring (4)

104. Microtechnique

Introduction to methods of preparation of tissues for microscopic study. Six hours of laboratory and one hour of lecture per week. Prerequisite: One year college chemistry and Zoology 1A-1B, Botany 2A-2B or Biology 10A-10B.

Fall or Spring (3)

106. Comparative Anatomy of the Vertebrates

Dissection, study and comparison of organ systems of typical vertebrates. Two hours per week of lecture and six hours of laboratory. Prerequisite: Zoology 1B or Biology 10B.

Fall (4)

111. Parasitology

A study of animal parasites with special reference to those of man. Laboratory work includes the identification of the important parasites of man and the collection and preservation of available local forms. Two hours of lecture and six hours of laboratory per week. Prerequisite: Biology 10A-10B or Zoology 1A-1B.

Fall (4)

112. Marine Invertebrates

Identification and study of behavior and life histories of invertebrates of the San Diego region. Frequent collecting trips to the beaches required. Prerequisite: Zoology 1A or Biology 10B. Two hours of lecture and six hours of laboratory or field work per week.

Fall (4)

113A. Mammalogy

Lectures on classification, adaptations, and ecological relationships of mammals. Laboratory and frequent field trips to familiarize the student with the local mammals, taxonomic procedures and field techniques. One lecture and six hours of laboratory per week. Prerequisites: Zoology 1A or Biology 10B.

Spring (3)

113B. Ornithology

The study and identification of birds, especially those of the Pacific Coast and the San Diego region. One hour of lecture and six hours per week of laboratory, or field excursions. Prerequisite: Zoology 1B or Biology 10B.

Spring (3)

114. Evolution

The development of theories of evolution. Two lectures per week.

Spring (2)

115. Cold-blooded Vertebrates

The classification, natural history and distribution of fishes, amphibians, and reptiles with special reference to the local fauna. Practice in the techniques of collection and the use of keys for identification. Frequent field trips. One lecture and two laboratory periods per week. Prerequisites: Zoology 1B or Biology 10B.

Spring (3)

121. General Entomology

The classification, life history, structure, and physiology of insects. Prerequisite: Zoology 1A or Biology 10B. Two hours of lecture and three hours of laboratory per week.

Fall (3)

122. Systematic Entomology

Classification of insects with especial emphasis on a group of insects of the student's choice. To be taken with or to follow 121. May be repeated for credit but with a total of not more than 3 units. Three to six hours of laboratory work each week.

Spring (1 or 2)

123. Economic Biology

Study of the uses of plants and animals to man and the ways in which they injure him and his possessions. Consideration is also given to general methods of control and conservation. Prerequisite: Zoology 1A, Biology 1, or Biology 10B. Not open to students who have credit in Botany 123.

Fall (2)

124. Scientific Illustration

Drawing or photography of scientific subjects. Students are assigned individual projects, following their respective inclinations. It is desirable for students electing this course to have a definite project, or projects in mind and to confer with the instructor in advance in case specialized needs are required. Six hours of laboratory work per week. Not open to students who have credit in Botany 124.

Fall (2) (Not offered 1949-50)

125. Economic Entomology

A course designed primarily for students of agriculture, horticulture, and their specialized fields, but also of use and value to those majoring in the biological sciences. Emphasis is placed on determination and control of insects affecting plants and their products. Quarantine measures are also studied. Two lectures and one laboratory period per week. Prerequisites: Zoology 1A or Biology 10B.

Spring (3)

126. Medical Entomology

The role of insects and other arthropods in transmission and causation of human diseases. Three hours of laboratory and two hours of lecture per week. Prerequisite: Zoology 1A or Biology 10B.

Fall (3)

130. Readings in Biology

Reading from a suggested bibliography with informal class discussion of topics. Subjects discussed will include history of biology, biological principles, ecology, economic zoology, zoogeography, breeding habits, animal behavior. Not open to students who have credit in Botany 130.

Spring (2)

131. Field Zoology

Designed to give a working knowledge of the more common animals in the Southern California fauna; field trips emphasizing both observational methods in the study of behavior and habitat relations, and collecting techniques; laboratory to include identification of species, preparation of animal for exhibition and study; lectures on taxonomy, adaptations and ecological relationships. Prerequisites: Course in biology in high school or college, or permission of the instructor.

Summer (4)

140. Histology

A study of the microscopic structures and differentiation of tissues and organs of the vertebrates, especially mammals. One lecture and 6 hours of laboratory per week. Prerequisites: Zoology 1A-1B, or Biology 10A-10B; recommended Zoology 100.

Fall (3)

145. Hematology

Microscopic and chemical examination of blood. One lecture and two laboratory periods per week. Prerequisite: Chemistry 102.

Fall (3)

155. Genetics

An introductory course to the principles of heredity and cytogenetics, including the genetics of man, other animals, and plants. Designed primarily for science majors. Two lectures per week. Not open to students who have taken Zoology 165. Prerequisite: Biology 10A-10B, Zoology 1A-1B, or Botany 2A-2B. Not open to students who have credit in Botany 155.

Spring (2)

165. Human Heredity

Presentation of selected principles of heredity as related primarily to human inheritance. Designed primarily for non-science majors. Two lectures per week. Not open to students who have taken Zoology 155, Genetics (formerly 114A).

Fall (2)

199. Special Study

Work other than is outlined in the above courses. Admission only by consent of the instructor with whom the work is to be done. Credit and hours to be arranged in each case. Open to students who have completed at least 15 units of Zoology with a grade of A or B.

Fall or Spring (1 or 2)

Graduate Courses**200. Seminar**

To be conducted by the various members of the staff, with adaptation to the needs of the class and its background. Especial emphasis will be placed on current concepts in the various fields of Biology including problems of migration, distribution, speciation, evolution. Required of all graduate students. Prerequisite: Graduate standing.

Fall (3)

202. Hydrobiology

A course in aquatic ecology with special emphasis on fresh water but with reference to marine biology. Prerequisite: Graduate standing.

