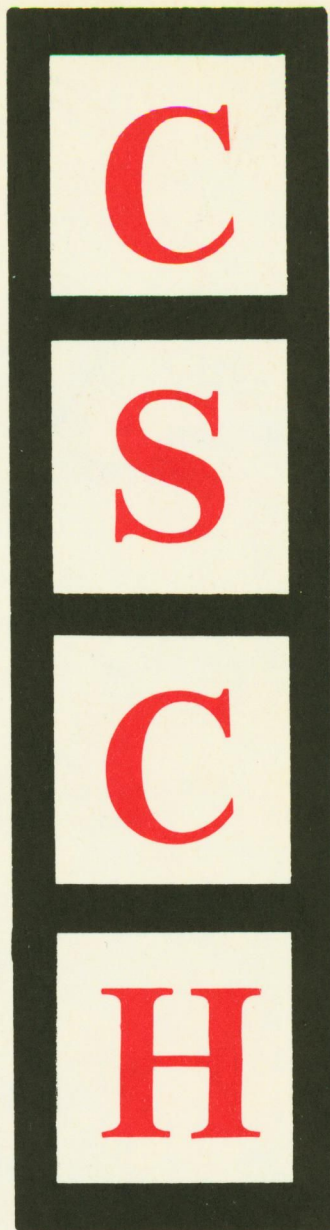
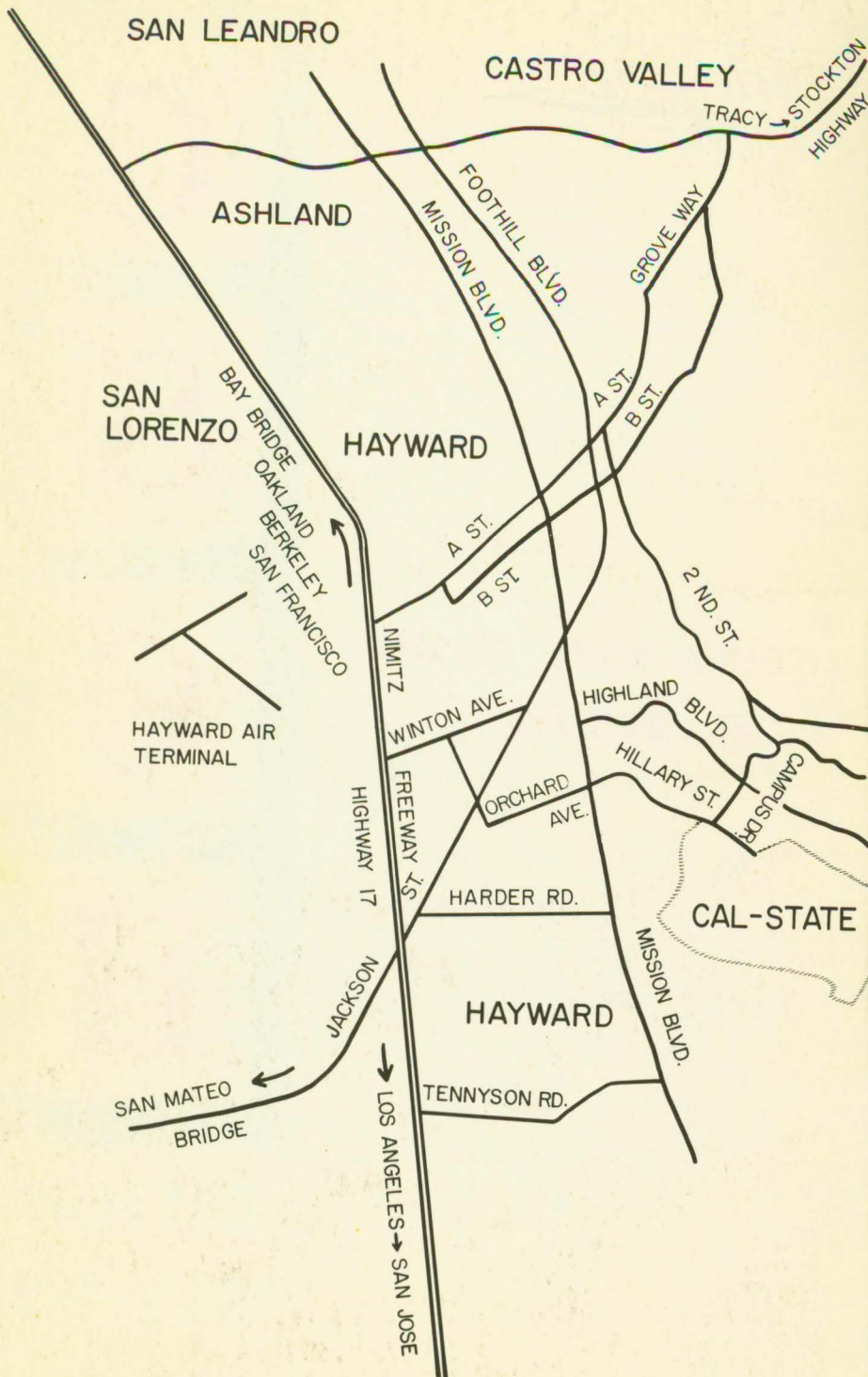


**CALIFORNIA STATE COLLEGE
AT HAYWARD**



**CATALOG
1965 · 1966**



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SUMMARY OF ADMISSION REGULATIONS

(See section on "Admission To The College"
for additional information)

Undergraduates

Applications will be accepted until the dates published below. Applications will be processed in chronological order upon receipt of all supporting documents; i.e., transcripts of all previous college work, ACT test scores and statement of Residence. A Student Health Record must be filed before a student will be allowed to register. Undergraduates transferring with less than 60 semester (90 quarter) units must submit transcript of high school work. This includes all first-time freshmen. Only students who file applications and whose records are complete before the deadline for a particular term can be assured of consideration for admission.

Graduates

Applications for first-time admission and readmission must be submitted with evidence of graduation from an accredited four year institution prior to the date indicated below. Transcripts, diploma, or a regular teaching credential will be sufficient evidence. Graduate students pursuing a basic, standard teaching credential, a Masters Degree, or planning to enter the student teaching or credential program of the college must submit a completed Student Health Record prior to registration.

DEADLINES

FALL QUARTER 1965

May 15	Last Day for First-Time Freshmen to Submit Applications for Admission
July 1	Last Day for Undergraduate Transfer Students to Submit Applications for Admission or Readmission
September 15	Last Day for Graduate Students to Submit Applications for Admission

WINTER QUARTER 1966

November 15	Last Day for Undergraduates to Submit Applications for Admission
December 28	Last Day for Graduate Students to Submit Applications for Admission or Readmission

SPRING QUARTER 1966

February 25	Last Day for Undergraduates to Submit Applications for Admission
March 18	Last Day for Graduate Students to Submit Applications for Admission or Readmission

1965-66 Academic Calendar

SUMMER QUARTER 1965

April 15	Last Day to Apply for Admission to Summer Quarter
June 15-16	Registration and Payment of Fees
June 17	Classes Begin
June 17-24	Late Registration Period
June 24	Last Day for Enrolled Students to Add or Drop a Class Without a Grade
July 16	Last Day to File Application for Graduation in Summer Quarter
	Last Day for Fall Quarter Graduates to Complete Graduation Checks
July 23	Last Day to Drop a Class with a Grade of "W" or "WF"
August 16-18	Academic Advisement for Continuing Students
August 19-20	Academic Advisement for Students Entering for First Time, Fall Quarter, 1965
August 25	Last Day of Classes
August 26-31	Final Examinations
August 31	End of Quarter, Grades Due in Records Office September 1
September 1-12	Academic Recess

FALL QUARTER 1965

September 13-20	Testing, Orientation and Academic Advisement
September 21-22	Registration and Payment of Fees
September 23	Classes Begin
September 23-30	Late Registration Period
September 30	Last Day for Enrolled Students to Add or Drop a Class Without a Grade
November 5	Last Day to Drop a Class with a Grade of "W" or "WF"
November 12	Last Day to File Application for Graduation in Fall Quarter
	Last Day for Winter Quarter Graduates to Complete Graduation Checks
November 15-19	Academic Advisement and Pre-Registration for Continuing Students
November 25	Thanksgiving Day (all-college holiday)
November 25-26	Thanksgiving Recess
December 3	Last Day of Classes
December 6-10	Final Examinations
December 10	End of Quarter, Grades Due in Records Office
December 11-	
January 2	Academic Recess

WINTER QUARTER 1966

January 3-4	Registration and Payment of Fees
January 5	Classes Begin
January 5-12	Late Registration Period
January 12	Last Day for Enrolled Students to Add or Drop a Class Without a Grade
February 11	Last Day to Drop a Class with a Grade of "W" or "WF"
February 28-	
March 4	Academic Advisement and Pre-Registration for Continuing Students

WINTER QUARTER 1966—Continued

March 4	Last Day to File Application for Graduation in Winter Quarter
	Last Day for Spring Quarter Graduates to Complete Graduation Checks
March 11	Last Day of Classes
March 14-18	Final Examinations
March 18	End of Quarter, Grades Due in Records Office
March 19-23	Academic Recess

SPRING QUARTER 1966

March 24-25	Registration and Payment of Fees
March 28	Classes Begin
March 28-April 4	Late Registration Period
April 4	Last Day for Enrolled Students to Add or Drop a Class Without a Grade
April 15	Last Day to Apply for Admission to Summer Quarter
	Last Day to Apply for Admission to Fall Quarter
	Last Day to File Application for Graduation Spring Quarter
April 20	Last Day to File Application for Teaching Credentials
May 6	Last Day to Drop a Class With a Grade of "W" or "WF"
	Last Day for Summer Quarter Graduates and Fall Quarter Graduates not Enrolled Summer Quarter 1966 to Complete Graduation Checks
May 23-27	Academic Advisement and Pre-Registration for Continuing Students
June 3	Last Day of Classes
	Grades for Spring Quarter Graduates Due in Records Office
June 6-9	Final Examinations
June 10	Grades Due in Records Office
June 10	Commencement
June 10	End of Quarter

Other Important Deadline Dates for Students

SUMMER QUARTER 1965

July 19	Last Day for Application for Admission to the Teaching Credential Programs and, or Student Teaching Phase I
July 23	American Institutions, U.S. Constitution, California Government Examinations

FALL QUARTER 1965

October 20	Last Day for Application for Admission to the Teaching Credential Programs and, or Student Teaching Phase I
November 19	American Institutions, U.S. Constitution, California Government Examinations

WINTER QUARTER 1966

February 2	Last Day for Application for Admission to the Teaching Credential Programs and, or Student Teaching Phase I
February 11	American Institutions, U.S. Constitution, California Government Examinations

SPRING QUARTER 1966

April 20	Last Day for Application for Admission to the Teaching Credential Programs and, or Student Teaching Phase I
April 29	American Institutions, U.S. Constitution, California Government Examinations

1965

1966

JANUARY							JULY						
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FEBRUARY							AUGUST						
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26	27	28	29	30	--	--	25	26	27	28	29	30	31

BOARD OF TRUSTEES OF THE CALIFORNIA STATE COLLEGES

2930 West Imperial Highway
Inglewood, California 90303

EX OFFICIO MEMBERS

Edmund G. Brown, LL.B.	Sacramento
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Albert J. Ruffo	San Jose
<i>Vice Chairman</i>	
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<i>Secretary-Treasurer</i>	

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2930 West Imperial Highway
Inglewood, California 90303

Chancellor.....	Glenn S. Dumke
Executive Vice Chancellor.....	Raymond A. Rydell
Vice Chancellor, Business Affairs.....	John F. Richardson
Assistant Chancellor, Faculty and Staff Affairs.....	C. Mansel Keene

THE CALIFORNIA STATE COLLEGES

California State College at Fullerton.....	Dr. William B. Langsdorf, President
800 North State College Boulevard, Fullerton, California 92631	
California State College at Hayward.....	Dr. Fred F. Harclerod, President
25800 Hillary Street, Hayward, California 94542	
California State College at Long Beach.....	Dr. Carl W. McIntosh, President
6101 East Seventh Street, Long Beach, California 90804	
California State College at Los Angeles.....	Dr. Franklyn A. Johnson, President
5151 State College Drive, Los Angeles, California 90032	
California State College at Palos Verdes.....	Dr. Leo F. Cain, President
27608 Silver Spur Road, Suite 200, Palos Verdes Peninsula, California 90274	
California State College at San Bernardino.....	Dr. John M. Pfau, President
532 Mountain View Avenue, San Bernardino, California 92407	
California State Polytechnic College.....	Dr. Julian A. McPhee, President
San Luis Obispo Campus, San Luis Obispo, California 93402	
Kellogg-Voorhis Campus, Pomona, California 91766	
Chico State College.....	Dr. Glenn Kendall, President
First and Normal Streets, Chico, California 95927	
Fresno State College.....	Dr. Frederic W. Ness, President
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Humboldt State College.....	Dr. Cornelius H. Siemens, President
Arcata, California 95521	
Sacramento State College.....	Dr. Guy A. West, President
6000 Jay Street, Sacramento, California 95819	
San Diego State College.....	Dr. Malcolm A. Love, President
5402 College Avenue, San Diego, California 92115	
San Fernando Valley State College.....	Dr. Ralph Prator, President
18111 Nordhoff Street, Northridge, California 91326	
San Francisco State College.....	Dr. Paul A. Dodd, President
1600 Holloway Avenue, San Francisco, California 94132	
San Jose State College.....	Dr. Robert D. Clark, President
125 South Seventh Street, San Jose, California 95114	
Sonoma State College.....	Dr. Ambrose R. Nichols, President
265 College View Drive, Rohnert Park, California 94928	
Stanislaus State College.....	Dr. Alexander Capurso, President
Turlock, California 95380	

THE CALIFORNIA STATE COLLEGES

The California State Colleges are a unique development of the democratic concept of tax-supported public higher education for all qualified students.

Spanning the state from Humboldt County in the north to San Diego in the south, the 16 campuses of the California State Colleges (with two additional campuses now in formative construction stages) represent the largest system of public higher education in the Western Hemisphere and one of the largest in the world. Current enrollment exceeds 150,000 full- and part-time students. The faculty and administrative staff numbers more than 7,000.

The individual colleges, each with a geographic, curricular and academic character of its own, offer a solid basic program in the liberal arts. Beyond this, each college is noted for its individuality in academic emphasis which makes for a diversified system. Course offerings leading to the bachelor's and master's degree are designed to satisfy existing student interests and to serve the technical and professional manpower requirements of the state. A joint doctoral program with the University of California is now underway.

The California State Colleges are dedicated to rigorous academic standards. Constant striving for academic excellence is at the heart of the system. The primary responsibility of each faculty within the system is the instructional process on the teacher-student level, with appropriate recognition of the necessary and constructive role of research in any institution of higher education.

Responsibility for the California State Colleges is vested in the Board of Trustees, which is appointed by the Governor, and the Board's administrative arm, the Chancellor. The Trustees and the Chancellor set broad policy for the colleges while delegating considerable independent responsibility for implementation at the college level.

Although the oldest of the colleges, San Jose State College, dates back a century, the California State College system under an independent Board of Trustees was created by the Donahoe Act of 1960. Formerly, the colleges were under the jurisdiction of the State Board of Education.

Today, the California State Colleges are in a particularly dynamic period of their development. Prior to World War II, there were seven State Colleges with a peak total enrollment of some 13,000. Since 1947, nine new campuses have been developed and two more are being developed. Enrollment in the system is expected to reach 225,000 by 1970.