(2)

213. Advanced Studies in Ornithology

Lectures and seminar on advanced problems of morphology, distribution, behavior and classification of birds. Prerequisite: Graduate standing.

(2)

PROVISIONAL CURRICULUM

This curriculum is for the purpose of assisting provisional students in attaining regular status in a curriculum which leads to the A.B. Degree. Students in the provisional program are given close supervision in selection of courses and are placed in classes specially designed to aid in adjustment to the college program.

Reclassification to regular status may be obtained upon the completion of at least 24 units of work of "C" grade with an over-all grade point average of 1.0, or upon recommendation of a reclassification committee. Reclassification must ordinarily take place within the first two years of college work.

The courses in the provisional curriculum are open only to students in provisional status. Provisional students in their first college year must select three courses each semester from the list of subjects in the provisional curriculum. All other courses selected to complete the student's program may be chosen from the regular schedule of courses or from additional courses in the provisional curriculum with the approval of the adviser.

A SUGGESTED PROGRAM FOR PROVISIONAL STUDENTS

First Year

	Units	
	1st Sem.	2d Sem.
* English 41, English Composition, and 42, Freshman Literature.....	3	3
Physical Science 40, Man and His Physical World, or equivalent (see lower division requirements.).....	-	3
Biology 40, Man and His Biological World, or equivalent (see lower division requirements.).....	3	-
Social Science 40, Contemporary Problems.....	3	-
Sociology 45, Marriage and the Family.....	-	3
Health Education 21, Principles of Healthful Living.....	-	2
Psychology 40, Psychology and Life.....	3	-
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
Elective.....	3	4
	15 $\frac{1}{2}$	15 $\frac{1}{2}$

Second Year

Student should consult with adviser concerning lower division preparation for the major and completion of lower division requirements.

Social Science Elective.....	3	-
Social Science 45, American Democracy.....	-	3
Elective.....	12	12
Physical Education (activity courses).....	$\frac{1}{2}$	$\frac{1}{2}$
	15 $\frac{1}{2}$	15 $\frac{1}{2}$

* Students who do not pass the English A qualifying examination must register in English 40, Pre-College English, which is a prerequisite for English 41. Credit in English 40 may be counted toward graduation as an elective but not to satisfy lower division English requirements.

COURSES OF INSTRUCTION

BIOLOGY

40. Man and His Biological World

A survey of the general field of biology with emphasis on the role of biological science in the welfare of man and his associates, consisting of three lectures and one demonstration period per week. This course may be counted as the equivalent of Biology 1.

Fall or Spring (3)

ENGLISH

40. Pre-College English

The elements of composition, including drill in grammar and usage; exercises in vocabulary building and fundamental reading skills; theme writing. Credit in this course is equivalent to passing the English A qualifying examination and may be counted toward graduation as an elective but not to satisfy lower division English requirements.

Fall or Spring (2)

41. English Composition

Composition stressing exposition. Reading from essays and articles. Prerequisites: Passing mark in the English A qualifying examination or credit in English 40. English 41 may be counted as the equivalent of English 1.

Fall or Spring (3)

42. Freshman Literature

Literature, mainly contemporary, is read for its thoughts and ideas, especially in relation to human problems and their solution. Practice in writing is continued. Required of all provisional students. Prerequisite: English 41. The course in English 42 may be counted as the equivalent of English 2.

Fall or Spring (3)

PHYSICAL SCIENCE

40. Man and His Physical World

A brief survey of the nature of the scientific method and of selected topics in physical science. Materials will be chosen from physics, chemistry, astronomy, and geology in order to give some background for an understanding of the relations of physical science to modern life. Not open to students who have had a year course in high school chemistry, physics, geology, or astronomy or a college course in any of these subjects. This course may be counted as the equivalent of Physical Science 1A.

Fall or Spring (3)

PSYCHOLOGY

40. Psychology and Life

An elementary survey of normal adult psychology, focused upon psychological principles in relation to life situations. Open only to students enrolled in the Provisional curriculum. This course may be counted as the equivalent of Psychology 1.

Fall or Spring (3)

SOCIAL SCIENCE

40. Contemporary Problems

A survey of the major political, social, and economic forces in modern American life. Chief problems are analyzed in relation to their setting, and students are given sound methods of approach in dealing with them. This course may be counted as the equivalent of Sociology 50A.

Fall or Spring (3)

45. American Democracy

The structure and function of government, as it relates to individual Americans. Special emphasis on popular participation through voting, political parties, pressure groups, and public opinion. Prerequisite: Sophomore standing.

Spring (3)

SOCIOLOGY

45. Marriage and the Family

The purpose of this course is to prepare young people for successful marriage and family life. The development of personality through family relationships, the selection of a life partner, and the social, psychological, and economic factors involved in the establishment of a home, are given special emphasis.

Fall or Spring (3)

DIRECTORY

(1948-49)

- HEPNER, WALTER R.**-----President
A.B., 1913, M.A., 1916, Ed.D., 1937, University of Southern California. Appointed 1935.
- ACKLEY, JOHN WILLIAM**-----Assistant Professor of Speech Arts
A.B., 1930, University of Redlands; A.M., 1933, and two years of graduate study at the University of Southern California. Appointed 1947.
- ADAMS, JOHN R.**-----Professor of English
A.B., 1920, A.M., 1922, University of Michigan; Ph.D., 1940, University of Southern California. Appointed 1928.
- ALCORN, MARVIN DOUGLAS**-----Associate Professor of Education
A.B., 1925, Southwestern College; A.M., 1931, Teachers College, Columbia University; Ed.D., 1942, University of Southern California. Appointed 1941.
- ALLISON, JOHN DONALD**-----Assistant Professor of Commerce
B.S.C., 1932, Temple University; M.B.A., 1935, Harvard University; one year graduate study at New York University. Appointed 1947.
- AMSDEN, GEORGIA C.**-----Associate Professor of Commerce
Diploma, Gregg College, Chicago; special secretarial training in various colleges; Traveling Representative and Secretary for the Federal Board for Vocational Education, France, World War I; in charge of Stenographic Division, Department of Personnel, American Red Cross Headquarters, Paris, France, World War I; Secretary, Standard Life and Accident Insurance Company, Detroit. Appointed 1925.
- APPLE, JOE ALTON**-----Associate Professor of Education
A.B., 1928, Southeastern State College; M.A., 1929, University of Oklahoma; Ed.D., 1941, Teachers College, Columbia University. Appointed 1947.
- BACON, GUINIVERE KOTTER (Mrs. George)**-----Associate Professor of Education
B.S., Utah Agricultural College; M.A., Stanford University. One year graduate study since 1926 at Stanford University, Teachers College of Columbia University, University of Southern California, and University of California at Los Angeles. Appointed 1928.
- BAIRD, OSCAR**-----Professor of Physics
B.A., 1910, University of Wisconsin; M.A., 1924, University of California. Three years graduate study since 1924 at University of Minnesota, University of California, University of Southern California, University of Oregon. Appointed 1921.
- BAKER, CLIFFORD H., JR.**-----Instructor in Spanish
B.A., 1933, San Diego State College; M.A., 1935, University of California. Two years graduate study since 1935 at University of California. Appointed 1937.
- BALL, HANNAH WHEELER**-----Instructor in English
B.A., Macalester College; M.A., Wellesley College; one year graduate study at University of California. Appointed 1947.
- BARNHART, KENNETH EDWIN**-----Professor of Sociology
A.B., 1915, Southwestern University; A.M., 1920, Southern Methodist University; Ph.D., 1924, University of Chicago. Appointed 1939.
- BAUM, DONALD ELWOOD**-----Assistant Professor of Music
B.Mus., A.B., 1935, Upper Iowa University; M.A., 1946, University of Iowa. Appointed 1947.
- BENSON, RICHARD M.**-----Instructor in Sociology
B.S., 1923, Oregon State College; M.A., 1925, University of Washington; Ed.D., 1931, Stanford University. Appointed 1946.
- BENTON, CARL WEBBER**-----Acting Instructor in Physical Education
B.S., 1948, University of California at Los Angeles. Appointed 1948.
- BLOCK, EDWARD A.**-----Assistant Professor of English
A.B., 1938, M.A., 1939, Ph.D., 1943, University of California. Appointed 1946.
- BROOKS, BAYLOR**-----Assistant Professor of Geology
B.A., 1928, Stanford University. Two years graduate study since 1928 at University of Arizona and Stanford University. Appointed 1931.

- BROWN, ELIZABETH McPIKE (Mrs. L. P.)**-----Professor of French
Ph.B., M.A., Ph.D., University of Chicago; one year graduate study at the Sorbonne, Paris, France; Certificat d'Etudes Françaises; Diplôme de l'Association Générale de Phonétique, Paris, France; Officier d'Académie. Appointed 1926.
- BROWN, EUGENE P.**-----Assistant Professor of Commerce
B.S., 1926, Southeastern Teachers College; B.A., 1927, M.A., 1928, University of Oklahoma. One year graduate study at University of Chicago, University of Southern California and University of Mexico. Appointed 1947.
- BROWN, LESLIE PARKER**-----Professor of Spanish and French
B.A., 1912, Yale College; M.A., 1913, Harvard University; Ph.D., 1935, University of Southern California. Appointed 1922.
- BRUNER, WILLIAM S.**-----Assistant Professor of English
B.S., 1925, University of Virginia; M.A., 1940, Claremont College. Appointed 1948.
- BRYDEGAARD, MARGUERITE ANNA**-----Associate Professor of Education
A.B., San Diego State College; M.A., Claremont Colleges. Appointed 1936.
- BURNETT, GAIL ALLEN**-----Assistant Professor of English
A.B., Randolph-Macon Woman's College; M.A., University of California at Los Angeles; Ph.D., University of Southern California. Appointed 1947.
- BUSH, KENT**-----Acting Instructor in English
A.B., 1941, San Diego State College; one year graduate work, University of California at Los Angeles. Appointed 1947.
- CAMERON, ROY ERNEST**-----Professor of Economics
A.B., 1922, Ph.D., 1929, University of California. Appointed 1929.
- CAMPBELL, LOIS BERYL**-----Assistant Professor of Education
A.B., University of California; M.A., Teachers College, Columbia University. Appointed 1947.
- CARLSON, HILDING B.**-----Associate Professor of Psychology
Ph.B., 1930, M.S., 1932, Ph.D., 1937, University of Chicago. Appointed 1948.
- CARLSON, THORSTEN ROBERT**-----Principal of Campus Laboratory School;
Associate Professor of Education
B.E., 1939, St. Cloud State Teachers College; M.A., 1942, Ph.D., 1946, University of Minnesota. Appointed 1948.
- CAVE, MARY F.**-----Assistant Professor of Physical Education
B.S., University of North Dakota; one-half year's study at Bennington College. Appointed 1946.
- CHOPLIN, ROSA MARIA (Mrs. Ralph)**-----Acting Instructor in Spanish
A.B., University of California at Los Angeles; one year graduate study at University of Southern California. Appointed 1948.
- COLTON, THEODORE S.**-----Instructor in English
B.A., 1939, M.A., 1940, and two years' graduate study, University of California at Los Angeles. Appointed 1946.
- CORBETT, KATHERINE E.**-----Associate Professor of Education
B.Pd., Michigan State College; B.S., M.A., Teachers College, Columbia University. Appointed 1921.
- CORCORAN, EUGENE F.**-----Acting Instructor in Mathematics
B.S., 1940, North Dakota State College. Appointed 1946.
- CORRIGAN, ROBERT FORD**-----Assistant Professor of Speech Arts
A.B., 1939, University of Michigan; M.A., 1941, University of Iowa. Appointed 1947.
- CROUCH, JAMES ENSIGN**-----Professor of Biology
B.S., 1930, M.S., 1931, Cornell University; Ph.D., 1939, University of Southern California. Appointed 1932.