ADVISORY BOARD

California State College at Hayward

Thomas Caldecott, Chairman.....	Oakland
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Guy B. Catterton.....	Berkeley
J. Lamar Childers.....	Oakland
Nils Eklund.....	Oakland
Bernard T. Gerton.....	Pleasanton
C. R. Hitchcock.....	San Leandro
William U. Hudson.....	Oakland
Earl Jackson.....	Fremont
Alton Kingman, Jr.....	Hayward
Mrs. Donald Pearce.....	Piedmont
Floyd L. Sparks.....	Hayward
Eugene K. Sullivan.....	Hayward

COLLEGE ADMINISTRATION

Executive

President	Fred F. Harclerod
Dean of Instruction	Albert L. Lepore
Executive Dean of Administrative Services	William G. Vandenburg
Dean of Student Services	Lyle D. Edmison
Business Manager	Earle W. Nordstrom
Assistant to the President	Vincent K. Shaudys
Director of Institutional Studies	Robert E. Bates
Director of Public Affairs and College Relations	Dean W. Detweiler

Academic Affairs

Dean of Instruction	Albert L. Lepore
Associate Dean—Summer Quarter and Summer Session	Forrest L. Mayer
Associate Dean—Curriculum	Jon S. Peters
Associate Dean and Dean of Admissions and Records	Tudor Jones
Assistant Dean—Scheduling	H. Duane Heath
Head, Division of Business and Economics	Virgil Salera
Head, Division of Creative Arts	Karl D. Ernst
Head, Division of Education	Lewie W. Burnett
Head, Division of Humanities	Arnold P. Biella
Head, Division of Science and Mathematics	P. Victor Peterson, Jr.
Head, Division of Social and Behavioral Sciences	Charles W. Merrifield
Head, Division of Learning Resources	Robert O. Hall
Head, Division of Libraries	Floyd R. Erickson

Administrative Affairs

Executive Dean of Administrative Services	William G. Vandenburg
Coordinator of Building Program	David W. Mahaney
Chief of Plant Operation	Allen P. Rodda

Student Affairs

Dean of Student Services	Lyle D. Edmison
Associate Dean and Dean of Men	Howard A. Slatoff
Associate Dean and Dean of Women	Joan M. Seavey
Director of Health Services	C. J. Lutt
Director of Counseling Services	Donald Strong
Director of Teaching Services	Donald Brown
Director of Placement Services	Eugene Clark

Business Affairs

Business Manager	Earle W. Nordstrom
Accounting Officer	Fred Okamoto
Personnel Coordinator, Financial Office	Richard Quey
Purchasing Coordinator	William Wallace
Corporation Manager	Stan Clark

Institutional Studies

Director of Institutional Studies	Robert E. Bates
Supervisor, Data Processing Service	Terry B. Clark
Director, Office of Institutional Studies	Robert E. Bates
Director, Instructional Computation Center	Thomas H. Southard

Public Affairs and College Relations

Director of Public Affairs and College Relations	Dean W. Detweiler
	Burdette A. Peterson
	Darrell M. Gray

CALIFORNIA STATE COLLEGE AT HAYWARD

History and Physical Plant

In 1959, classes were offered for the first time by a brand-new institution of higher learning called State College for Alameda County. During September of that year 400 students, 100 full-time, started attending classes that were taught in temporary quarters in a newly-constructed Hayward high school.

During the ensuing years, the College—renamed California State College at Hayward in 1963—has more than matched the growth of the area it was planned to serve. More than 3,800 students now attend classes, and by some estimates, the enrollment will be 11,000 in 1970. Classes are now taught in three multi-storied buildings on the College's own 354-acre hill-top campus, and by 1966 the physical plant is expected to include a Physical Education Building and Cafeteria. Also planned are an additional Classroom Building to be completed by 1967, and a Speech-Drama Building and a Library-Audiovisual-Administration Building by 1970. In addition to the one privately financed dormitory located across the street from the campus now, two more are to be completed in the near future.

Location and Environment

Because the Cal-State campus is situated crowning the verdant rolling hills that rim San Francisco Bay, its students and faculty enjoy many advantages of environment.

The climate in the area is moderate. The ocean is only minutes away, and the mountains are just a short drive. By freeway, Oakland is only 12 miles north, Berkeley is 15 miles north, San Francisco is but 25 miles away using the Bay Bridge route, and Palo Alto is across the Bay; consequently museums, libraries, art galleries, aquariums, parks, and gardens are easily accessible; plus the plays, concerts, musicals, and other types of entertainment for which the San Francisco area is famous.

Curriculum and Degrees

Programs are offered at the College that lead to the baccalaureate degree in 26 different majors, and the master's degree in education,

mathematics, music, and English. Other programs lead to teaching, pupil personnel services, and supervisory credentials. The quarter system is used.

Accreditation

The College is accredited by the Western Association of Schools and Colleges, and the general elementary teaching credential program by the State Board of Education.

Faculty

Faculty have been recruited not only on the basis of their academic training and professional competency in their respective fields, but because of the sincere concern they show for the growth of the student as an individual. Seventy-five percent of the instructional faculty have a doctorate degree—the national average per institution is about 40 percent.

Library

A book collection of more than 100,000 volumes has been carefully selected to provide the materials needed for courses offered. About 1,400 periodicals are regularly received in the Library and backfiles for many are available.

ADMISSION

ADMISSION TO THE COLLEGE

Plan of Admission

Students with good academic records may qualify for admission to California State College at Hayward with freshman standing, advanced standing, or graduate standing by submitting the required materials showing they meet the admission standards appropriate to their entrance level. Admissions standards in the California State Colleges are prescribed by the Trustees of the California State Colleges, as amended on January 21, 1965, and are stated in the California Administrative Code, Title 5, Education, which provides a uniform pattern of admissions regulations for all the colleges. The specific admission requirements according to each respective class level may be found later in the catalog.

Admission as a Freshman

An applicant who has had no college work will be considered for admission under one of the following provisions. Except as noted, submission of the results of the American College Test is required.

California High School Graduates and Residents

An applicant who is a graduate of a California high school or a legal resident for tuition purposes must have a grade point average and (total) (composite) score on the (SAT/ACT or both) which provides an eligibility index * placing him among the upper one-third of California high school graduates. The grade point average is based upon the last three years and does not include physical education or military science. The table below does not cover every case, but gives several examples of the test score needed with a given grade point average to be eligible for admission.

Grade point average	(SAT/ACT) needed
3.20 and above	Eligible with any score
2.80	796/18
2.40	1,196/26
2.00	1,596/34
1.99 and below	Not eligible

* For 1965-66 the minimum eligibility index is (SAT—4036) (ACT—834). It is computed by (multiplying grade point average by 1000 and adding it to the total SAT score) (multiplying grade point average by 200 and adding it to 10 times the composite ACT score).

NOTE: Students are held individually responsible for information contained in these pages. Failure to read and understand these deadlines and regulations will not exempt a student from whatever penalties he may incur.

Admission

Non-Residents Graduating from High Schools in Other States or Possessions

An applicant who is a non-resident for tuition purposes and who is a graduate of a high school in another state or a U.S. possession must have an eligibility index which would place him among the upper one-sixth of California high school graduates for 1965-66. The minimum required eligibility index is (SAT— 4036) (ACT— 834) and is calculated as the previous section.

Graduates of High Schools in a Foreign Country

An applicant who is a graduate of a foreign high school must have preparation equivalent to that required of eligible California high school graduates. The college will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted. Such applicants are not required to take the (SAT) (ACT) (either).

Non-High School Graduates

An applicant who is over 21 years of age, but has not graduated from high school will be considered for admission only when his preparation in all other ways is such that the college believes his promise of academic success is equivalent to that of eligible California high school graduates.

High School Students

A student still enrolled in high school will be considered for enrollment in certain special programs if he is recommended by his principal and his preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

Other Applicants

An applicant not admissible under one of the above provisions should enroll in a junior college or other appropriate institution. Only under the most unusual circumstances will such applicants be permitted to enroll in the college. Permission is granted only by special action.

Recommended Preparation

Overall excellence of performance in high school subjects and evidence of academic potential provide the basis for admission at California State College at Hayward. While no course pattern is required, the applicant to be properly prepared to undertake a full program of studies and particularly to pursue the required program in General

Admission

Education, is strongly encouraged to include the following subjects as minimally adequate background for college work:

1. College preparatory English.
2. Foreign language.
3. College preparatory mathematics.
4. College preparatory laboratory science.
5. College preparatory history and/or social science.
6. Study in speech, music, art, and other subjects contributing to general academic background.

Admissions as an Undergraduate Transfer

Any applicant who has attempted college work will be considered for admission under one of the following provisions. All undergraduate transfer students are required to take the ACT.

Applicants With 60 or More Semester Units

An applicant who has completed 60 or more semester units or the equivalent will be admitted if he has achieved a grade point average of 2.0 (C) on all college work attempted and he was in good standing at the last college attended.

Applicants With Fewer Than 60 Semester Units

An applicant who has completed fewer than 60 semester units or the equivalent may be admitted if he meets the above requirements and he meets requirements currently in effect for first-time freshmen or, if he has been in full-time continuous enrollment at a college since his graduation from high school, he meets the requirements in effect for first-time freshmen at the time of his high school graduation.

Other Applicants

Only under the most unusual circumstances will an applicant not meeting either of the above provisions be considered for admission. Permission is granted by special college action.

Admission Procedures

1. Submit an application for admission, \$5 application fee, and Statement of Residence form.
2. File official transcripts from *each* college attended. Students with fewer than 60 semester units (or equivalent quarter units) of acceptable college transfer credit must file transcript(s) of all course work completed and grades earned during the last three years of high school.
3. Submit results of, or make arrangements to take, the ACT exam through the college Testing Office.
4. Complete and file the two-part health form *before* first registration.

Admission With Graduate Standing

General Qualifications

A graduate of an accredited college or university is eligible for admission to this College with graduate standing if he:

1. Holds a baccalaureate degree from an accredited institution; and,
2. Is eligible to return to the last college or university attended.

Admission to this College with graduate standing does not constitute admission to a specific graduate program. Inquiries regarding admission to specific programs should be directed to the department offering the program. Students who have not been accepted into a graduate program offered at Cal-State will be classified as "non-objective" students.

Students with degrees from unaccredited institutions must meet the requirements for admission as undergraduate students. They must earn a degree from this college or other accredited institution before being permitted to earn graduate credit at California State College at Hayward.

Special Types of Admission

Admission of Summer Session Students

Adult students who wish to enroll for summer session courses only are not required to file an application or transcripts. (Such students should contact the Summer Session Office before registration.) Students are expected, however, to have satisfied the prerequisites for the particular courses in which they enroll. Students under scholastic disqualification from Cal-State, Hayward or any other college may not enroll in the summer sessions without approval in advance by the Office of Admissions.

Admission of Foreign Students

Foreign students wishing to transfer to this college from another college in the United States should follow the regular admission procedures as directed above.

Foreign students wishing to be admitted to this college from their native country must present convincing evidence of having adequate knowledge of oral and written English to succeed at this institution. The student will also be expected to file an application form and official certified records of his previous schooling.

Students who come to this country on a student visa are required by the Immigration Department to carry a minimum study load of 12 quarter (8 semester) units per term. When enrolled at this college they are expected to comply with all of the regulations of the Immigration Department, as well as those of the college. Special counseling

Admission

and additional information can be obtained from the Dean of Men who serves as Foreign Students' Adviser.

Admission of Nonresident Students

Admission requirements for nonresident students are the same as those for resident students. A nonresident tuition fee is payable by all regular and part-time students who have not been legal residents of the State of California for one year immediately preceding the date of enrollment. See section, "Statement of Residence."

Admission of Veterans

Veterans who meet the admission requirements outlined above, and who present certificates of eligibility for curricula offered by this College, may attend California State College at Hayward under full benefits extended to veterans. Information concerning veterans' programs can be obtained from the Veterans Affairs Representative in the Dean of Women's Office.

Admission to Public School Service Credential Programs

Admission to the college does not guarantee that the student will be admitted to credential programs in teacher education, school administration and supervision, and pupil personnel services. See Division of Education section for criteria which will be used in admitting students to programs.

Admission Policies and Procedures

Application for Admission or Readmission

1. *All new students* planning to enroll at this College must submit a formal application for admission.
2. *All former students* (regular and part-time), who did not enroll for, or who enrolled but withdrew from, residence credit or audit courses in the regular term (excluding summer-session work) immediately preceding the quarter in which they plan to enroll must file an application for readmission. Official transcripts from each institution attended since leaving this College must be filed in the Office of Admissions. Students graduating with baccalaureate degrees from Cal-State must reapply for admission to take work at the graduate level. Students disqualified from this College are referred to the section, "Scholarship Status," in order to determine their eligibility for readmission.

An application form appropriate for each type of student classification may be picked up in person or requested by telephone or letter

Admission

from: Office of Admissions, California State College at Hayward, 25800 Hillary Street, Hayward, California. The filing dates for each quarter are:

	Earliest Filing Date	Final Filing Date
Fall Term.....	Feb. 15, 1965	July 1, 1965
Winter Term.....	Oct. 1, 1965	Nov. 15, 1965
Spring Term.....	Dec. 15, 1965	Feb. 25, 1966
Summer Term.....	Mar. 1, 1966	Apr. 15, 1966

Students who file their applications for admission or readmission before the final date for a particular term, and whose records are complete by this date, can be assured of consideration for admission.

More specifically, freshman applicants should follow one of the procedures listed below:

1. A high school student, who qualifies for admission at the end of seven (7) semesters of high school work, will be granted a provisional acceptance. Upon receipt of a subsequent transcript which shows the granting of the high school diploma, the student will be notified that his admission status is clear.
2. A student who has graduated from high school may file an application, required transcripts, and application fee before the deadline dates and be considered for admission to the institution.

Application Fee

All persons applying for admission to this College for the 1965-66 academic year will be required to pay a \$5 application fee. This fee *cannot* be refunded or applied toward any other charges or fees the student may incur. The fee should be enclosed or submitted with the application for admission. Checks or money orders should be made payable to: CSC at Hayward. Please do not send cash.

Transcripts

It is the applicant's responsibility to see that the official transcript(s) (those required for his type of admission classification) be sent directly from the high schools and/or colleges attended. The College reserves the right to determine whether a transcript can be accepted as official. All transcripts and records submitted for admission or readmission become the property of the college and cannot be returned to the applicant.

Failure to declare enrollment in each school attended (when asked for on the application form) will constitute grounds for denial of admission, readmission, or dismissal from the College for unethical conduct.

It is highly recommended that applicants have a complete personal set of transcripts which they may take to their advising sessions each term.

Statement of Residence

An official statement of residence must be completed and filed by each student with his application for admission or readmission. These statements may not be completed by another person. Final decision relative to residence status will be made by the college attorney and will be based upon the residence laws of the State of California. Students will be held responsible for reporting any changes which affect their residence classification.

Health Data

An entrance physical examination is a matriculation requirement prior to registration. This examination is to be completed by a private physician and at the student's own expense. The Student Health Record is the college medical form on which the examining physician's findings are to be submitted in addition to the health history completed by the student.

Students who must file this form:

- a. All undergraduate students.
- b. Graduate students pursuing a General Elementary Credential, a Master's Degree, or one who plans to enter the student teaching or credential program of the college.

Notification of Acceptance or Denial

After completing a review of a student's application materials, the Office of Admissions will notify the student that he has been accepted or denied admission to this College, and under what conditions.

An official evaluation of the student's previous college work will be completed and sent to the student during his first term of attendance at this college. This latter document will remain valid as long as the student remains in continuous attendance. Such students will not be held to additional requirements unless such requirements are the result of changes made by the Trustees of the California State Colleges and/or State Legislature.

Cancellation of Admission

A student who is accepted for admission to the College for a given term, but does not register, will have this admission cancelled. A subsequent application for admission must be in accordance with current admission requirements. Transcripts, test scores, and evaluations on file may be used with the new application. An application fee must be submitted with each new application for admission.

Evaluation of Transfer Credits**General Policy**

Credits earned in accredited colleges and universities will be evaluated during the first quarter of attendance by the Office of Admissions and advanced standing allowed on the basis of the evidence submitted. Credits toward the fulfillment of graduation requirements will be allowed only insofar as the courses satisfactorily completed meet the standards and the requirements of the basic course pattern of the college. Vocational and remedial courses are examples of credit not accepted on a transfer basis.

Credits earned in nonaccredited colleges may be accepted as a basis for advanced standing; however, they may not be counted toward graduation requirements until completion at this college of 36 quarter units of course work with at least a "C" average.

Credits for Junior College Work

Credits earned in accredited junior colleges will be evaluated by the Office of Admissions in accordance with the following provisions:

1. Not more than 105 quarter (70 semester) units of credit may be allowed for junior college work. Junior college credit earned after the student has attained upper-division standing may be used to satisfy subject requirements, but may not be applied toward the total units required for the bachelor's degree.
2. Introduction to Education credit of 3 quarter (2 semester) units of credit may be transferred from the junior college. No other credit is allowed for professional courses in education.
3. California State College at Hayward and junior colleges within the region have written agreements relative to equivalency of courses. Students planning to transfer to this college should consult their counselors if they have questions about transfer courses.

Credit for Extension and Correspondence Work

A maximum of 36 quarter (24 semester) units of extension and correspondence work may be counted toward graduation at California State College at Hayward, but of the total units accepted no more than half or 18 quarter (12 semester) units may be transferred from other institutions. Within this latter total, no more than 9 quarter (6 semester) units of correspondence credit can be accepted for a degree at this college.

No extension or correspondence credit may be applied toward the residency requirement as explained under the section "Residence Requirements."

Admission

Credit for Experience

A maximum of 12 quarter (8 semester) units in student teaching may be allowed toward the bachelor of education degree, upon verification of sufficient and satisfactory teaching experience, and providing the student has not received that amount of credit for student teaching in an accredited college.

No unit credit is allowed toward other bachelor's or master's degrees for teaching or other practical experience. An exemption allowed for experience will not carry units of advanced standing nor diminish the number of units required for graduation.

Credit for Military Training

The College grants credit for military training in accordance with the American Council on Education Guide to the Evaluation of Educational Experiences in the Armed Forces. To receive such credit, the student must present evidence by written certification from a recognized military authority such as papers from a military separation center.

REGISTRATION

REGISTRATION

GENERAL POLICIES

1. All students who register at Cal-State must be properly admitted to the college by the Office of Admissions.
2. Registration by proxy is not permitted.
3. Registration is complete only when registration cards have been properly filed and all fees, deposits, and charges are paid. Students are required to pay all monies due the college at the time they register.
4. Students are given credit only for those courses in which they are officially registered at the conclusion of the late registration period.
5. Students will be held responsible for completing all courses for which they initially register, excepting those courses which are officially dropped by filing a "Drop Card" in person in the Records Office.

Auditing Courses

A student who wishes to "audit" a course instead of enrolling for credit must meet all admission requirements and secure the permission of the instructor in which the course is offered. An auditor pays the same fees and has the same privileges as do students who take equivalent work for credit, but is not held for final examinations and does not receive final grades or credit. Auditors may not apply for credit in a course after the last day to add classes.

Students enrolled in classes for credit may not change to audit status after the last day to add classes. Only students who register to audit a course and who attend the class are eligible to receive the audit ("AU") grade mark.

Individual Study

(See "Individual Study" in the section on Academic Regulations).

Independent Study

(See "Independent Study" in the section on Academic Regulations).

Credit By Exam

(See "Credit by Exam" in the section on Academic Regulations).

Dual Matriculation

Simultaneous registration in two academic institutions is not recommended and is permitted only during the Winter Quarter. In excep-

tional cases should this condition be considered important or necessary, the total academic program must be planned in conjunction with the student's adviser.

Late Registration

A late registration period of six instructional days is available to students who were unable to be present during the regular registration period. Students completing the registration process during this late registration period will be assessed a late registration fee of \$5. Requests to register after the last day of late registration will not be considered.

Cancellation of Enrollment

Any student who fails to fulfill matriculation requirements or who otherwise fails to adhere to academic or college regulations is subject to being placed on immediate probation or having his enrollment for that term cancelled. Application for readmission in a subsequent term may be considered provided the deficiency which resulted in the cancellation has been removed.

Changes in Registration

Adding and Dropping Courses

During the first five (5) days of instruction students may add to and drop from courses in which they initially registered by securing the instructor's signature beside each entry on the A/D/W card obtained during registration. The official changes of enrollment are made on the sixth (6) day of instruction by filing this card in the Records Office. A grade of "AF" will be entered on a student's permanent record when he registers for a course and drops out without filing the official A/D/W card in the Records Office.

Withdrawal From Courses

A student who finds it necessary to withdraw from a course after 6 instructional days have lapsed, and before the end of the sixth week of instruction, must file a special "Withdrawal Card" in the Records Office. If the student is passing the course at the time of withdrawal, a mark of "W" will be entered on the permanent record. If the student was failing the course at the time of withdrawal, a mark of "WF" will be entered on his permanent record and the units of credit for that course will be included in the computation of the student's grade-point average. A student who withdraws from a course without filing the required form in the Records Office will be automatically assigned a grade of "AF" in the course.

Students may not withdraw from individual classes after the end of the sixth week of instruction. The only possible exceptions to this regu-

Registration

lation can be found under the section, "Marking Policies and Procedures."

Withdrawal From College

Students contemplating withdrawal from college because of personal or academic problems are encouraged to consult with the Dean of Men, Dean of Women, or Counseling Office before taking official steps to withdraw.

If complete withdrawal from the College is necessary, official withdrawal forms can be secured from the Records Office, approved by the student's adviser, his instructor(s), and the Dean of Instruction. The grading policy for students who withdraw from the College after the sixth day of instruction is the same as for students who withdraw from individual courses after this date (see above).

Students called into the armed forces are referred to the section headed "Military Service Withdrawal."

Schedule of Fees

The regular fees of the College are given below. The fees for auditors are the same as for those receiving credit for a course. "Fees are subject to change upon the approval by the Trustees of the California State Colleges."

I. Registration Fees (Payable at time of registration)

A. Fall, Winter, and Spring Terms:

1. Regular students (More than 6 units):	<i>Fall</i>	<i>Winter</i>	<i>Spring</i>
Material and service fee	\$25.50	\$25.50	\$25.50
Student Body Fee	7.00	7.00	6.00

Totals \$32.50 \$32.50 \$31.50

2. Part-time students (6 or fewer units):			
Material and service fee	\$13.00	\$13.00	\$13.00
Student body fee	2.00	2.00	2.00

Totals \$15.00 \$15.00 \$15.00

3. Nonresident tuition, per quarter (in addition to above fees):

1 to 14 units	\$11.50 per unit
15 or more units	\$167.00 total

4. Foreign student tuition, per quarter (in addition to fees in 1 or 2 above):

1 to 14 units	\$5.75 per unit
15 or more units	\$85.00 total

B. Extension Division \$6.50 per unit

C. Summer sessions	<i>First 6-week Session</i>
Material and service fee	\$11.25 per unit
Student body fees *	3.00 only

There is no nonresident tuition for summer sessions.

* No student body fees are necessary for either session if the student paid \$20 during the previous academic year.

Registration

II. Other Costs (Payable when service is rendered):

A. Application fee	\$5.00
B. Late registration fee	5.00
C. Change of program after final filing date	1.00
D. Failure to meet administratively-required appointment or time limit	2.00
E. Graduation fee (not a state fee)	10.00
F. Check returned	
1. Registration check	5.00
2. Any other check	1.00
G. Parking fee **	
1. Regular student	9.00/qtr.
2. Part-time student	4.00/qtr.
H. Official transcript of record (no charge for first copy)	1.00
I. Items lost or broken	Cost
J. Field trips	Cost

III. Refund Regulations

A. Any student who finds it necessary to withdraw officially from the College is eligible for a refund of a portion of the material and service fee provided the application is filed in the Records Office not later than two weeks (14 calendar days) after the term begins.

B. Any student who reduces his academic load from a regular to a limited category during the period for adding and dropping classes, is eligible for a partial refund of the material and service fee, and should apply to the Records Office not later than two weeks (14 calendar days) after the term begins.

C. Partial refunds may be granted to students receiving administrative suspension providing a request is filed by the student in the Records Office.

D. Upon withdrawal from college, *nonresident* or *foreign student tuition* will be refunded upon formal application according to the following schedule:

Before or during the first week of the quarter	100%
During the second week of the quarter	75%
During the third week of the quarter	50%
During the fourth week of the quarter	25%

** 25% of the amounts listed are charged for 2-wheel vehicles.

STUDENT SERVICES

STUDENT LIFE

The student personnel office provides special services to individual students and groups of students, and serves in a consultant capacity to academic advisers and academic departments of the college. Students with questions relative to academic programs should consult their academic advisers.

Counseling

Counseling services are provided for assistance with personal problems of an academic, vocational, or emotional nature on a no-fee basis to all students who are officially enrolled at the college. Consultation with a professional counselor is voluntary and all counseling interviews are treated in a confidential manner. Initial appointments are arranged promptly and may be extended to include several regular individual interviews on a weekly basis (limited in number), but priority is given to emergency and initial contacts. Psychological testing is provided upon recommendation of a counselor. When indicated, a student may be assisted with a referral to a community mental health clinic, social agency, or private therapist. In every respect, the counseling staff attempts to assist the student to obtain more from available educational opportunities, to improve interpersonal and social relationships, to set and achieve appropriate vocational goals, and to increase personal satisfaction and self-worth.

Student Health Services

In conformity with the Education Code of the State of California, the objective of our Student Health Services is to protect and preserve the physical and mental health of our students. This encompasses health education, the prevention and treatment of illnesses and injuries, and the provision of a safe and healthful environment.

The Student Health Services office, 160 Fine Arts Building, is open from 8 to 12 a.m. and from 1 to 5 p.m., Monday through Friday. Requests for service should be on an appointment basis, if possible. Emergency care will be rendered immediately at any time on the campus. The facilities are available to all currently enrolled students.

Scholarships

Scholarships ranging from \$100 to \$400 are granted to outstanding students by Divisional Scholarship Committees or the College Committee on Scholarships. Applications for scholarships for the 1964-65 academic year will be available after March 15, 1964, and should be returned to the Financial Aids Office not later than April 1. Each applicant will be considered for every scholarship for which he is eligible. Recipients will be selected by the respective committees on the basis of scholar-

Student Services

ship, financial need, leadership, and promise of success in their chosen fields, or in terms of criteria as may be established by the donor. All students receiving scholarships must be enrolled for 12 or more units of credit during each quarter of the college year. The amounts awarded will be paid in equal installments, one at the beginning of each quarter. The following scholarships are among those to be awarded during the 1964-65 academic year:

The Niles-Fremont Community Scholarship for Elementary Teachers
Alpha Gamma Chapter of Phi Epsilon Phi Sorority
California Congress of Parents and Teachers for Elementary Teachers
California Congress of Parents and Teachers Music Scholarship
Alpha Alpha Chapter of Alpha Delta Kappa Sorority.

Loans

Short-term loans are available through student loan funds established by the Faculty, the Dorothy Donahoe Memorial Fund, Sertoma, Inc. of Hayward, California, Laura Settle, California Retired Teachers Association Loan Fund, and the Alpha Gamma Chapter of Phi Epsilon Phi Sorority. Details concerning the granting of loans are available through the Financial Aids Office.

Cal-State, Hayward is participating in the National Defense Act Student Loan Program. To be eligible for an application a student must be a United States national or a permanent resident pursuing full-time graduate or undergraduate work and must be in good standing at the institution.

Continuing students should deliver completed applications for 1964-65 National Defense Student Loans to the office not later than June 15, 1964; new students not later than July 15, 1964.

Cal-State, Hayward students are establishing a loan fund by raising money which will be matched approximately twelve to one by the United Student Aid Funds, Inc.

Placement Services

The College offers occupational counseling and assistance in finding suitable employment opportunities for graduates and part-time work for students. The major objectives of the Placement Service include providing teachers for public school work; assisting graduates to find employment which best fits their needs and training; and finding part-time work for students to aid in financing their education. There is no fee for placement service.

Students and graduates seeking full-time career placement must have completed, or be in the process of completing, degree and/or credential requirements in order to be eligible for placement. Students who have completed 24 units of work at the college are eligible for limited service.

Student Services

Part-time Student Employment

Students seeking part-time employment may register with the Placement Service at the beginning of each quarter.

Housing

The Student Personnel Office assists students in finding suitable housing within the college community. Students living away from home must find their own housing in town. Women students under 21 years of age must have written approval from parents for any off-campus residence away from home.

Alumni Association

A strong enthusiastic Alumni Association works closely with the students of Cal-State, Hayward to promote and foster good relationships between the students of the college and the graduates. Funds of the Alumni Association from dues and other sources are used to grant awards to students of the College.

Graduates Eligible for AAUW Membership

The American Association of University Women has notified the College that Cal-State graduates are eligible for membership in the AAUW.

Foreign Students

Students from other countries consult with the Student Personnel Office on matters affecting their visas, eligibility for employment, financial aid, travel programs, special workshops, and housing.

Student Insurance

Voluntary insurance plans covering sickness and accidents are available to students. Further information may be obtained from the student business manager or the Student Personnel Office.

Student Organizations

Associated Students: The Associated Students is represented by a Student Council composed of a president, vice-president, secretary, and one representative from each of the six academic divisions. The Council plans and executes student activities, recognizes and charters clubs and organizations, prepares the student budget, supervises student elections, initiates activities and cultural events, and forms committees to further the work of the Student Association.

Clubs and Organizations: Among the many interest groups which contribute to the well-balanced student life and supplement the academic program of the college are the Political Affairs Club, Interna-

Student Services

tional Club, Student California Teachers Association, Veteran's Club, Alpha Phi Beta, The Honor Society, Women's Service Club and an Interfaith Council. Membership in student organizations depends solely upon individual qualifications without regard for race, color, religion, or national ancestry.

Publications: The Pioneer, the weekly college newspaper, is published by the Associated Students as a part of the journalism curriculum. The Literary Quarterly is published by the Humanities Division, and the yearbook by the Associated Students.

Intercollegiate Athletics

The College is a member of the Far Western Athletic Conference and competes on both varsity and freshman levels in cross country, basketball, football, baseball, wrestling, track, tennis and golf.

GENERAL REGULATIONS

GENERAL REGULATIONS

Class Attendance

Students are expected to attend all meetings of their classes. Excessive unexcused absences will be sufficient reason for lowering a grade or refusing to allow a student to take final examinations. The Dean of Students will issue excuses for college-authorized absences.

Course Examinations

It is general policy in most courses to have several examinations during the term, and a comprehensive final examination. No final examinations will be given to individual students before the regular scheduled examination period. Any student who finds it impossible to take a final examination on the date scheduled must make arrangements *in advance* with the instructor to have an "Incomplete" mark reported and must then follow the regulations concerning makeups of "Incomplete" marks. No exceptions will be made to these rules without the written approval of the instructor, the division head, and the Dean of Instruction.

Selective Service Regulations

In order to qualify for a deferment or postponement of military service under Selective Service procedures a student must be registered for 12 or more units per term. The College serves as a reporting agency only, and any decisions affecting the student's Selective Service status will be made by the student's local board. Certification of registration and attendance to the Selective Service Board is accomplished by the Records Office upon request.

Veterans Information

Any student attending college under Provisions of Veterans Administration or the Cal-Vet Program is expected to clarify his status with the Records Office at the beginning of each quarter during the registration period. Information about Veterans Administration or Cal-Vet regulations is available in the Records Office through the Veterans Affairs Representative.

Observance of Bulletin Requirements

A student at Cal-State, Hayward will follow the *Bulletin* in effect at the time of admission for all requirements as long as he remains in continuous attendance and pursues the originally specified objective. The student will be held responsible, however, for complying with changes in requirements which may be effected during this subsequent attend-

ance at the college or by requirements imposed at any time by the Trustees of the State Colleges and/or State Legislature.

Grade Reports

At the end of each quarter notification of the student's academic standing and report of the grades achieved while in attendance at this college are mailed to each student. Grades are normally mailed within one week following the last day of the term. If there are unpaid charges or other penalties recorded against any student, transcripts of the student's work while at Cal-State will be withheld.

Questions regarding grade reports, academic credit, or transcripts should be referred to the Records Office.

Honors List

Students pursuing a full-time program of 12 or more units who achieve academic distinction as evidenced by a grade-point average of 3.50 or better are eligible for inclusion on the Honors List. Students enrolled on a regular full-time basis who achieve a grade-point average of 3.75 or better for any academic quarter will be included on the Dean's List. To determine eligibility to graduate with honors, see the section "Requirements for Graduation."

Additional Regulations

Declaration of Objective

At the time of applying for admission, each student is required to state an objective to be pursued at this College. After the student has declared a definite objective and been admitted to the College, faculty advisory services are available to assist the student in the attainment of that particular goal, but the responsibility for meeting the specific requirements rests with the student.

Change of Objective

A student who wishes to change his objective—that is, the curriculum in which he is enrolled—should obtain required forms in the Office of Evaluation. The student must then obtain permission from the advisers and division heads affected by the change of objective. No change is official until the appropriate forms are signed and filed with the Office of Evaluations.