- CUNNINGHAM, CORNELIUS CARMAN**-----Associate Professor of Speech Arts
A.B., 1915, Beloit College; M.A., 1923, Northwestern University; Ph.D., 1935, University of Iowa. Appointed 1947.
- DEHNEL, PAUL A.**-----Acting Instructor in Biology
B.A., 1943, San Diego State College; M.A., 1948, University of California. Appointed 1948.
- DEPUTY, ERBY CHESTER**-----Professor of Education
B.A., 1922, University of Denver; M.A., 1926, Ph.D., 1929, Columbia University. Appointed 1931.
- DICKHAUT, FLORENCE LILLIAN SMITH (Mrs. Charles A.)**-----Professor of English
B.A., Northwestern University; M.A., University of Chicago. Appointed 1917.
- EAGLE, JOHN E.**-----Assistant Professor of Mathematics
B.S., 1930, Montana State College; A.M., 1940, Ed.D., 1947, Stanford University. Appointed 1946.
- EARNEST, SUE W. (Mrs. L. E.)**-----Assistant Professor of Speech Arts
B.A., San Diego State College; M.A., Ph.D., University of Southern California. Appointed 1947.
- ENGLANDER, HERMAN S.**-----Acting Instructor in Mathematics
B.S., 1939, California Institute of Technology. Appointed 1947.
- ESTEP, LEWIS I.**-----Acting Instructor in Geology
A.B., 1940, San Diego State College. Appointed 1946.
- EVANS, ROSS A.**-----Assistant Professor of Chemistry
A.B., 1937, San Diego State College; M.A., 1939, University of California at Los Angeles; one year of graduate study at the University of Southern California. Appointed 1946. Resigned Feb. 1949.
- FELTON, JOHN R.**-----Assistant Professor of Economics
B.A., 1939, M.A., 1941, and one and one-half years of graduate study at the University of California. Appointed 1948.
- GELDREICH, EDWARD W.**-----Assistant Professor of Psychology
B.A., 1933, M.A., 1935, University of Cincinnati; three years graduate study at the University of Chicago. Appointed 1947.
- GENTRY, ADRIAN N.**-----Instructor in Biology
Sc.B., 1934, Ottawa University; M.A., 1935, University of Kansas. Three years of graduate study at University of Washington and University of California. Appointed 1946.
- GIBSON, ERNEST DANA**-----Associate Professor of Commerce
B.S., 1936, University of Minnesota; M.A., 1939, Colorado State College of Education; Ed.D., 1944, New York University. Appointed 1947.
- GJERDE, CLAYTON M.**-----Assistant Professor of Education
B.A., 1935, Augsburg College; M.A., 1944, and two years of graduate study at the University of Minnesota. Appointed 1948.
- GLEASON, JOHN MORTIMER**-----Assistant Professor of Mathematics
B.A., 1929, University of California at Los Angeles; M.A., 1930, University of California. One and a half years graduate study since 1930 at University of Southern California, University of California at Los Angeles and Claremont Colleges. Appointed 1930.
- GRAHAM, JOHN LLOYD**-----Acting Instructor in Mathematics
B.S., 1934, Ashland College; M.A., 1940, Kent State University. Appointed 1947.
- GRESS, IRVIN S.**-----Director of Occupational Guidance and Placement;
Assistant Professor of Psychology
A.B., 1922, George Washington University; M.Ed., 1938, University of Pittsburgh. Two years graduate study at Columbia University, Pennsylvania State College and University of Pittsburgh. Appointed 1946.
- GULICK, SIDNEY L., JR.**-----Associate Professor of English
A.B., 1923, A.M., 1925, Oberlin College; Ph.D., 1931, Yale University. Appointed 1946.

- HALE, PHILIP**-----Acting Associate Professor of Engineering
S.B.C.E., 1923, Carnegie Institute of Technology; two years of graduate study at Carnegie Institute of Technology and University of California. Appointed 1948.
- HAMMACK, EDITH CHASTAIN**-----Associate Professor of Education
B.A., San Jose State College. Appointed 1911.
- HAMMACK, ISABELLA STEWART**-----Associate Professor of Education
B.A., M.A., University of California. One-half year graduate study since 1929 at University of California. Appointed 1936.
- HARCLEROAD, FRED F., JR.**-----Director of Audio-Visual Education;
Assistant Professor of Education
A.B., 1939, M.A., 1942, Colorado State College of Education; Ph.D., 1947, Stanford University. Appointed 1946.
- HARRINGTON, NEIL J.**-----Acting Instructor in Chemistry
B.S., 1939, Monmouth College; one year of graduate study at DePaul University and Northwestern University. Appointed 1948.
- HARVEY, DOROTHY R. (Mrs. F. A.)**-----Assistant Professor in Botany
B.A., San Diego State College; M.A., University of Southern California. One year graduate study since 1928 at University of Southern California and University of Chicago. Appointed 1924.
- HARWOOD, ROBERT DANIEL**-----Professor of Zoology
A.B., 1920, Pomona College; Ph.D., 1928, Cornell University. Appointed 1928.
- HASKELL, HARRIET**-----Assistant Professor of English
A.B., Mills; A.M., Bryn Mawr; Ph.D., University of Wisconsin. At San Diego State College since 1940, excepting 1943-1945.
- HELLYER, C. DAVID**-----Assistant Professor of Journalism
B.A., 1936, The Principia; M.S., 1938, Columbia University. Appointed 1947.
- HISCOX, ETHEL M.**-----Assistant Professor of Music
Graduate of Oberlin College Conservatory; B.S., Columbia University; M.A., New York University. Voice study with Lila Robeson and Herbert Wither- spoon of New York Metropolitan Opera Co. Appointed 1947.
- HOUSEMAN, RICHARD A.**-----Associate Professor of Education
B.S., 1936, Central Michigan College of Education; M.A., 1945, Ed.D., 1946, Teachers College, Columbia University. Appointed 1948.
- HOUSER, LOWELL D.**-----Assistant Professor of Art
Diploma, 1924, Chicago Art Institute. Five years' special study since 1924 in Mexico, Yucatan, Haiti, and New York City. Appointed 1938.
- HUNTER, JAMES J., JR.**-----Director of Secondary Education;
Professor of Education
A.B., 1932, Cornell University; M.S., 1936, Ph.D., 1940, Syracuse University. Appointed 1946.
- ISENSE, ROBERT W.**-----Assistant Professor of Chemistry
B.A., 1941, Reed College; M.A., 1943, Ph.D., 1947, Oregon State College. Appointed 1948.
- JACKSON, EVERETT GEE**-----Professor of Art
B.A., 1930, San Diego State College. Three years special study in Mexico. M.A., 1939, University of Southern California. Appointed 1930.
- JOHNSON, FRANK LOUIS**-----Associate Professor of English
B.A., 1928, M.A., 1929, University of Minnesota; Ph.D., 1934, University of Wisconsin. Appointed 1939.
- JONES, KENNETH K., JR.**-----Instructor in Speech Arts
B.S., 1942, Northwestern University; M.A., 1948, Stanford University. Appointed 1948.
- JOSEPH, LIONEL**-----Assistant Professor of Chemistry
B.S., 1933, St. Louis University; M.S., 1934, Ph.D., 1937, Washington University. Appointed 1947.