Responsibility of the Student

Each student must assume responsibility for his progress by keeping an up-to-date record of the courses he has taken and by checking periodically with his adviser. Responsibility for errors in program or in interpretation of regulations of the College rests with the student. Advice is always available on request.

General Regulations

Student Conduct

Students of California State College at Hayward are to conduct themselves at all times according to standards expected of responsible persons. A Standard Code of Conduct has been adopted by the Student Association. This Code is reproduced in the Student Handbook.

ACADEMIC REGULATIONS

ACADEMIC REGULATIONS

Schedule of Classes

A Schedule of Classes is prepared by the Dean of Instruction each term for publication. This schedule includes a listing of general registration information, courses offered, hours, and rooms. The schedule is available prior to registration each term and can be purchased in the College Bookstore.

Course Numbering System

- 1000-1999 Freshman level.
- 2000-2999 Sophomore level.
- 3000-3999 Junior level.
- 4000-4999 Senior level.
- 5000-5999 Post graduate and professional level; open to qualified seniors.
- 6000-6999 Graduate level. Open only to graduate students.

At least 60 of the units required for graduation with the bachelor's degree must be in courses numbered 3000 and above and must be earned in the junior and senior years.

Courses numbered 3000 or higher, when appropriate to the student's objective at Cal-State, may be taken for graduate credit.

Classification of Students

The following classifications apply to students enrolled in the fall, winter, or spring terms (excluding summer sessions):

1. *Regular (full-time) students* are those enrolled for 12 or more units of course work in any regular term.
2. *Regular (part-time) students* are those enrolled for more than 6, but less than 12 units of course work in any regular term.
3. *Part-time students* are those enrolled for 6 units or less in any regular term.

Class Rank of Students

Students are assigned class rank according to the following plan:

1. Lower Division:

Freshmen	44¼ quarter units
Sophomores	45- 89¼ quarter units

2. Upper Division:

Juniors	90-134¼ quarter units
Seniors	135 or more units

3. Graduate:

Possession of baccalaureate degree from an accredited institution.

Quarter Unit

A quarter unit of credit represents three or more hours of classwork and outside study per week for one quarter. One and one-half (1½) quarter units are equivalent to one (1) semester unit of credit.

Academic Load

1. *Undergraduate Students.* The normal academic load for full-time undergraduate students is assumed to be 15 units of course work per term. Generally two hours of preparation for each hour of regular class work can be expected. Any student desiring to enroll for more than 18 units of credit per term must have the written approval of his academic adviser and the Dean of Instruction.
2. *Graduate Students.* The normal academic load for a full-time graduate student is assumed to be 12 units of course work per term. Higher standards of performance and more intensive preparation for class work is expected of graduate level students.

Credit by Examination

The College recognizes that exceptional students by reason of special studies or experiences may already have achieved the objectives of certain courses in the basic program; therefore, students with these types of backgrounds can make arrangements to obtain credit in selected courses by special examination. Such an examination is normally from three to six hours in length and may be oral as well as written. Each course may be challenged only once.

Students wishing to secure credit under this plan must (1) register for the course, and at least one other course, during the regular registration period, or (2) full-time students (taking 7-12 units or more) may prepare for and take proficiency examinations in the Center for Independent Study. An application for credit by examination should be secured from the Center for Independent Study, approved prior to the end of the sixth week of instruction and filed with the Records Office. To earn credit in this manner, the student must get a "C" or better on examination. If the examination is passed, the Records Office will be notified and put the credit on the student's permanent record. If the student fails the examination (D or F), he continues taking the course in the regular manner, or officially withdraws from it in the Records Office within one week after completing the examination.

Not more than 36 quarter units of credit obtained by examination may be applied toward the baccalaureate degree. No credit earned by examination may be used to satisfy residence requirements of the College.

Academic Regulations

Individual Study Programs

An Individual Study Class, as defined at this institution, is a course which is listed in the College Bulletin but is not being offered during a term absolutely required by a student to complete a specified objective. Hence, permission to take such a course should be granted only in cases of necessity. Students are responsible for securing and completing the Application for Individual Study from the division secretary. Distribution of the application is given on the form itself. The original is to be surrendered and a class card secured during regular registration.

Independent Study Programs

An Independent Study Class, as defined at this institution, is a program of study which is above and beyond the regular offerings of a department. The number of such a course will be 4900, 5900, 6900 depending on the level and content of the work. Such a course should be considered as elective credit in the program of a student working for a specified objective.

The privilege of Independent Study is limited to students who have at least a 2.0 (C) grade average in all courses in the field or department in which the independent study is to be taken, both at this institution and in work which may have been attempted at other institutions. Students who are on academic probation are ineligible for Independent Study.

Students are responsible for securing and completing the Application for Independent Study from the division secretary. Distribution of the application is given on the form itself. The original is to be surrendered and a class card secured during regular registration.

Placement Examinations

Placement examinations are given to place students at appropriate levels of achievement as follows:

Mathematics Placement Test. Students enrolling in Mathematics 1301 or in Mathematics 1302 without first having had 1301 must take the Mathematics Placement Test. Arrangements must be made through the Mathematics Department.

Foreign Languages Placement Tests. First time students at California State College must take a Foreign Language Proficiency Examination prior to enrolling in Foreign Language Courses (French, German, Spanish). Examinations are given during advising week each quarter. Arrangements must be made through the Foreign Language Department.

Music Placement Tests. First time students at California State College must take Music Proficiency Examinations prior to enrolling in music courses. Examinations are given by the Music Department before registration each quarter. Arrangements must be made through the Music Department.

Academic Regulations

Honors Program

The College provides a Program in General Honors, both lower and upper division, which is open to superior students in all majors. The lower division includes special sections in general education courses; the upper division program offers colloquia which can be taken as electives, or to satisfy the upper division general education requirements. All students have the privilege of applying for admission to the program, but admission is normally gained through invitation of the College Honors Committee, based on recommendation of the student's previous institution and screening by the committee, or nomination by a member of the faculty of Cal-State, Hayward. Inquiries should be addressed to the Dean of Instruction.

The divisional and departmental honors programs, offered presently in the departments of English and History, are upper-division programs designed to provide special courses and advanced, independent reading and research for superior students in the individual majors. Several departments are now considering the development of programs. Inquiries should be addressed to the chairman of the department.

Marking Policies and Procedures

Marking System

The marking system employed at the college is listed below:

1. Regular Grades

Grade Symbol	Explanation	Grade Points
A	Outstanding	4
B	Commendable	3
C	Satisfactory	2
D	Passing	1
F	Failure	0
W	Withdrawn Passing	0
WF	Withdrawn Failing	0
AF	Administrative Failure	0
IN	Incomplete	0
AU	Auditor	0
P	Passed	0

2. Withdrawals ("W" and "WF" Marks)

The Withdrawal mark "W" is reserved for students who, after the last day to drop classes without a grade mark * and prior to the end of the sixth week of the quarter, find it impossible to complete all, or a part of their program of courses; who are passing the course(s); and who file an approved withdrawal card in the Records Office, approved by the student's adviser, his instructor and the Dean of Students. Students who withdraw from a course after the last day to drop classes without a grade mark and prior to the end of the sixth week of the quarter, will receive the mark "WF" when withdrawing from the course if they are failing the course at the time of withdrawal. A mark of "WF" is counted as units attempted and figured in the grade-point average.

* See college calendar.

Students who withdraw after the end of the sixth week will receive a grade of "F," unless they are eligible to receive an "Incomplete" grade under the Incomplete policy as explained in this Bulletin.

Students who withdraw from courses without filing withdrawal forms or Request-to-Drop forms in the Records Office will be assigned a grade of "F" or "AF" in the course(s).

3. Incompletes ("IN" Marks)

A student may be considered for a grade of "Incomplete" only if he has attended class and completed course requirements up to at least the beginning of the seventh week of the quarter. The "Incomplete" grade may be received by a student only for reasons beyond the control of the student. Normally such reasons are:

- a. Extended absence for health problems; or,
- b. Failure to complete term assignments or final examination because of ill health or family emergencies. A statement from the doctor should be presented to the instructor at the time the student returns to class and before the Incomplete is recorded. An Incomplete must be cleared during the next quarter of attendance unless specially deferred by the instructor and approved by the head of the division offering the course. Incomplete courses automatically revert to grades of "F" if not completed *within the next calendar year*.

4. Military Service Withdrawal

Any student who presents evidence of being called into the armed forces may petition the Records Office for an honorable dismissal up to the last week of the academic term. No academic penalties will be assessed under the conditions and a mark of "W" will be entered on the student's permanent record.

5. Repeated Courses

A student may repeat a course in which he has received a grade of "D" or "F," but may not receive credit for the course more than once. A repeated course is counted as units attempted and is credited with the grade-points earned, the effect being an averaging of the grades. If a student repeats a course in which he has received a grade higher than "D," the repeated course will not be counted as units attempted nor will grade points be counted in the student's record.

Scholarship Status

Satisfactory Scholarship

Satisfactory scholarship means the maintenance of at least a "C" average (2.0 grade-point average or twice as many grade points as units attempted). A student is considered in good standing scholastically if he is not on probation or disqualified. To be eligible for a bachelor's degree, a student must have a grade-point average of at least 2.0 in the courses taken at Cal-State, as well as a grade-point average of 2.0 or better on his entire collegiate record, and also in his major field.

Policy on Probation and Disqualification

The following local standards for probation and disqualification are "demonstrably equivalent" to those established by the Chancellor of the California State Colleges on August 19, 1964.

I. UNDERGRADUATE STUDENTS

A. Probation

1. A student who, by special action, is admitted to California State College with a cumulative grade point average of less than "C" in all previous work attempted, shall be placed on probation.
2. Any undergraduate student (regular or limited) will be placed on probation when he fails to achieve or maintain a cumulative grade point average of "C" (2.0) in all units attempted at this college.
3. A student shall be placed on probation if reinstated following disqualification.
4. Probationary standing is cleared when a student achieves a cumulative grade point average of "C" (2.0) in (a) all work at this college, and in (b) all college work attempted.

B. Disqualification

Disqualification will be preceded by a quarter of probation status, except that a student earning a grade point average of less than "D" (1.0) in any quarter may be disqualified without previous warning.

A student is subject to disqualification by action of the appropriate college authority under any one of the following conditions:

1. As a lower division student (less than 90 quarter hours of college work completed) if he falls 22 or more grade points below a 2.0 (C) average in all units attempted at CSCH.
2. As a junior (90-134 quarter hours of college work completed) if he falls 14 or more grade points below a 2.0 (C) average on total units attempted or in all units attempted at CSCH.
3. As a senior (135 or more quarter hours of college work completed) if he falls 9 or more grade points below a 2.0 (C) average on total units attempted or in all units attempted at CSCH.
4. If a probationary student has failed to earn a cumulative grade point average of "C" (2.0) on *all* college work at the end of three quarters of residence.

II. POST BACCALAUREATE STUDENTS

At the discretion of appropriate college authorities any post-baccalaureate student is subject to disqualification:

1. If he earns a grade point average of less than "C" (2.0) during any quarter; or,
2. If he fails to earn a cumulative grade point average of "C" (2.0) or better on (a) all post-baccalaureate work at Cal-State, Hayward, and also (b) all post-baccalaureate college work attempted. A student whose performance in a graduate degree curriculum is judged to be unsatisfactory by authorities of the college may be required to withdraw from all graduate degree curricula offered by the college.

III. REINSTATEMENT

A disqualified student may appeal to the committee on Academic Appeals. The committee may make exceptions to the above provisions whenever such action seems justified on individual petition. A petition for readmission will be received in the registrar's office (Student Record's Office) for a five-day period after formal notification of his disqualification has been sent from the college. In case of disqualification and denial of appeal, no immediate reinstatement is granted.

Academic Regulations

Petition for Leniency

A student who because of low grades due to illness or other extenuating circumstances believes that he may be disqualified should consult the Associate Dean of Instruction concerning the procedure for presenting his petition. This petition must be presented during the last two weeks of the quarter. If a petition for leniency is filed as a result of this conference, it may be possible for the student to be continued in school.

Earning Graduate Credit While Still an Undergraduate

A student who has no more than 8 quarter units of credit to complete for graduation with a baccalaureate degree from Cal-State may take a load up to 16 units and apply toward graduate credit up to 9 units beyond those required for graduation. Permission must be obtained from the division chairman in the area where the graduate credit is to be applied prior to such registration. This information must also be made available to the Records Office so that the units can be appropriately posted on the student's permanent record.

REQUIREMENTS FOR GRADUATION

Baccalaureate Degree

For graduation with the bachelor of arts or science degree, a student must:

1. Complete a major as described in this catalog.
2. Complete a minimum of 186-195 quarter units of acceptable college credit; at least 60-quarter units of which must be in courses numbered 3,000 or above and taken after attaining upper-division standing.
3. Complete a minimum of 36-quarter units in residence at this college in order to be eligible for a baccalaureate degree. At least 18 of these units must be completed among the last 30-quarter units counted toward the degree.
4. Satisfy the college general education requirements as described in section on Curricula and Degrees.

Master's Degree

To earn a master's degree at California State College at Hayward the candidate must:

1. Be admitted to graduate standing.
2. Be admitted to a graduate degree curricula.
3. Be advanced to candidacy.

Academic Regulations

4. Complete a minimum of 45 quarter units of approved work, at least 36 of which must be in residence, completed within seven years.
5. A grade-point average of 3.0 (grade of B on a five-point scale) or better in all courses taken to satisfy the requirements for the degree.
6. Complete specific requirements relative to theses, foreign languages, required courses, grade point averages as specified in departmental sections of this Bulletin.

Residence Requirements

A total of 186 units of credit must be earned for graduation with a bachelor of arts degree. Up to 195 units of credit must be earned for a bachelor of science degree, the total depending on the specific major (see individual B.S. majors). Of these totals, 36 units must be earned at Cal-State, Hayward in resident (not extension) courses. At least 18 of these units must be completed among the last 30-quarter units counted toward the degree.

The bachelor of education degree requirements call for 36 units of credit earned from Cal-State, Hayward. Of that amount, at least 18 units must be earned in courses given on the Cal-State College campus after completion of 135 of the required number of quarter units.

Additional Graduation Requirements and Procedures

Scholarship Requirements for Graduation

A student planning to graduate must have an average grade of "C" (2.0) or better on:

1. All units attempted at California State College at Hayward;
2. All units in the major; and
3. All units attempted, including those accepted by transfer from other colleges and universities.

Graduation With Honors

Any student who has achieved exceptional academic performance and who has maintained an academic average of 3.50 in all college work taken for the degree may be considered for graduation Magna Cum Laude. Any student who has maintained an academic average of 3.75 or better in all college work taken for the degree is eligible for graduation with honors and may be graduated Summa Cum Laude.

Making Application for Graduation

1. A student is responsible for making an appointment with the Records Office to have a graduation check made during the quarter immediately preceding the term in which graduation is anticipated.

Academic Regulations

(See the college calendar for deadline dates for each term.) Division of Education students should plan to have graduation checks made two quarters prior to the term of graduation (excluding students with minors in education).

2. The Application for Graduation (which is secured at the time the graduation check is made) must be completed and filed in the Records Office before the deadline dates indicated in the College Bulletin for graduation in a specified quarter.
3. If a student does not graduate in the term for which he files, he must notify the Records Office of the new term in which he plans to graduate. If more than one regular term lapses, the student must make an appointment in the Records Office to have a new graduation check made.
4. Students graduating from the college must reapply for admission to take work at the graduate level.

CURRICULA AND DEGREES

CURRICULA AND DEGREES

Baccalaureate Degrees With Major In:

Anthropology (BA)	Music (BA)
Art (BA)	Physical Education (BS)
Biological Science (BS)	Physical Science (BS)
Business Administration (BS)	Physics (BS)
Business Education (BS)	Political Science (BA)
Chemistry (BA, BS)	Psychology (BA)
Economics (BA)	Recreation (BS)
Elementary Education (BS)	Social Science (BA)
English (BA)	Sociology (BA)
French (BA)	Spanish (BA)
Geography (BA)	Speech & Drama (BA)
History (BA)	Special Major (BA) or
Language Arts (BA)	(BS)*
Mathematics (BS)	

Master's Degrees With Major In:

Education (MS)	Mathematics (MS)
English (MA)	Music (MA)

Non-degree Credential Programs

The college is accredited to recommend for:

General Elementary Credential (limited to candidates accepted in a program before November 1, 1963).

Programs Leading to Direct Application for:

The general secondary credential (limited to students accepted in a program before November 1, 1963).

The Standard Teaching Credential with Specialization in Elementary School Teaching.

The Standard Teaching Credential with Specialization in Secondary School Teaching.

The Standard Designated Services Credential with Specialization in Pupil Personnel Services.

The Standard Supervision Credential.

LIBRARY AND AUDIOVISUAL SERVICES

The library now has over 100,000 volumes and 1300 different periodical subscriptions to meet the needs of the growing student body. For students in the teacher-education program the College has developed a curriculum library consisting of a wide selection of textbooks and other

educational materials. The library is designated as a depository for selected federal documents.

Audiovisual facilities include an equipment room, preview room, materials-preparation area, film-storage center and dark rooms. The A-V equipment is modern and adequate for the program of the College. The film library has over 375 films.

Professionally trained librarians and audiovisual personnel are available to assist students and faculty.

INSTRUCTIONAL COMPUTATION CENTER

Current facilities include an IBM 1620 Automatic Digital Computer with Punched Card Input and Output, as well as printing card punches, a reproducer, a sorter and tabulator. Both formal and informal instruction are available to students and staff interested in instructional or instructionally related projects which make use of the facility.

CENTER FOR INDEPENDENT STUDY

The Center for Independent Study was established to provide the instructional staff with added resources by which a student could be helped to: (1) Meet specific requirements within a course being taken for credit, (2) Complete selected courses for credit by proficiency examination, or (3) Meet the entrance requirements of certain courses.

The work of students in the Center is supervised by a staff selected to provide needed help to students as they progress through the programmed materials and to provide competent proctoring in the administration of necessary examinations.

Since questions of college credit may be involved, all arrangements to remand students to the Center must be made with the Coordinator of the Center. Call Ext. 263 for such appointments.

General Education

The general education program is a planned sequence of courses outside the student's field of specialization. These experiences are designed to assure that each student who graduates with a baccalaureate degree possesses, in the major fields of human knowledge, the understandings, skills, and appreciations necessary for informed citizenship and continued growth and effectiveness as an educated literate person. The flexible design of the program allows the student, in most of the areas of knowledge, to select according to his needs and goals, one of several paths which satisfy specific requirements.

Each student, for graduation with a baccalaureate degree, must complete a minimum of 76 quarter units of general education work satisfying the following pattern and specific requirements. At least 36 units

* An acceptable combination of course work from existing majors, designed to satisfy special objectives. Advised through the Dean of Instruction.

should be completed before attaining upper-division standing. A minimum of 14 units must be completed in the junior and senior years.

Courses that are normally applied in meeting general education requirements are those that are broad in scope. Courses designed specifically to meet the needs of particular majors may not be appropriate. The total program, however, in completing a major in any of the fields listed under general education requirements below will be interpreted as satisfying the general education requirements in that field provided (1) the major includes sufficient units in excess of 36 (B.A.) or 54 (B.S.) units and (2) all specific course requirements are met.

The minimum of 14 units of upper-division courses in general education include¹ courses in two of the three fields of humanities, social and behavioral science, and science. (Students majoring in one of these fields take courses in the other two.) As a part of the 14 units, each student must complete the Junior-Senior Symposia which includes selected readings from the three fields listed above.

Students from California junior colleges who have been in continuous full-time attendance at the junior college are evaluated for graduation from the California State College at Hayward in terms of the catalog in effect at the time they were entering freshmen. This is particularly important for students who entered a California junior college prior to September, 1963 and who have been in continuous regular full-time attendance in the junior college since their date of entrance. Consult the office of the Dean of Instruction if there are any questions about this. Students may not mix general education requirements of different years.

Pre-professional Preparation

Courses and programs offered in the various departments of the College are appropriate for entry into professional programs. Any student commencing work at Cal-State, Hayward with the intent of completing his training at another college or professional school should work closely with his adviser so that his pattern of courses fits the general pattern required by the profession as well as the specific requirements of the professional school of his choice and requirements for his major and baccalaureate degree.

Pre-law

The study of law is a post-graduate professional program, usually requiring three years of full-time study beyond the completion of the bachelor's degree. No specific pre-law undergraduate program is required for admission to law schools.

Students intending to enter law school commonly complete undergraduate majors in political science, economics, history, philosophy,

¹ A current list of these courses is obtained from academic advisers, and such courses are indicated on class schedules.

English or business administration. However, any recognized non-vocational major is acceptable to law schools. The pre-law student's undergraduate plan of study should include among its objectives a facility in the proper use of written and spoken English, a familiarity with at least the outlines of English history and a thorough knowledge of United States history. A sound knowledge of the elements of social science, including the principles of economics, political science, psychology, and sociology is normally recommended. Many law schools highly recommend or require that students complete a college sequence in accounting and advise that they acquire the ability to use a typewriter.

A cultural and social organization, the Blackstone Pre-Law Society is open to all students interested in the law or in problems relating to law and society. Students planning to enter law school should consult the Department of Political Science about their major and baccalaureate degree.

Pre-theological Studies

The American Association of Theological Schools recommends that students anticipating graduate theological education take a broad liberal arts program leading to the A.B. degree. No major field is stipulated but it is essential that students learn to speak and write English correctly and effectively. A reading knowledge of at least one language other than English must be acquired. Students should elect courses which will sharpen their conceptual process (logic, scientific method, literary or historical research) and should have more than an introduction to the world of men and ideas, the world of nature, and the world of human affairs. The majors most frequently recommended are English, history, and philosophy. Students planning to enter theological schools should consult the Department of Philosophy about their major and baccalaureate degree.

The Health Sciences (Medicine, Dentistry, and the Paramedical Sciences)

Students intending to enter the medical or dental professions should plan on completing a baccalaureate degree in an appropriate academic major. Many pre-medical and pre-dental students major in biological sciences or chemistry, but majors in the social sciences and the humanities are acceptable to medical and dental schools, provided the specified courses in science have been completed.

Admission to medical and dental schools is restricted to those students who have developed a facility in the use of English and in quantitative thinking, who have mastered the fundamentals of the physical and biological sciences, and who have studied in depth one of the major fields of knowledge. Most schools therefore require the following courses to have been completed during the undergraduate year: one

Curricula, Degrees

year of English composition or literature, one year of general chemistry and one semester each of organic chemistry and quantitative analysis, one year of physics, one year of biology or zoology and one semester of vertebrate embryology, and college mathematics. In addition, some medical schools require work in foreign language, social sciences, and humanities.

Students interested in entering medicine, dentistry or one of the paramedical professions (nursing, physical therapy, medical technology, etc.) should consult with the preprofessional adviser in the Department of Biological Sciences early in their college careers to plan their major and baccalaureate degree. The preprofessional adviser has information about the requirements for admission to professional school.

International Programs

The California State Colleges offer academic year programs of study at a number of distinguished universities abroad. In 1965-66 the cooperating universities are: University of Aix-Marseille, France; Free University of Berlin and University of Heidelberg, Germany; Waseda University, Tokyo, Japan; University of Granada and University of Madrid, Spain; University of Stockholm and University of Uppsala, Sweden; National University, Taiwan. Academic work successfully completed at the cooperating universities abroad may be applied toward the degree requirements of the College in accordance with college regulations.

A selection among applicants from all California State Colleges is made on the basis of academic, linguistic and personal qualifications. The criteria are:

- a) Upper division or graduate standing by the beginning of the academic year abroad;
- b) Academic achievement;
- c) Proficiency in the language of instruction;
- d) Faculty recommendations.

Cost to the student includes round trip transportation from San Francisco to the host university, room and board for the academic year, and medical insurance. In 1965-66 these costs are: France, Germany, Italy, Japan, Spain: \$1,670; Sweden, \$1,870; Taiwan, \$1,270. Payments may be scheduled throughout the year.

Programs in Japan, Sweden and Taiwan do not require previous linguistic preparation; applicants for all other programs must demonstrate adequate facility in the language of instruction at the host university.

Application for the 1966-67 academic year should be made early in the fall semester, 1965. Detailed information may be obtained at the

Interdivisional Programs

Dean of Students Office, or by writing to the Office of International Programs, The California State Colleges, 1600 Holloway Avenue, San Francisco, California 94132.

INTERDIVISIONAL PROGRAMS IN GENERAL EDUCATION

HISTORY OF WESTERN CULTURE

This integrated, interdivisional general education sequence is one way to meet: (1) 3 units of communications, (2) 8 units of humanities (5 units of literature and 3 units of philosophy), and (3) 4 units of social science exclusive of code requirements in U.S. history and institutions. With the completion of HWC 1001, 5 units of humanities electives will be met; with the completion of HWC 1001-2, 2 units of communications and 5 units of literature and philosophy (total of 8 units of humanities) will be met; and with the completion of HWC 1001-2-3 a third unit (total 3) of communications and 4 units of social science, including one course of the two of four courses (anthropology, economics, geography, sociology) requirement, will be met. (The 3 units of communications are equivalent to Eng. 1001 or SpDr. 1001.)

1001. The Ancient and Medieval World

Philosophic, scientific, social, and aesthetic foundations of the Western tradition. Five units.

1002. The Renaissance and Early Modern Times

Continuation of History of Western Culture 1001. Prerequisite HWC 1001. Five units.

1003. The Modern Western World

Continuation of History of Western Culture 1002. Prerequisite HWC 1002. Five units.

COMPARATIVE STUDIES IN ASIAN CULTURES

This integrated, interdivisional general education sequence (Asia 2001, 2003, 2005) is one way to meet: (1) 3 units of creative arts, (2) 5 units of humanities (Philosophy-Literature), (3) 4 units of social science (exclusive of code requirements in U.S. history and institutions). The basic general education sequence is Asia 2001, 2003, 2005 for a total of 12 units. With completion of Asia 2001-2003-2005, 5 units of humanities (philosophy-literature), 3 units of creative arts, and 4 units of social science, including one course of the "two of four" courses (anthropology, economics, geography, sociology) requirement, will be met.

2001. Patterns of Asian Cultures

The significance of contemporary Asia; approaches to the study of Asia through various disciplines; physical, biotic, and social patterns of the major regions of Asia; Asian prehistory. Four units; Fall quarter.

2003. Development of Traditional Asian Cultures

Major traditions of Southern, Southeastern, and Eastern Asia, including political, economic, and aesthetic developments. Prerequisite: Asia 2001. Four units; Winter quarter.

2005. Asian Societies in the Modern World

European expansion in Asia; the rise of nation states; problems of modernization. Prerequisite: Asia 2001, 2003. Four units; Spring quarter.

JUNIOR-SENIOR SYMPOSIA

The Junior and Senior Symposia are courses required of all undergraduates as follows: 1. Freshmen who enroll in September 1965 and thereafter; 2. Transfers

Interdivisional Programs

who enroll for the first time at this institution in September 1965 and thereafter;
3. Transfers who enroll as lower-division students in September 1965 and thereafter;
4. Upper-division transfers who have been in continuous enrollment at other institutions and who transfer to this college prior to September 1965 will be required to enroll in the Junior Symposium. It is recommended that these transfers take the complete sequence. Credit earned in Junior and Senior Symposia may be applied toward requirements in natural science (1-1), humanities (1-1), and social sciences (1-1) provided that the basic courses have been completed in these fields.

Junior Symposium

3801. The Idea of Nature

An exploration into the history of ideas, Interdisciplinary consideration of man's ideas of nature and man's relation to it during Greco-Roman, medieval, renaissance and modern periods. Effects of these changing views upon modern man's concepts of himself. Prerequisite: Junior standing and basic courses in natural science, humanities and social sciences. Three units.

4801. Senior Symposium

A continuation of Junior Symposium 3801. Prerequisite: Junior Symposium 3801. 2 hrs. lect., 2 hrs. act. Three units.

Curricula, Degrees

GENERAL EDUCATION CALIFORNIA STATE COLLEGE AT HAYWARD

Requirements		Courses Which Meet Requirement	Information
Area	Units		
Communications	6	Eng 1001 and 100w or Sp/Dr 1001 and 1002 Completion of HWC 1001-2-3, satisfied Eng 1001 or Sp/Dr 1001	Curricula, Degrees 1. Once started, students should complete the entire sequence in either Speech 1001-2 or English 1001-2.
U.S. History		Hist. 1001-2 (4-4), Hist 3400 (4), or PoSc 1201-2 (4-4)	1. Course credit or examination is required. 2. If requirement is satisfied by History courses, units are counted towards Humanities requirement. 3. If requirement is satisfied by Political Science Courses, units are counted towards Social Science requirement.
Local, State, National Government		Hist 1101-2 (4-4), PoSc 1201-2 (4-4), or PoSc 3100 (4)	Same as above
Social Science Includes courses in two of four fields: anthropology, economics, geography, and sociology.	12	Any course in anthropology, economics, geography, political science, sociology, or social science. HWC 1001-2-3 satisfies one of the "two of four" and meets 4 units of the social science requirement. Asia 2001-3-5 satisfies one of the "two of four" and meets 4 units of the social science requirement.	1. Additional units to satisfy this requirement may be taken in anthropology, economics, geography, political science, social science, or sociology. 2. Approved upper division course is required if major outside this area.
Humanities Includes 5 units in literature and/or philosophy	16	Any course in history, philosophy, literature, languages, and the history of the arts. Literature and/or Philosophy—Any literature and/or Philosophy course. HWC 1001-2-3 satisfies 8 units of Humanities (5 literature and 3 philosophy) Asia 2001-3-5 satisfies 5 units of humanities	1. Literature and/or philosophy requirement must be satisfied by a 5 unit (or more) course. 2. A maximum of 9 units of foreign languages may be applied to this requirement. 3. Additional units to satisfy the requirement may be taken in history, philosophy, literature, languages, and the history of the arts. 4. Approved upper division course is required if major outside this area
Psychology	4	Psych 2000	
Health and Physical Education	5	Option I: P.E. 1100 (3) and P.E. 1010-2010 ($\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{2}$). Option II: P.E. 1000 ($\frac{1}{2}$), P.E. 1010-2010 ($\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{2}$) and H. Ed. 1000 (3)	Students must complete option I or II.
Creative Arts	3	CA 4800 (4); Art 1110 (3); Music 2111 (3); Music 3500 (1) SpDr 1010 (5), 2310 (4), 4050 (3) Asia 2001, 3, 5	History of the arts courses count in the humanities area.
Science Includes a basic course in biological science and a basic course in physical science	14	Basic Biological Science—Biology 1000	Introductory courses in Anatomy, Physiology, Botany and Zoology may meet requirement.
		Basic Physical Science Chem 1100 (5), 1101 (5); Astr. 1000 (5) Geol 1101-2 (5) Physics 2001 (5) Physics 1000 (4) Physical Science 1340	1. The remainder of the units in this requirement can be satisfied by any science course. 2. Approved upper division course is required if major is outside this area

GENERAL EDUCATION—Continued
CALIFORNIA STATE COLLEGE AT HAYWARD

Requirements		Courses Which Meet Requirement	Information
Area	Units		
Mathematics, Logic or Statistics	4-5	Math 1110 (4), 1301 (5), 1302 (4), 3000 (5) Phil 1000 (4) Stat 1500 (5)	
Junior Symposium	3	Junior Symposium 3801 (3)	Curricula, Degrees Students must complete the basic courses in natural sciences, humanities, and social sciences; completed the Aptitude Section of the Graduate Record Examination; and be of Junior standing prior to enrollment in this course.
Senior Symposium	3	Senior Symposium 4801 (3)	Junior Symposium is prerequisite to Senior Symposium
Upper Division Courses	8	Upper Division Courses	1. Courses required in two of three fields: Humanities, Social Sciences or Sciences. Students majoring in Humanities must take a course in Social Sciences and a course in Sciences; students majoring in Social Sciences, a course in Humanities and a course in Sciences; and students majoring in Sciences, a course in Humanities and a course in Social Science.
Humanities Area		Philosophy 2000 Introduction to	2. Majors classed as Humanities are:
Art		Philosophy 2100 Ethics 3002 History of Medieval Philosophy 3003 History of Modern Philosophy	Art Language Arts English Music French Spanish History Speech and Drama
3040* Art in the Ancient World			3. Majors classed as Social Sciences are: Anthropology, Business Ad., Business Ed., Economics, Elementary Ed, Geography
3050 Medieval Art			Pol. Sci. Psych. Rec. Sociology Social Science
3060 Renaissance and Baroque Art			
3070 Development of Modern Art			
Music		Natural Sciences Area	4. Majors classed as Sciences are: Biol. Sci., Chem., Math., Phys. Ed., Physics, Physical Sci.
3141 Music History & Literature		Astronomy 1000 Descriptive Astronomy	
3142 Music History & Literature		Biology 2500 Genetics 3500 Evolution 4450 Biogeography	
3143 Music History & Literature		Botany 3000 Survey of the Plant Kingdom 4600 Economic Plants	
Sp/Dr.		Conservation 4380 Conservation of Natural Resources	
3512 Development of Dramatic Art		Entomology 4100 Insects and Man 4210 General Entomology	
English		Geology 3300 Principles of Geology 4310 Geology of California	
1010** Introduction to Literature		Meteorology 1400 Weather and Climate	
1111 Introduction to Poetry		Nature Study 3391 Nature Study 3392 Nature Study 3393 Nature Study	
1112 Intro. to Dramatic Literature		Zoology 3000 Survey of the Animal Kingdom 3101-2 Vertebrate Zoology	
1113 Intro. to Fiction			
3700 World Literature I			
3701 World Literature II			
3702 World Literature III			
5670 Literature of California			
History			
2001-2 Intro. to European History			
3100 Ancient History			
3301 Modern Asia			
3601 Latin America: Since 1825			
4000 Contemporary World Problems			
4160 Europe in the 19th Century			
4180 Europe in the 20th Century			
4511-2 Social and Intellectual History of the U.S.			
4531 Recent Diplomatic History of the U.S.			