- KALBFELL, DAVID C.**-----Assistant Professor of Physics
A.B., 1934, University of California at Los Angeles; M.A., 1936, Ph.D., 1939, University of California. Appointed 1948.
- KAPLAN, OSCAR J.**-----Assistant Professor of Psychology
A.B., 1937, M.A., 1938, University of California at Los Angeles; Ph.D., 1940, University of California. Appointed 1946.
- KASCH, FREDERICK W.**-----Assistant Professor of Physical Education
B.S., 1935, M.S., 1937, University of Illinois; one-half year of graduate study at New York University. Appointed 1948.
- KEENEY, JOSEPH SUMNER**-----Professor of English
B.A., 1921, Yale College; M.A., 1928, Ph.D., 1933, University of California. Appointed 1933.
- KENNEDY, CHESTER BARRETT**-----Assistant Professor of English
B.A., 1927, Chico State College; M.A., 1939, Stanford University. Three years graduate study since 1928 at Stanford University and the University of California. Appointed 1937.
- KITZINGER, ANGELA M.**-----Assistant Professor of Health Education
A.B., Barnard College; M.A., Teachers College, Columbia University. Year of additional work at Central School of Hygiene and Physical Education and at Folk High School, Ollerup, Denmark. Appointed 1945.
- KLAPP, ORRIN E.**-----Assistant Professor of Sociology
M.A., 1940, Ph.D., 1947, University of Chicago. Appointed 1948.
- KUWARTH, MADGE E.**-----Instructor in Education
A.B., University of Washington; A.M., Teachers College, Columbia University. Appointed 1947.
- LAMDEN, CHARLES W.**-----Associate Professor of Commerce
A.B., 1937, M.A., 1939, University of California at Los Angeles; Ph.D., 1948, University of California. Appointed 1946.
- LAURITSEN, WILLIAM H.**-----Professor of Health Education
A.B., 1923, M.A., 1929, University of Nebraska; Ph.D., 1939, Ohio State University. Appointed 1947.
- LEIB, JULIUS**-----Associate Professor of Music
Three years special study at Leipzig Conservatory. Appointed 1938.
- LEIFFER, DONALD B.**-----Professor of Political Science
A.B., 1930, University of California at Los Angeles; M.A., 1932, Ph.D., 1939, Harvard University. Appointed 1948.
- LEMME, MAURICE M.**-----Associate Professor of Mathematics
A.B., 1926, Oakland City College, Indiana; A.M., 1928, Indiana University; Ph.D., 1947, Purdue University. Appointed 1948.
- LEONARD, CHARLES B.**-----Professor of History
B.A., 1921, M.A., 1922, Ph.D., 1929, University of California. Appointed 1921.
- LESLEY, LEWIS B.**-----Professor of History
B.A., 1920, Stanford University; M.A., 1923, Ph.D., 1933, University of California. Appointed 1924.
- LINLEY, JAMES**-----Assistant Professor of Education
Ph.B., 1927, University of Chicago; M.S., 1934, Ph.D., 1938, University of Southern California. Appointed 1945.
- LIVINGSTON, GEORGE ROBERT**-----Professor of Mathematics
B.S., 1910, M.A., 1922, University of California. One year graduate study since 1922 at University of California, University of California at Los Angeles, and University of Southern California. Appointed 1921.
- LOCKMAN, EVELYN**-----Assistant Professor of Physical Education
B.A., Vanderbilt University; M.A., George Peabody College; one year of graduate study at the University of Wisconsin and New York University. Appointed 1948.