GENERAL EDUCATION—Continued
CALIFORNIA STATE COLLEGE AT HAYWARD

Requirements		Courses Which Meet Requirement	Information
Area	Units		
Social Sciences Area			
Anthropology			
3000 Anthropology in the Modern World			
Economics			
3303 Controversial Economic Issues			
Geography			
3000 World Land Problems			
Journalism			
4700 Public Opinion and the Mass Media			
Pol. Science			
3210 Comparative Government			
3410 Law and Society			
4000 Contemporary World Problems			
4505 American Foreign Policy			
3520 International Relations			
4720 Totalitarian Ideology			
4730 American Political Thought			
Sociology			
2010 Social Problems			
3410 Marriage & the Family			
3420 Religion and Social Conduct			
4520 Minority Groups			
<i>Acceptable after completion of 12 units of Social Science courses:</i>			
Psychology			
3500 Social Psychology			
Social Science			
3001 Social Science I			
* Course numbers are those listed in the 1964-65 College Bulletin			
** Courses bearing 1000 and 2000 series numbers will satisfy the Upper Division requirement when taken by Upper Division Students.			
Electives	5-6	Any course outside the major or related field	
Total	76		
The total requirement in General Education is 76 units.			

DIVISION OF BUSINESS AND ECONOMICS

Professors Salers (head), Allison (chairman, Department of Marketing), Ashley (chairman, Department of Economics), Jay, Mayer, Strasburg (chairman, Department of Management), Wren; Associate Professors Morehouse, Ozaki; Assistant Professors Elliott, Hoffman, Ingerg; Lecturer Nordstrom.

CURRICULA OFFERED

Baccalaureate Degree Majors and Minors

Business Administration
Business Education
Economics

PURPOSES

This Division offers courses designed (1) to equip individuals with the educational background and analytical tools for careers in business, (2) to provide for the development of teachers of business subjects in the secondary schools, and (3) to educate students in the fields of the professional economist. Analytical emphasis is a dominant characteristic of work in the Division.

BUSINESS ADMINISTRATION MAJOR

Lower Division Requirements

Principles of Accounting and Principles of Economics (both 8 or more units), Legal Environment of Business (4 units), and Elements of Probability and Statistics (5 units).

Completion of these courses is a *condition for admission* to the upper division program of the division. Junior standing is a prerequisite for courses in the 3000 series.

Recommended: a year of college-level mathematics to include Math. 1301 and Math. 1302 or 2100.

Major Requirements

The student's "major" consists of the core requirements plus one of the fields of concentration (Accounting, Management, or Marketing).

Core Requirements

The student must arrange his program so as to complete the following courses:

<i>In the Junior Year:</i>	<i>Units</i>
Bus. 3100. Economic Quantitative Analysis.....	4
Bus. 3200. Managerial Accounting (except Accounting majors).....	4
Econ. 3000. Economics of the Business Firm.....	4
<i>In the Senior Year:</i>	
Bus. 4500. Business and Public Policy.....	4
Bus. 4700. Multinational Business	4
<i>In the Junior or Senior Year depending on major:</i>	
Bus. 3400. Macro-Marketing	4
Bus. 3600. Principles of Management.....	4
Bus. 3680. Industrial Relations.....	4
Bus. 4300. Business Finance	4
Econ. 4320. Business Fluctuations	4
Total.....	40

Business Administration

Fields of Concentration

Accounting

Core requirements (all except Bus. 3200 above) 36 units.

The concentration:

Bus. 3211, 3212, 3213, 4231, 4232, and 4233 or 4240.

Management

Core requirements (see above) 40 units.

The concentrations:

Production: Bus. 3620, 3640, 3690, 4600, and 4650.

Personnel: Bus. 3610, Psych. 3710, Bus. 4630, and 4650.

Marketing

Core requirements (see above) 40 units.

The concentration:

(1) Choice of two from Bus. 3410, 3420, 3430, and 4440;

(2) Bus. 4400; and (3) Bus. 4450 or adviser-approved elective.

ILLUSTRATIVE PROGRAM, BUSINESS ADMINISTRATION

Freshman Year

Stat. 1500—Elements of Probability and Statistics

Other Gen. Ed. courses such as:

Math. 1301 and 1302 or 2100—Basic Analysis, Analytic Geometry and Calculus,
Finite Mathematics

Eng. 1001, 1002—Expository Writing, Exposition and Rhetoric

Hist. 1101, 1102—History of U. S.

Psy. 2000—General Psychology

Biol. 1000—Principles of Biology

Sophomore Year

Bus. 2251, 2252—Principles of Accounting

Bus. 2700—Legal Environment of Business

Econ. 2301, 2302—Principles of Economics

.....—General Education courses

Junior Year

Bus. 3100—Economic Quantitative Analysis

Bus. 3200—Managerial Accounting

Bus. 3400—Macro-Marketing

Bus. 3600—Principles of Management

Bus. 3680—Industrial Relations

Econ. 3000—Economics of the Business Firm

Jr. Sym. 3801—Junior Symposium

.....—One or two concentration courses

.....—General Education courses

Senior Year

Bus. 4300—Business Finance

Bus. 4500—Business and Public Policy

Bus. 4700—Multinational Business

Econ. 4320—Business Fluctuations

Sr. Sym. 4801—Senior Symposium

.....—Two or three concentration courses

.....—Appropriate speech course

.....—General Education and elective courses

BUSINESS EDUCATION MAJOR

Lower Division Requirements

Bus. 2251, 2252—Principles of Accounting
 Econ. 2301, 2302—Principles of Economics
 Bus. 2700—Legal Environment of Business
 Stat. 1500—Elements of Probability and Statistics
 Demonstration of competency required in basic typing and, for the office management emphasis, shorthand. Students without previous course work or competency in these fields are advised to meet this requirement in a junior college.

Upper Division Requirements

Complete the core requirements for Business Administration.
 Complete 12-quarter units in addition to the core in two of four areas: accounting, economics, marketing, office management (at least 8 units must be in one area; either accounting or office management must be one of the areas).
 Complete:
 Bus. 3800—Business Office Practices
 Bus. 3850—Data Processing

Post Baccalaureate Requirements for a Secondary Credential

Bus. 5800—Teaching Business in Secondary Schools
 Bus. 5810—Principles of High School Business and Distributive Education
 A standard credential for secondary teaching with a major in Business Education requires 45 quarter units of credit beyond the baccalaureate degree. The sequence of professional education courses including student teaching should be undertaken only with the approval of an adviser in the Education Division. Transfer students may be required to complete additional content-courses in business and/or economics. A teaching minor in an academic subject normally taught in public schools must be developed in consultation with an adviser in the "minor" area and the Education Division.

BUSINESS EDUCATION MINOR

A teaching minor in Business Education consists of at least 30 quarter units of course work in business. Students should complete Bus. 2251, 2252; 3400; 3800; and additional electives from Upper Division business courses to complete 30 units. Upper Division courses in the minor may be taken during the graduate year. Bus. 5800, Teaching Business in Secondary Schools (3), is required above the 30 units for a minor.

ECONOMICS MAJOR

Lower Division Requirements

Identical with those for the Business Administration major.
 See Business Administration major.

Core Requirements

A minimum of 40 quarter units of Upper Division economics is required for the major, of which the following are core requirements:
 Econ. 3000, 3100, 3310, 3680, 4100, 4120, 4140, 4320.

Other Requirements in Economics

The student may complete his major by including economics and business administration courses selected in consultation with his adviser from the following:
 Econ. 3150, Bus. 3420, 4310, and 4500.

DESCRIPTION OF COURSES

BUSINESS ADMINISTRATION

Accounting

2251, 2252. Principles of Accounting

An introduction to accounting analysis and practice. Courses are sequential. Four units each.

3200. Managerial Accounting

Applied course with emphasis on the use of accounting information in business decisions. Not accepted as a course in the accounting field of concentration. Prerequisite: One year of accounting. Four units.

3211, 3212, 3213. Intermediate Accounting

Accounting theory, practice, and problems. Balance sheets, income and other financial statements, working papers, valuation of assets, reserves, correction of statements, and application of funds. Prerequisite: Bus. 2252; courses are sequential. Four units each.

3220. Federal Income Tax Accounting

Statutes, regulations, administrative rulings, and court decisions relative to the income taxes of individuals. Prerequisite: Bus. 2252. Four units.

4231, 4232. Cost Accounting

Manufacturing accounting theory and problems, records, and financial statements; elements of cost; elements of process, specific job order, and standard cost accounting. Emphasis on managerial use of cost data. Prerequisites: Bus. 2251, 2252. Courses are sequential. Four units each.

4233. Advanced Cost Accounting

Advanced cost accounting problems and theory. Selected topics from among the following: preparation and administration of budgets, design and maintenance of managerial control systems, and the quantitative analysis of specific problems. Prerequisite: Bus. 4232. Four units.

4240. Advanced Financial Accounting

Advanced accounting problems and theory. Selected topics from among the following: ventures, insurance, statements of affairs, receivership, branch accounts, foreign exchange, estate accounting, and parent and subsidiary accounting. Prerequisite: Bus. 3213. Four units.

4250. Auditing

Principles, techniques and procedures in auditing. Prerequisite: Bus. 3213. Four units.

4260. Problems of Financial Reporting

Advanced treatment of the analysis of financial statements. Prerequisite: Bus. 3213. Four units.

Management

3600. Principles of Management

Introduction to business organization and management practices; interrelationships of complex human, technical, and economic factors in administration of business. Four units.

3610. Personnel Management

Principles and methods of organized personnel work; developing optimum utilization of human resources within the organization; recruitment, selection, training, promotion, transfer, motivation and compensation. Four units.

3620. Introduction to Production Operations

An analysis of production operations in manufacturing and service enterprises. Facilities design, location, production scheduling, production standards, materials handling, standardization, quality assurance, and automation. Includes a laboratory. Four units.

3640. Design of Production Systems

Analysis of inventory management, materials procurement and handling systems, physical distribution factors, production control and information systems, and the functions of the production manager. Laboratory in which a complete production system must be designed. Prerequisites: Math. 1301, Stat. 1500, and Bus. 3600 and 3620. Four units.

3680. Industrial Relations

A systematic study of labor-management relations. (Students will not receive credit for both Bus. 3680 and Econ. 3680.) Four units.

3690. Management Science

An analytical treatment of decision making in commercial and industrial enterprises. Includes an introduction to the use of operations research techniques in the decision making function of the manager. Prerequisites: Math. 1301, Stat. 1500, and Bus. 3600, 3620, and 3640. Four units.

4600. Technological Innovation and Research Management

An analysis of the process of innovation and its effects on the enterprise, business, and society. Treats the functions of planning, organizing, staffing, and evaluating an industrial research and development program. Prerequisites: Bus. 3600 and 3620. Four units.

4630. Organization Theory

A study of classical and modern organization theory. Includes a treatment of human behavior in organizations and of successful leadership patterns. Prerequisites: Bus. 3600 and 3680, and a course in general psychology. Four units.

4650. Planning and Control Theory

Application of management theory to complex problems of planning and control. Techniques for the integration of production plans, forecasts, capital expenditures budgets, product planning, etc., into a corporate plan and the design of a control system for such a plan. Prerequisites: Bus. 3100, 3400, 3600, 3680, and 4300 and Econ. 3000. Four units.

Marketing**3400. Macro-Marketing**

Alternative system-level models, channels of distribution, household and industrial consumers, marketing characteristics of categories of goods, government regulations, and appraisal of the performance of the marketing system. Four units.

3410. Advertising

Marketing and economic functions of advertising with emphasis on psychological and statistical aspects; includes media, copy, layout, and research. Prerequisite: Bus. 3400. Four units.

3420. Sales Analysis and Sales Management

Intermediate level course dealing mainly with the analytical problems of selling goods and services and the management of the sales function. Prerequisites: Bus. 3100 and 3400. Four units.

3430. Problems and Policies of Middlemen

Management problems and approaches in wholesale-level and retail-level units. Prerequisites: Bus. 3100 and 3400, and Econ. 3000. Four units.

4400. Micro-Marketing

A marketing management study of the major internal and external variables in the design of a marketing program. Prerequisites: Bus. 3100, 3400, and either 3410, 3420, or 3430 and Econ. 3000. Four units.

4440. Quantitative Methods in Marketing

Application of statistical analysis and selected quantitative models to marketing problems. Prerequisites: Bus. 3100 and 4400 and Econ. 3000. Some calculus and matrix algebra desirable. Four units.

4450. Marketing Seminar

A study of selected topics emphasizing the integration of marketing literature with current business practices through seminar discussions and individual field investigations. Prerequisite: Bus. 4400. Four units.

OTHER BUSINESS ADMINISTRATION COURSES**2700. Legal Environment of Business**

A study of the legal setting in which business operates, with emphasis upon legal reasoning and the processes of the law. Four units.

3100. Economic Quantitative Analysis

Economic applications of selected topics from among the following: index numbers, time series, multiple regression and correlation, introduction to Bayesian statistics, and simple linear programming. Prerequisite: Stat. 1500. Four units. (Students will not receive credit for both Bus. 3100 and Econ. 3100.)

4300. Business Finance

Financial principles and practices relating to alternative forms of business organization. Sources and uses of financial data. Prerequisite: Bus. 3200. Four units.

4310. Investment Management

Angell's theory of investment decision-making, followed by a standard treatment of securities, security markets, and investment management. Four units.

4500. Business and Public Policy

An analysis of theory relating to the manager's efforts to deal with competition and public policy, including antitrust policy. Prerequisites: Econ. 3000 and 4320. Four units.

4520. Government and Business

The competitive economy and the government's regulation and control activities; dynamic relations between business and government. Four units.

4700. Multinational Business

A study of the leading technical, environmental, and management features peculiar to the operation of U. S. firms in foreign countries. Prerequisites: Bus. 3100, 3400, and 3600, and Econ. 3000. Four units.

BUSINESS EDUCATION**3800. Business Office Practices**

Principles and techniques; the improvement of skills; operations and procedures in the modern office. Prerequisites: ability to typewrite. 2 hrs. lect., 4 hrs. lab. Four units.

3820. Office Management

Study of office procedures with major attention to job analysis, equipment, and management problems. Four units.

3850. Data Processing

Computer programming, peripheral equipment operation, symbolic coding systems; influence upon the flow and organization of intra-firm communications. Four units.

5800. Teaching Business in Secondary Schools

Methods and materials for teaching bookkeeping, general business, typewriting, shorthand and other business subjects in the secondary schools with a study of the content, methodology and evaluation applicable to each. Open to seniors or graduate students with major or minor in business teacher education. Three units.

5810. Principles of High School Business and Distributive Education

Introductory course for those planning to teach business at the junior or senior high school level. The historical development, present status, course content and future problems from viewpoint of the prospective teacher. Four units.

Economics

ECONOMICS

2301, 2302. Principles of Economics

Introduction to economic analysis and operation of the American economy. Four units each.

3000. Economics of the Business Firm

The operation of the price system in a free enterprise economy; prices and decision-making. Four units.

3100. Economic Quantitative Analysis

Economic applications of selected topics from among the following: index numbers, time series, multiple regression and correlation, introduction to Bayesian statistics, and simple linear programming. Prerequisite: Stat. 1500. Four units. (Students will not receive credit for both Econ. 3100 and Bus. 3100.)

3150. Economic History of the United States

A survey of trends in the economic development of principal components of the American economy; emphasis on factors affecting economic growth, problems, and policies. Four units.

3303. Controversial Economic Issues

Includes Soviet and American Systems for organizing economic resources, monopoly and competition, economic growth rate and inflation, public versus private sector problems, farm policy, and a major international economic issue. Not open to students majoring in the Division. No prerequisites. Four units.

3310. Money and Banking

Essentials of commercial and central banking and monetary policy. Four units.

3680. Labor Economics

Study of labor markets and wages; development of unions and collective bargaining; labor legislation. Four units. (Students will not receive credit for both Econ. 3680 and Bus. 3680.)

4100. International Economics

The basis of trade, foreign exchange, and foreign investment and world economic growth. Four units.

4110. Economic Development

The economics of underdeveloped countries. Prerequisite: Econ. 4100. Four units.

4120. Current Economic Policies

A study of national issues related to economic stabilization and growth. Prerequisite: Econ. 3000. Four units.

4130. Inter-American Economic Relations

Major economic problems, issues and policies in relations between the United States and Latin America. Four units.

4140. Development of Economic Thought

The history of economic analysis. Prerequisite: Econ. 3000. Four units.

4312. Federal Reserve Policies and Money Markets

Advanced study of monetary policy, debt management and the money system. Prerequisite: Econ. 3310. Four units.

4320. Business Fluctuations

Nature and significance of business fluctuations. Four units.

4510. Comparative Economic Systems

A comparative study of different systems which man has proposed or used to deal with the economic organization of society. Four units.

DIVISION OF CREATIVE ARTS

Art, Music, Speech and Drama

Professors Ernst (head and chairman, Department of Music), Kjelson, Martin (chairman Department of Speech-Drama), Randall, Robinson, Rosenbaum; Associate Professors Black, Cambus, Cory, Muir, Pugliese, Slatoff, Whelan; Assistant Professors Barrett, Costy, Davis, Dempster, Denke, Fox, Glasow, Goeser, Graves, Gray, J. Hall, Hills, LePell, Lewis, Lincoln, Minser, Saxton, Shoptaugh, Stern, West.

CURRICULA OFFERED

Graduate Degree

Music (M.A.)

Baccalaureate Degree Majors

Art (B.A.)

Music (B.A.)

Speech-Drama (B.A.)

Language Arts (interdivisional major: See Humanities Division for details.)

Minors

Art

Music

Speech-Drama

PURPOSES

This division currently offers instruction in art, music, and speech-drama in order to provide (1) baccalaureate majors for persons with general vocational and avocational interests in the arts, (2) training for the teaching credentials in art, music, and speech arts, (3) methods and basic skill courses which meet the requirements of the various general teaching credentials, (4) courses designed to broaden the general education pattern through increased knowledge and understanding of the arts, and (5) graduate work in music leading to the M.A. degree.

DESCRIPTION OF COURSES

CREATIVE ARTS

4800. The Arts in Contemporary Society

A survey of the arts as they function in contemporary life with special emphasis on the fine arts and music. May be elected to fulfill creative arts requirement in general education. See General Education. Four units.

***1010. Introduction to the History of Art**

A survey of the important media in the history of art; lectures in elementary aesthetics, with particular attention to the evaluation of style from classical art to present time. Approved elective for Humanities Division. 4 units.

* See General Education Requirements.

1110. Introduction to Art

This course is designed to help the student experience and understand the inter-relationship of materials, processes and means of expression in the visual and applied arts. Required prerequisite for most art courses. 1 hr. lect., 4 hrs. act. Three units.

1120. Design: Two-Dimensional

Application of two-dimensional design to theoretical problems. Prerequisite: Art 1110 or approval of staff. 1 hr. lect., 4 hrs. act. Three units.

1130. Design: Three-Dimensional

Emphasis on the use of three-dimensional media in theoretical design. Prerequisite: Approval of staff, 1 hr. lect., 4 hrs. act. Three units.

2141, 2142. Drawing

A systematic study of various aims and methods of drawing through both analysis and practice. Includes studies on renaissance concepts of space and its development to the present. Prerequisite approval of staff, 1 hr. lect., 4 hrs. act.

**** 3040. Art in the Ancient World**

The history of western art from prehistoric cultures through ancient and contemporary primitive arts. Preclassical civilizations and their contributions to the arts of Greece and Rome. Evolution of classical forms to the end of the Roman Empire. Three units.

**** 3050. Medieval Art**

The nature of European art from early Christian times to the fifteenth century.

**** 3060. Renaissance and Baroque Art**

The nature of the art of the Renaissance and the evolution of the Baroque.

**** 3070. Development of Modern Art**

A survey of the evolution of contemporary art; philosophies of the "isms"; development of American art. Three units.

3161. Life Drawing and Anatomy

A development of graphic representation through study of human form. Problems dealing with anatomy and form and emphasizing the skeletal structure. Prerequisite: Sophomore standing. 2 hrs. lect., - hrs lab. Three units.

3162. Life Modeling and Anatomy

A development of graphic representation through study of the human form. Problems dealing with anatomy and emphasizing the muscular structure. Prerequisite: Art 3161 or consent of instructor. 2 hrs. lect., 4 hrs. lab. Three units.

3211, 3212, 3213. Painting

Emphasis on individual expression and critical analysis of the student's own work. Including studies in optional media. May be repeated for credit. Approval of staff. Prerequisite Art 1120. 1 hr. lect., 6 hrs. lab. Three units

3320. Arts and Crafts for Children

Introduction to art materials, tools and equipment necessary in providing art experiences for children. Prerequisite: Art 1110 or approval of staff. 1 hr. lect., 4 hrs. act. Three units.

3511, 3512, 3513. Ceramics

Introduction to the various ceramic art processes. Approval of staff. 1 hr. lect., 6 hrs. lab. Three units.

3521, 3522. General Crafts

Experience in the processes of the crafts, utilizing wood, plastic, metal, leather, and fabric. 1 hr. lect., 6 hrs. lab. Three units.

** Fulfills General Education Requirements Humanities Div. only.

4231, 4232. Painting, Water Media

Transparent and opaque watercolor techniques; creative interpretation of structure and form in relation to line and value. Prerequisite: Consent of instructor. 1 hr. lect., 4 hrs. act. Three units.

4521, 4522. Jewelry

Design and execution of simple jewelry, flatware, and hollow-ware, involving the use of silver, gold, copper, and brass. Approval of staff. 1 hr. lect., 6 hrs. lab. Three units.

4531, 4532, 4533. Sculpture

Basic techniques and processes involving clay, wood, stone, plaster, and metal. Approval of staff. 1 hr. lect., 6 hrs. lab. Three units.

4611, 4612. Printmaking

Introduction to the field of printmaking, lithography, etching, engraving, woodcut, and other graphic media. Prerequisite: Approval of staff. 1 hr. lect., 4 hrs. act. Three units.

4630. Calligraphy

A study of basic lettering forms with emphasis on styles and alphabet, their proportion and spacing. The adaptation of lettering to layout and poster design. Approval of staff. 1 hr. lect., 2 hrs. act. Three units.

4651, 4652. Advertising Design

The elements of visual expression and design related to the technical, psychological and social aspects of visual communication. Prerequisite: Art 4630 or approval of staff. 1 hr. lect., 4 hrs. act. Three units.

4681, 4682. Advanced Studio Practices

Preparation and organization of student's art work to meet exhibition and commercial requirements. Approval of staff. Two-four units.

5350. Art Methods

Fundamentals of teaching art in the elementary and secondary schools. Study of approved practices of art education at these levels. Audio-visual techniques. Required of all art education students. Prerequisite: Consent of instructor. 2 hrs. lect., 2 hrs. act. Three units.

5900. Individual Study

Two-five units.

5901. Directed Group Study

One-five units.

Suggested Distribution of Courses for a Well-Rounded Program

Degree and Credential Offerings	Pro-	Cre-	Cre-
	fessional Major	dential Major	dential Minor
** Art 1010 Intro. to Art History (4).....	4	4	4
* Art 1110 Introduction to Art (3)	3	3	3
* Art 1120 Design—Two Dimensional	3	3	3
* Art 1130 Design—Three Dimensional	3	3	3
* Art 2141, 42 Drawing (3)	3	3	3
** Art 3040 Art in the Ancient World (3).....			
** Art 3050 Medieval (3)			
** Art 3060 Renaissance and Baroque (3).....			
** Art 3070 Development of Modern Art (3).....	3	3	
Art 3161 Life Drawing and Anatomy	3		3
Art 3162 Life Modeling and Anatomy			
Art 3211, 12, 13 Painting (3)	3	3	3
Art 3320 Arts and Crafts for Children (3).....			
Art 3511, 12, 13 Ceramics (3)	3	3	
Art 3521, 22 General Crafts (3)	3	3	3
Art 4231, 32 Painting: Water Media (3)	3		
Art 4121, 22 Jewelry (3)	3		
Art 4531, 32, 33 Sculpture (3)	3	3	3
Art 4611, 12 Printmaking (3)	3	3	
Art 4630 Calligraphy (3)	3	3	
Art 4651, 4652 Advertising Design (3)	3		
Art 4681, 82 Advanced Studio Practices (2-4).....			
Art 4800 Art in Contemporary Soc. (4)		3	3
Art 5350 Art Methods (3)			
Art 5900 Individual Study (2-5)			
Art 5901 Directed Group Study (1-5)			
Music	3	3	
Speech-Drama	3	3	3
Electives	5	11	
TOTAL	60	60	31

See adviser for additional art courses.

Professional major is a preparatory for advanced professional work and graduate study.

Teaching Credential Major—See Division of Education.* above

Teaching Credential Minor—See Division of Education.* above

Elementary Credential—See Division of Education.

** Will meet General Education requirements for Humanities Division only.

* Required prerequisite or equivalent for art majors and minors.

Recommended Sequence of Art Courses for
Four-year Baccalaureate Program

	Units		
	F	W	S
First Year			
Introduction to Art. Art 1110	3		
Design—Two Dimensional. Art 1120		3	
Design—Three Dimensional. Art 1130			3
Introduction to Art History. Art 1010			3
Second Year			
Drawing. Art 2141	3		
Ceramics. Art 3511	3		
General Crafts. Art 3521		3	
Painting. Art 3211		3	
Drawing. Art 2142			3
Painting. Art 3212			3
Sculpture. Art 4531			
Third Year			
Development of Modern Art. Art 3070	3		
Life Drawing and Anatomy. Art 3161	3		
Arts and Crafts for Children. Art 3320	3		
Art in the Ancient World. Art 3040		3	
Calligraphy. Art 4630		3	
Sculpture. Art 4532	3		
Life Modeling and Anatomy. Art 3162			3
Medieval Art. Art 3050			3
Ceramics. Art 3512			3
Fourth Year			
Renaissance and Baroque Art. Art 3060	3		
Jewelry. Art 4521	3		
Printmaking. Art 4611	3		
Advertising Design. Art 4652		3	
Art Methods. Art 5350		3	
Painting—Water Media. Art 4231			3
Advanced Studio Practices. Art 4681			2-4

ART MINOR

Requirements

See art adviser for approval.

A minimum of 31 units in courses selected in general areas of art. Recommended are one course each, or equivalent, on approval of art staff, in design, art history, appreciation, drawing, painting, crafts or jewelry, ceramics or sculpture, and art electives to complete requirements.

ART MAJOR

Requirements are as follows:

- I. Complete the 76-unit requirement in general education. Study of one or more modern foreign languages is highly recommended.
- II. Complete the following requirements in the major:

Lower Division

Total of 18 units (at least 3 units in 3 of the 4 areas): (a) Survey of Art or History of Art, (Art 1010, 3040, 3050, 3060, 3070) (b) Design, (Art 1110, 1120, 1130) (c) Drawing, (Art 2140) (d) Painting	Units
	18

Upper Division

Minimum of 3 units in 5 of the following areas must be included to complete major (portfolio of work completed in other institutions may be submitted for possible upper-division placement by transfer students; a portfolio and Senior exhibit will be required of graduating students): (a) Painting, (b) Graphics, (c) Sculpture, (d) Crafts, (e) Advertising Arts, (f) Art Education	15
Art electives with adviser's approval. Those planning on a teaching career will need approval of Education Department adviser	21
<i>Elect 3 units in each of Speech-Drama and Music</i>	6
Total	60

- III. For credential purposes the major and minor in art or academic and single subject areas, the teaching candidates must complete (a) the requirements for admission to teacher education (see Division of Education section); (b) the upper-division professional courses in teacher education, including Art 5350 (see Division of Education section); (c) the requirements for a teaching minor (see minor adviser); (d) approval of education adviser and advisers for major and minor study.

MUSIC MAJOR

Requirements are as follows:

- I. Complete the 76-unit requirement in general education. It is recommended that all music majors meet the creative arts requirement in the general education program by electing courses in art and/or speech-drama. Study of a foreign language is recommended for non-credential candidates.
- II. Complete the following requirements in the major:

Lower Division

THEORY, HISTORY, AND LITERATURE	Units
Mus. 1001, 1002, 1003—Music Fundamentals	9
Mus. 2021, 2022, 2023—Literature and Materials I, II, III	9
Mus. 2002—Survey of Music Literature	3
PERFORMANCE	
Mus. 3210 through 3260—Applied Music (Major performance media)	6
Mus. 3500—Music Performance Activities	6
¹ Mus. 2211, 2212, 2213—Intermediate Class Piano	3
	36

¹ May be met by examination.

Upper Division

THEORY, HISTORY, AND LITERATURE

Mus. 3021, 3022, 3023—Literature and Materials IV, V, VI	9
Mus. 3050—Instrumental and Vocal Scoring	3
Mus. 4021, 4022—Compositional Techniques and Laboratory	6

PERFORMANCE

Mus. 3210 through 3260—Applied Music (Major performance media)	6
Mus. 3500—Music Performance Activities	6
² Electives	9
	39

Special Requirements of the Department of Music

- I. Each music major must declare, with the approval of his adviser, a principal performance medium (piano, organ, voice, or orchestral or band instrument) and carry on continuous study of this instrument until reaching a recital standard of excellence. In lieu of this requirement, and with the approval of the department chairman, a student may choose to achieve a high level of performance skill in two or more of these media as measured by his ability to perform acceptably upon each in major activity or small ensemble groups.
- II. Piano majors must perform satisfactorily as accompanists as well as soloists.
- III. Music majors are expected to appear each year in regularly scheduled student recitals as determined by the Department. Seniors must appear in a satisfactory joint-recital prior to approval for graduation. All majors are expected to attend student recitals.
- IV. Proficiency tests in piano, voice, sight singing, ear training, theory, and major instrument will be given to all music majors who transfer to California State College at Hayward. Such tests will be given to Cal-State, Hayward students before they may qualify for upper-division courses. If these examinations reveal deficiencies, additional work will be required before upper-division status will be confirmed. Credential students must show proficiency in piano, voice, and basic instruments before they begin directed teaching.
- V. Group performance activities are considered to be an integral part of a student's musical growth. Each music major is required to be in one major activity each quarter. In addition it is expected that he will also participate in selected minor activities and that he will plan his activity program to include some experiences outside his major performance field (instrumental majors in vocal groups, and vocal majors in instrumental groups). No more than 12 units in any one activity will count toward graduation.
- VI. Upper-division transfer students who have completed most of their music major in other institutions and graduate students are expected to take certain minimal courses at Cal-State in each of the principal areas of theory, history and literature, and performance.
- VII. Music majors are expected to plan their activities to include frequent attendance at professional concerts given in the Bay Area.