- LORBER, NANCY CHASTAIN (Mrs. J.)**-----Acting Instructor in English
B.A., San Diego State College; one year graduate study at University of California. Appointed 1947.
- LUCIO, WILLIAM HOWARD**-----Director of Elementary Education;
Associate Professor of Education
A.B., 1934, M.A., 1937, Ph.D., 1944, University of California. Appointed 1939.
- MACQUARRIE, WILLIAM D.**-----Assistant Professor of Industrial Arts
B.A., 1935, San Jose State College; M.A., 1938, Stanford University. One and one-half years of graduate study at the University of Southern California. Appointed 1947.
- MADDEN, RICHARD**-----Dean of Education; Professor of Education
B.A., 1926, Nebraska (Peru) State Teachers College; M.A., 1930, Ph.D., 1931, Columbia University. Appointed 1939.
- MARCHAND, ERNEST L.**-----Associate Professor of English
B.A., and M.A., 1926, University of Washington; Ph.D., 1938, University of Wisconsin. Appointed 1946.
- McBLAIR, WILLIAM**-----Acting Instructor in Biology
B.A., 1947, San Diego State College; one-half year of graduate work at the University of California. Appointed 1948.
- McCLINTIC, JOSEPH O.**-----Associate Professor of Economics
A.B., 1924, Central College; A.M., 1927, University of Missouri; Ph.D., 1940, University of Wisconsin. Appointed 1946.
- McCOLLUM, IVAN N.**-----Director of Summer Sessions;
Associate Professor of Psychology
B.A., 1930, Central Washington College of Education; B.S., 1931, M.S., 1932, University of Oregon; Ed.D., 1940, Colorado State College of Education. Appointed 1946.
- McGAUGHEY, JANET M. (Mrs. J. R.)**-----Assistant Professor of Music
B.M., M.M., University of Michigan. Appointed 1947.
- MENDENHALL, MARY**-----Dean of Women; Professor of Philosophy
B.A., University of Colorado; M.A., University of Southern California; Ph.D., Yale University. Appointed 1939.
- MERRILL, JOHN E.**-----Assistant Professor of History
A.B., 1933, Stanford University; A.M., 1934, Harvard University. Two years graduate study at Stanford University. Appointed 1946.
- MERZBACHER, CLAUDE FELL**-----Instructor in Chemistry
B.S., 1939, University of Pennsylvania. Appointed 1947.
- MESSIER, LEONARD N.**-----Assistant Professor of French
A.B., 1935, San Diego State College; M.A., 1936, Ph.D., 1946, University of California. Appointed 1946.
- MILLER, DOROTHY A.**-----Acting Instructor in Chemistry
B.S., A.B., Southeast Missouri State Teachers College; M.S., State University of Iowa. Appointed 1947.
- MILNE, DAVID S.**-----Assistant Professor of Sociology
A.B., 1932, University of California at Los Angeles; M.A., 1939, University of Southern California; Ph.D., 1948, University of Chicago. Appointed 1946.
- MOE, CHESNEY R.**-----Professor of Physics
B.A., 1929, M.A., 1931, Stanford University; Ph.D., 1941, University of Southern California. Appointed 1931.
- MOORE, EDWENA B. (Mrs. E. J.)**-----Instructor in Education
B.A., San Diego State College. Appointed 1947.
- MORITZ, CHARLES E.**-----Assistant Professor of Biology
A.B., 1932, Dartmouth College; Ph.D., 1936, University of California. Appointed 1946.

- MYERS, MABEL A.**-----Assistant Professor of Biology
B.A., M.A., Pomona College; Ph.D., Cornell University. Post doctoral study at University of Southern California, University of California at Los Angeles, University of Wisconsin and Claremont Colleges. Appointed 1946.
- NASATIR, ABRAHAM PHINEAS**-----Professor of History
B.A., 1921, M.A., 1922, Ph.D., 1926, University of California. Appointed 1928.
- NICHOLS, AMBROSE R., JR.**-----Associate Professor of Chemistry
B.S., 1935, University of California; Ph.D., 1939, University of Wisconsin. Appointed 1939.
- NORLAND, CALVERT E.**-----Instructor in Biology
B.A., 1931, Pomona College; M.S., 1933, University of California. One and one-half years graduate study at University of California; one and one-half years graduate study at Claremont Colleges. Appointed 1947.
- OLSON, ANDREW C., JR.**-----Instructor in Biology
B.A., 1939, San Diego State College; M.S., 1942, University of Idaho. One year graduate study at University of California. Appointed 1946.
- OPPENHEIMER, MAX, JR.**-----Instructor in Foreign Languages
B.ès L., 1935, University of Paris; B.A., 1941, New York University; M.A., 1942, University of California at Los Angeles; Ph.D., 1947, University of Southern California. Appointed 1947.
- OSBORN, CLARENCE G.**-----Professor of History and Political Science
B.A., 1926, M.A., 1927, Ph.D., 1935, Stanford University. At San Diego State College 1928-1929, and since 1937.
- PATTERSON, LENA E.**-----Professor of Art
A.B., B.S., Ohio University; M.A., Columbia University. One year graduate study since 1918 in Berlin, Vienna, Paris, London. At San Diego State College since 1933. Deceased January 10, 1949.
- PEASE, GLENN R.**-----Acting Assistant Professor of Psychology
A.B., 1915, Albion College; M.A., 1927, Ph.D., 1928, State University of Iowa. Appointed 1947.
- PEIFFER, HERBERT C., JR.**-----Dean of Students;
Professor of Psychology and Guidance
A.B., 1928, University of California at Los Angeles; M.A., 1930, Ph.D., 1939, Stanford University. Appointed 1937.
- PERRY, FAY V. (Mrs. J. M.)**-----Director of Guidance for Provisional Students;
Associate Professor of Sociology
B.A., San Diego State College; M.A., Ed.D., University of Southern California. Appointed 1936.
- PETERSON, CHARLES E.**-----Dean of Men; Professor of Physical Education
A.B., 1928, San Diego State College; M.A., 1937, Claremont Colleges. Appointed 1921.
- PFAFF, PAUL LEWIS**-----Associate Professor of Speech Arts
B.A., 1929, Stanford University; M.A., 1937, University of Southern California. Two years study since 1937 at University of Southern California. Appointed 1931.
- PHILLIPS, GEORGE L.**-----Assistant Professor of English
B.A., 1931, Dartmouth College; M.A., 1932, Harvard University; Ph.D., 1937, Boston University. Appointed 1947.
- PHILLIPS, WALTER THOMAS**-----Professor of Spanish
A.B., 1925, University of Washington; M.A., 1926, Stanford University; Ph.D., 1943, University of Southern California. Graduate study at National University of Mexico, Institute of French Education, Middlebury College Italian School. Appointed 1927.
- POST, LAUREN CHESTER**-----Professor of Geography
A.B., 1924, M.A., 1931, Ph.D., 1937, University of California. Appointed 1937.
- POVENMIRE, E. KINGSLEY**-----Assistant Professor of Speech Arts
B.S., 1929, Ohio State University; M.F.A., 1933, Yale University. Appointed 1946.

- PRESTON, DUDLEY A.**-----Assistant Professor of Biology
B.S., 1933, Washington State College; M.S., 1940, Ph.D., 1947, University of Minnesota. Appointed 1948.
- PRUGH, EARL E.**-----Acting Assistant Professor of Mathematics
B.S., 1899, Ohio Wesleyan University; M.A., 1923, Columbia University. Appointed 1946.
- RAGEN, KATHERINE M.**-----Assistant Professor of History
B.A., Penn College; M.A., Bryn Mawr College; Ph.D., University of Wisconsin. Appointed 1947.
- RENSHAW, MORTON J.**-----Coordinator, Personnel Services Center;
Assistant Professor of Psychology
A.B., 1938, M.A., 1940, Colorado State College of Education; Ph.D., 1945, Stanford University. Appointed 1948.
- RICHARDSON, M. BRUCE**-----Lecturer in Engineering
A.B., 1927, Aeronautical Engineer, 1928, Stanford University. Appointed 1948.
- RICHARDSON, ROBERT W.**-----Professor of Geography
A.B., 1930, Ph.D., 1943, University of California. At San Diego State College 1939-1942 and since 1948.
- RIDOUT, LIONEL U.**-----Instructor in History
A.B., 1937, San Diego State College; M.A., 1940, and one and one-half years graduate study at University of California. Appointed 1946.
- ROBINSON, DUDLEY HUGH**-----Professor of Chemistry
B.A., 1927, Louisiana State University; M.S., 1932, University of Iowa; Ph.D., 1942, University of Southern California. Appointed 1928.
- ROBINSON, EVELYN L.**-----Instructor in Physical Education
B.S., Mary Washington College of the University of Virginia; M.S., University of Southern California. Appointed 1946.
- ROGERS, SPENCER LEE**-----Professor of Anthropology
B.A., 1927, San Diego State College; M.A., 1930, Claremont Colleges; Ph.D., 1937, University of Southern California. Appointed 1930.
- ROHFLEISCH, KRAMER J.**-----Associate Professor of History
A.B., 1933, M.A., 1935, Ph.D., 1946, University of California. Appointed 1947.
- ROSS, MELVYN K.**-----Assistant Professor of Chemistry
A.B., 1939, San Diego State College; M.S., 1942, and two years graduate study at University of Southern California. Appointed 1939.
- ROWE, ROBERT D.**-----Associate Professor of Chemistry
A.B., 1931, Engineer in Engineering Chemistry, 1932, Ph.D., 1939, Stanford University. Appointed 1946.
- RUJA, HARRY**-----Assistant Professor of Philosophy and Psychology
A.B., 1933, University of California at Los Angeles; M.A., 1934, University of Chicago; Ph.D., 1936, Princeton University; one year post doctoral study at University of California at Los Angeles. Appointed 1947.
- RUOCO, ILSE H. (Mrs. L.)**-----Associate Professor of Art
B.E., University of California at Los Angeles; M.A., Columbia University. Appointed 1934.
- RYAN, FREDERICK L.**-----Associate Professor of Economics
B.S., 1916, Tufts College; Ph.D., 1930, University of California. Appointed 1946.
- SCHEY, OLE**-----Acting Assistant Professor of Mathematics
B.S., 1924, M.A., 1932, and one year of graduate study at the University of Minnesota. Appointed 1947.
- SCHMOCK, JOYCE C. (Mrs. D.)**-----Instructor in Education
A.B., San Diego State College. Appointed 1947.
- SCHOELLER, WILBUR C.**-----Instructor in Engineering
B.S.C.E., 1945, M.S.C.E., 1948, University of Texas. Appointed 1948.

- SCHRUPP, MANFRED H.**-----Assistant Professor of Education
B.S., 1935, M.Ed., 1941, and one and one-half years of graduate study at the University of Minnesota. Appointed 1948.
- SCHUNERT, JIM R.**-----Assistant Professor of Education
B.S., 1934, M.A., 1941, and one year of graduate study at the University of Minnesota. Appointed 1948.
- SCHUTTE, WILLIAM H.**-----Assistant Professor of Physical Education
B.S., 1933, University of Idaho, M.S., 1947, University of Southern California. Appointed 1947.
- SCHWARTZ, EVA H. (Mrs. H.)**-----Acting Instructor in Chemistry
B.S., M.S., and one and one-half years graduate study at University of California. Appointed 1946.
- SCHWOB, MARION LYON (Mrs. W. E.)**-----Associate Professor of Physical Education
B.A., University of Iowa; M.S., University of Southern California. Appointed 1934.
- SCOTT, FRANK L.**-----Assistant Professor of Physical Education
A.B., 1931, Grinnell College; M.A., 1940, University of Michigan. Appointed 1947.
- SELLMAN, HUNTON D.**-----Professor of Speech Arts
B.S., 1922, Purdue University; M.S., 1925, University of Arizona. Three and one-half years graduate study at University of California, University of North Carolina and Yale University. Appointed 1946.
- SHANNON, FLORENCE S. (Mrs. E. L.)**-----Assistant Professor of Physical Education
B.A., University of California; M.S., University of Southern California. Appointed 1933.
- SHIELDS, ALLAN E.**-----Assistant Professor of Philosophy
A.B., 1941, University of California; M.A., 1947, and one year additional graduate study at University of Southern California. Appointed February, 1949.
- SHIELDS, KARENA P.**-----Acting Assistant Professor of English
A.B. and one year of graduate study at the University of Southern California. Appointed 1948.
- SHOUSE, CLAUDE F.**-----Instructor in English
A.B., 1928, Georgetown College; M.A., 1941, University of Kentucky; one and one-half year graduate study at University of Pittsburgh and University of Southern California. Appointed 1946.
- SILVERNAIL, CHESTER J.**-----Instructor in Astronomy
A.B., 1948, San Diego State College. Appointed 1948.
- SION, ESTHER B. (Mrs. Peter)**-----Acting Instructor in Art
B.F.A. and M.F.A., University of Southern California. Appointed February, 1949.
- SMITH, CHARLES ROBERTS**-----Assistant Professor of Physical Education
B.A., 1931, San Diego State College; M.S., 1949, University of Southern California. Appointed 1933.
- SMITH, CLIFFORD EDWARD**-----Professor of Astronomy
B.A., 1923, Carleton College; M.A., 1926, Swarthmore College; Ph.D., 1936, University of California. Appointed 1937.
- SMITH, DEANE FRANKLIN**-----Associate Professor of Music
B.Mus., 1931, M.Mus., 1939, Northwestern University. Appointed 1939.
- SMITH, LOUIS E., JR.**-----Assistant Professor of Physics
A.B., 1938, San Diego State College; Ph.D., 1945, University of Washington. Appointed 1946.
- SORENSEN, GEORGE N.**-----Assistant Professor of Art
A.B., 1937, San Diego State College; M.A., 1946, University of Southern California. Appointed 1946.

- SPANGLER, JOHN A.**-----Assistant Professor of Chemistry
A.B., 1939, Ph.D., 1942, West Virginia University. Appointed 1946.
- SPORTSMAN, CHARLES C.**-----Assistant Professor of Physical Education
B.S., 1927, North Texas State Teachers College; M.S., 1947, University of Southern California. Appointed 1947.
- SPRINGSTON, CHRISTINE**-----Associate Professor of Music
B.A., B.M., University of Redlands; M.A., University of Washington. Diplôme d'exécution, Conservatoire Americain, Fontainebleau, France. Appointed 1930.
- STEINMETZ, HARRY CHARLES**-----Associate Professor of Psychology
B.A., 1924, M.A., 1927, University of California; Ph.D., 1947, Purdue University. Appointed 1930.
- STONE, HAMILTON L.**-----Acting Assistant Professor of Engineering
B.S., 1925, U. S. Naval Academy. Two and one-half years graduate study. Appointed 1947.
- STONE, JOHN PAUL**-----Head Librarian; Professor of Library Science
B.S., 1926, Northwest Missouri State Teachers College; B.S., 1929, M.S., 1930, University of Illinois; Ph.D., 1945, University of Chicago. Appointed 1930.
- STORM, ALVENA (Mrs. Eugene)**-----Associate Professor of Geography
A.B., A.M., University of California. Extensive travel and study in Europe, Panama and United States. Appointed 1926.
- STRAUB, LURA LYNN**-----Assistant Professor of Commerce
B.A., Jamestown College; M.C.S., Indiana University. Appointed 1948.
- SWIGGETT, JEAN D.**-----Assistant Professor of Art
A.B., 1934, San Diego State College; M.F.A., 1939, University of Southern California. Appointed 1946.
- TALBOY, RUTH A.**-----Assistant Professor of Home Arts
B.S., Iowa State College; M.A., Stanford University. Appointed 1947.
- TAYLOR, MERREL A.**-----Instructor in Biology
A.B., 1936, Indiana University; B.S.F., 1938, M.A., 1940, University of Michigan. Appointed 1946.
- TERHUNE, JOHN A.**-----Lecturer in Physics
B.S., 1916, U. S. Naval Academy; M.S., 1929, Engineering School, Harvard University. Appointed 1946.
- TERRY, WILLIAM L.**-----Lecturer in Physical Education
A.B., 1930, Western Kentucky State College; M.S., 1932, Indiana University; two years of additional study at University of Kentucky and University of Illinois. Appointed 1946.
- THEOBALD, JOHN R.**-----Associate Professor of English
B.A., 1925, St. Catherine's College, Oxford University; M.A., 1928, Mansfield College, Oxford University; Ph.D., 1942, University of Iowa. Appointed 1946.
- TIDWELL, JAMES N.**-----Associate Professor of English
B.A., 1929, Simmons University; M.A., 1933, University of Oklahoma; Ph.D., 1947, Ohio State University. Appointed 1947.
- TOLLEFSEN, DOROTHY J.**-----Instructor in Physical Education
A.B., M.A., University of California. Appointed 1946.
- TORBERT, FRANCES B. (Mrs. H.)**-----Assistant Professor of Commerce
A.B., Stanford University; M.A., University of Southern California. One year graduate work at Stanford University. At San Diego State College since 1937 excepting 1943-1946.
- TRAIL, MABEL COY**-----Associate Professor of English
B.A., Parsons College; M.A., State University of Iowa; Ph.D., University of Southern California. Appointed 1935.
- TUCKER, GORDON H.**-----Associate Professor of Biology
B.S., 1931, M.S., 1934, University of South Carolina; Ph.D., 1934, University of North Carolina. Appointed 1945.

- WALKER, HILDE KRAMER (Mrs.) Assistant Professor of German
B.A., M.A., Northwestern University. Appointed 1931.
- WALLING, CURTIS R. Associate Professor of Engineering
B.A., 1925, E.E., 1926, Stanford University. One and one-half years of graduate study since 1926 at Stanford University and the University of Southern California. Appointed 1931.
- WARREN, TULLY E. Acting Instructor in Political Science
B.A., 1938, M.A., 1939, and two years of graduate study at Stanford University. Appointed 1947.
- WATENPAUGH, FRANK M. Associate Professor of Commerce
A.B., 1916, Pomona College; M.A., 1931, University of Southern California. Two years graduate study since 1931 at University of Southern California and University of Oregon. Appointed 1935.
- WATSON, DONALD R. Dean of Arts and Sciences
Professor of Physical Science
B.A., 1924, B.S., 1925, M.A., 1927, Ed.D., 1940, University of Southern California. Appointed 1939.
- WEST, EDNA A. Assistant Professor of Commerce
B.A., Santa Barbara State College; M.A., Claremont Colleges. Appointed 1948.
- WHITE, ALFRED E. Registrar; Director of Educational Research;
Associate Professor of Guidance
B.A., 1922, M.A., 1923, University of California; Ed.D., 1941, Stanford University. Appointed 1946.
- WOLF, ERNEST M. Instructor in Foreign Languages
Study at the Universities of Berlin, Paris, Muenster, Cambridge and Bonn. Ph.D., 1934, University of Bonn. Post doctoral study at Universities of Cambridge, California at Los Angeles, and Southern California. Appointed 1947.
- WRIGHT, WILLIAM H. Professor of Commerce
B.S., 1917, M.A., 1928, University of California, Ph.D., 1943, University of Southern California. Appointed 1921.
- ZIEGENFUSS, GEORGE Assistant Professor of Physical Education
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