² Electives are for non-credential students only. Secondary credential students must follow program outlined in following section.

Teaching Credential Music Major

The Teaching Credential program requires a year of post-graduate study. Candidates must (a) complete the requirements for admission to teacher education (see Division of Education section); (b) complete the requirements for a teaching minor; and (c) complete, in addition to the requirements for the baccalaureate degree major, the following program:

Lower Division	Units
¹ Mus. 2231, 2232, 2241, 2242—Basic Orchestral Instruments (strings and woodwinds recommended)	6
Mus. 2221, 2222, 2223—Basic Voice	3
	9

Upper Division

¹ Mus. 2251, 2252, 2261—Basic Orchestral Instruments (brass and percussion)	
The selection of specific courses will depend upon the work on basic instruments taken in the lower division	3
Mus. 3391, 3392—Conducting	6
Mus. 3580—Music Performance Laboratory (3 quarters minimum)	1
	10

Post Graduate Year

Music content course electives recommended are:	9
Mus. 5005—Counterpoint	
Mus. 5110—Music Literature for Children	
Mus. 5011—Analysis of Musical Styles I	
Mus. 6021—Advanced Composition	
Mus. 5161—History of the Symphony	
Mus. 5171—History of Chamber Music	
Mus. 5121—Vocal Literature	
Mus. 5391—Advanced Conducting (Choral)	

In addition to the 9 units of content courses, graduate music credential majors must take either Mus. 5330—Music in the Elementary School or Mus. 5335—Music in the Secondary School. (See Education Division pages.)

For complete details of the Teaching Credential fifth year program see Division of Education section.

Recommended Sequence of Music Courses for Four-year Baccalaureate Program

First Year	Units		
	F	W	S
Music Fundamentals, Mus. 1001	3		
Survey of Music Literature, Mus. 2112	3		
* Basic Orchestral Instruments—String. Mus. 2231	1		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
Intermediate Class Piano, Mus. 2211	1		
Music Fundamentals, Mus. 1002		3	

¹ Students who have had broad secondary school performance background will be able to meet basic performance requirements without taking all of the basic courses. Majors on a particular instrument will not need additional basic course work on that instrument.

* Required only of credential candidates.

	Units		
	F	W	S
* Basic Orchestral Instruments—String. Mus. 2232		1	
Applied Music—Major Performance area. Mus. 3210 to 3260		1	
Performance Activities. Mus. 3500		1	
Intermediate Class Piano, Mus. 2212		1	
Music Fundamentals, Mus. 1003			3
* Basic Orchestral Instruments—String, Mus. 2231			1
Applied Music—Major Performance Area. Mus. 3210 to 3260			1
Performance Activities. Mus. 3500			1
Intermediate Class Piano, Mus. 2213			1

Second Year

Literature and Materials I, Mus. 2021	3		
* Basic Orchestral Instruments—Woodwinds. Mus. 2241	1		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
* Basic Voice. Mus. 2221	1		
Literature and Materials II. Mus. 2022		3	
* Basic Orchestral Instruments—Woodwinds. Mus. 2242	1		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
* Basic Voice. Mus. 2222	1		
Literature and Materials. Mus. 2023			3
* Basic Orchestral Instruments—Woodwinds. Mus. 2241			1
Applied Music—Major Performance Area. Mus. 3210 to 3260			1
Performance Activities. Mus. 3500			1
* Basic Voice. Mus. 2223			1

Third Year

Literature and Materials IV, Mus. 3021	3		
* Basic Orchestral Instruments—Brass. Mus. 2251	1		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
Literature and Materials V, Mus. 3022		3	
* Basic Orchestral Instruments—Brass. Mus. 2252	1		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
Literature and Materials VI, Mus. 3023			3
Instrumental and Vocal Scoring, Mus. 3050			3
* Basic Orchestral Instruments—Percussion. Mus. 2261			1
Applied Music—Major Performance Area. Mus. 3210 to 3260			1
Performance Activities. Mus. 3500			1

Fourth Year

Compositional Techniques and Laboratory, Mus. 4021	3		
* Conducting—Mus. 3391	3		
Applied Music—Major Performance Area. Mus. 3210 to 3260	1		
Performance Activities. Mus. 3500	1		
* Music Performance Laboratory. Mus. 3580	0		
† Music Electives	3		
Compositional Techniques and Laboratory, Mus. 4022		3	

* Required only of credential candidates.

† Required only of liberal arts majors.

	Units		
	F	W	S
* Conducting. Mus. 3392		3	
Applied Music—Major Performance Area. Mus. 3210 to 3260.....		1	
Performance Activities. Mus. 3500		1	
* Music Performance Laboratory. Mus. 3580		0	
† Music Electives		3	
Applied Music—Major Performance Area. Mus. 3210 to 3260.....			1
Performance Activities. Mus. 3500			1
* Music Performance Laboratory. Mus. 3580			1
† Music Electives			3

Standard Teaching Credential Music Minor

Candidates for either the Elementary or Secondary Teaching Credential may select music as a teaching minor after obtaining the approval of a music department adviser. The following program of courses is recommended:

	Units
Music Literature or History	3-4
Selected from Mus. 2111, 2112, 5110, 5131, 5161, 5171, or C.A. 4800	
Music Theory	6
Any combination of music theory courses for which the student is eligible	
Conducting (Mus. 3391)	3
¹ Piano, voice, add basic orchestral instruments	9
² Music activities	
³ Music electives	9
⁴ Major instrument (or voice)	
	30-31

Post Graduate Requirements

All teaching candidates should note the special references to the teaching minor in the Division of Education section.

Elementary credential music minors must take the following methods course:
Mus. 5330—Music in the Elementary School 3 units

Secondary credential music minors must take the following methods course:
Mus. 5335—Music in the Secondary School 3 units

Secondary Credential candidates must also take a minimum of nine quarter units in either the major or minor (or any combination of the major and minor) of appropriate graduate level courses during the post-baccalaureate year. It is recommended that music minors take one course such as

- Mus. 5161—History of the Symphony
- Mus. 5171—History of Chamber Music
- Mus. 5131—History of Keyboard Music

as partial fulfillment of this requirement.

* Required only of credential candidates.

† Required only of liberal arts majors.

¹ Distribution of these 9 units will be determined by adviser after consideration of student's major instrument and his teaching objective.

² All music minors are expected to enroll in one music activity each quarter.

³ With approval of adviser.

⁴ Music minors must show proficiency on some one major instrument (or voice) as determined by a faculty jury.

THE MASTER OF ARTS DEGREE IN MUSIC

Objectives of this Curriculum

To provide an opportunity for advanced study:

- (1) To school and college music teachers who wish to increase their professional effectiveness.
- (2) To those students who plan to continue their graduate study in institutions which grant doctorate degrees.

Admission to Program

- (1) Meeting general college requirements for graduate standing, including a graduate aptitude test.
- (2) Bachelor's degree or equivalent with a major in music.

Advancement to Candidacy

- (1) Satisfactory performance in following areas as determined by graduate level music proficiency tests.
 - (a) Jury audition on major instrument or voice with recital standard of excellence (for performance concentration)

or

 Performance skill on at least two instruments (voice included) at a level satisfactory for participation in major ensemble groups. (for music education, history-literature, or theory concentration)
 - (b) Basic piano proficiency which provides functional use of the keyboard for accompanying, sight reading, and application to needs in areas of music theory and literature.
 - (c) Sight singing and ear training.
- (2) Satisfactory understanding in fields of music literature and theory.
- (3) Complete at least 15 quarter units of residence work in music beyond the baccalaureate degree, with a minimum 3.0 grade point average.

Requirements for the Degree

- (1) Minimum of 45 quarter units of upper division and graduate courses. Upper division courses must be post-baccalaureate. Eighteen units must be at the 6000 level.
- (2) 3.0 G.P.A. in major field in all courses included for degree credit.
- (3) Minimum of 15 quarter units in one of the following areas of concentration: performance, theory, history-literature, music education.
- (4) Completion of a thesis in one of the following forms.
 - (a) Standard research type.
 - (b) Master's recital accompanied by an analysis of historical study of the music performed.
 - (c) Original composition in one of the large forms along with an analysis of the work.
- (5) Both written and oral examinations will be given when course work has been completed.
- (6) Course area requirements

Music theory	6 units
Music history/literature	6 units
Music education (including conducting and interpretation)	6 units

Concentration (theory, history/literature, performance, music education)	9 units
Electives (from departments other than music and following an organized pattern as approved by advisor)	9 units
Introduction to graduate studies	3 units
Thesis	6 units
Ensemble participation	NC
	45

DESCRIPTION OF COURSES

MUSIC

Music Theory

1001, 1002, 1003. Music Fundamentals

A study of modes and scales, the significance of chromaticism, rhythm, and intervals; melodic writing; and sight singing, ear training, melodic and rhythmic dictation, keyboard work. 1 hr. lect., 4 hrs. act. Three units each quarter.

1008. Basic Musicianship

Basic music skills for non-music majors, including singing, conducting, music reading, functional keyboard, playing simple melody and rhythm instruments, and experience with literature through recordings. Required of non-music majors or minors who follow the elementary credential program. 1 hr. lect., 4 hrs. act. Three units.

2021, 2022, 2023,**3021, 3022, 3023. Literature and Materials I, II, III, IV, V, VI**

A course integrating the music history of a given period with the analysis of styles and techniques developed. Exercises in writing the music studied as well as listening, sight-singing, ear-training, dictation, and keyboard performance.

I Greeks to 1400	IV 1750 to 1820
II 1400 to 1600	V 1820 to 1910
III 1600 to 1750	VI 1910 to -----

Prerequisite: Mus. 1003 or equivalent. 1 hr. lect., 4 hrs. act. Three units each quarter.

3001, 3002, 3003. Analysis and Composition

Analysis of musical structure in representative compositions from the short song form through large cyclic works and contrapuntal forms; creative development of musical ideas into suitable homophonic and contrapuntal compositions. Prerequisite: Music 2003 and 2013 or equivalent. Three units each. 3 quarters.

3050. Instrumental and Vocal Scoring

Practice in scoring for small and large vocal ensembles; for strings, woodwinds, brasses, and percussion in individual choirs; chamber ensembles; orchestra and band. Prerequisite: Mus. 2023 or equivalent. 1 hr. lect., 4 hrs. act. Three units.

4021, 4022. Compositional Techniques and Laboratory

Analysis of musical structure in representative compositions from the short song form through large cyclic works and contrapuntal forms; creative development of musical ideas into suitable homophonic and contrapuntal compositions. Prerequisite: Music 3023 or equivalent. 1 hr. lect., 4 hrs. act. Three units each quarter.

5005. Counterpoint

A study of polyphonic techniques, including melodic construction, imitation, canon, fugal procedure and non-imitative counterpoint; creative development of musical ideas in polyphony. Prerequisite: Mus. 4022 or equivalent. Three units.

5011, 5012. Analysis of Musical Styles (I) (II)

Analysis of compositional styles from chant to present day music. Compositional principals are derived from the music with results then generalized according to composer and period. I is not prerequisite to II. Three units each quarter.

I—Chant through 1750 (offered 1965–66)

II—1750 to present (offered 1966–67)

5061. Improvisation

The creative development of original and prescribed musical ideas; experimentation with notational schemes; work at the keyboard and with percussion instruments in the development of improvisational techniques for classroom needs. 3 units. (offered 1967–68)

6021. Advanced Composition

Analysis and application of contemporary techniques such as atonality, poly-harmony, linear counterpoint, multirhythms, and related techniques. Prerequisite: Music 4022 or equivalent. Three units. (offered 1965–66)

6051. Advanced Instrumentation

An advanced course in orchestral and band arranging; emphasis will be placed upon scoring original works. Prerequisite: Music 3050 or equivalent. Three units. (offered 1966–67)

Music History and Literature

2111, 2112. Survey of Music Literature

A basic course in music understanding designed for the person without formal music training. 2111 will emphasize music as a communicative art, stressing music media, periods, and styles. 2112 will emphasize design and forms. Fulfills General Education Creative Arts requirement. Mus. 2112 required of music majors. No prerequisites, but it is recommended for non-music majors and minors that 2111 precede 2112. Three units each.

2021, 2022, 2023,**3021, 3022, 3023. Literature and Materials I, II, III, IV, V, VI**

(For description, see theory listing)

3141, 3142, 3143. Music History and Literature

A chronological history of music in western civilization from its origins to contemporary times. Partially fulfills General Education Humanities requirement. Prerequisite: non-music majors and minors must have a previous course in music appreciation or consent of instructor. Three units each.

4800. The Arts in Contemporary Society

Four units. (See description under Creative Arts listing)

5110. Music Literature for Children

A survey and analysis of music literature especially suited for use with children with emphasis upon song materials and recorded instrumental music. Prerequisite: Music 1008 or equivalent. Three units.

5121. Vocal Literature

A comprehensive survey of the art song, including early Italian arias, French chansons, German Lieder, English and American art songs. Course functions as performance laboratory for vocalists and pianists interested in accompanying/coaching. Analysis of style, performance practices, interpretation, an integral part of course. Three units. (offered 1965–66)

5131. History of Keyboard Music

A study of keyboard works from the late Renaissance to the present day. Prerequisite: a course in music listening or history, or consent of instructor. Four units. (offered 1967–68)

5161. History of the Symphony

A study of the development of the symphony orchestra and its literature through selected works from the 18th, 19th and 20th centuries. Intensive analysis by means of scores and recordings. Prerequisite: a course in music listening or history, or consent of instructor. Four units.

5171. History of Chamber Music

A study of the development of chamber music from its beginning. The basic core of material will emphasize the literature of 18th, 19th and 20th centuries. Partially fulfills general education humanities requirement. Prerequisite: a course in music listening, or history, or consent of instructor. Four units. (offered 1965-66)

5191. History of Opera Through Mozart

A study of the antecedents of opera in the 16th century; detailed analysis of the librettos and music of representative works by Monteverdi, Pergolesi, Purcell, Handel, Scarlatti, Gluck, and Mozart. Prerequisite: a course in music listening or history, or consent of instructor. Three units. (offered 1966-67)

6181. Contemporary Music

A critical survey of musical development since 1930 with analysis of representative scores. Special attention will be given the new means of organization, notation and sound production. Three units. (to be offered 1966-67)

6185. Music of the Orient

A study of the tuning systems, instruments and performance practices in Oriental music, with emphasis on the classical traditions in Indian, Chinese and Japanese music. Three units. (offered 1968-69)

6195. Operas of Wagner

Critical study of the aesthetic ideals of Wagner together with detailed analyses of several of his complete operas. Prerequisite: undergraduate theory and history or consent of instructor. Three units. (offered 1967-68)

Applied Music**1211, 1212, 1213. Elementary Class Piano**

Basic keyboard techniques with special application to song materials and simple accompaniments used in the elementary school. Recommended for classroom teachers. Must be taken in sequence. 2 hrs. act. One unit each.

2211, 2212, 2213. Intermediate Class Piano

Continuation of 1211, 1212, 1213. Needed by music majors and minors for fulfilling basic piano requirements. Prerequisite: Music 1213 or equivalent. 2 hrs. act. One unit each.

2221, 2222, 2223. Basic Voice

Class instruction in fundamentals of singing. Required of music majors and minors. Open also to other qualified students. May be repeated for credit. Music 2221 prerequisite for others in series. 2 hrs. act. One unit each.

2231, 2232. Basic Orchestral Instruments (string)**2241, 2242. Basic Orchestral Instruments (woodwind)****2251, 2252. Basic Orchestral Instruments (brass)****2261. Basic Orchestral Instruments (percussion)**

Instruction in the fundamentals of playing orchestral instruments with attention to methods and materials used in teaching instrument classes in the elementary and secondary schools. 2 hrs. act. One unit each. May be repeated for credit.

3210. Applied Music (piano)**3211. Applied Music (organ)****3220. Applied Music (voice)****3230. Applied Music (string)****3240. Applied Music (woodwind)****3250. Applied Music (brass)****3260. Applied Music (percussion)**

Individual advanced instruction for music majors and minors in voice, piano, organ, and on all orchestral and band instruments. May be repeated for credit. One unit.

Music Performance Activities**3500. Music Performance Activities**

The performance of music literature is a most important aspect of the training process for the music student. Both music majors and minors are required to participate each quarter in a minimum of at least one music activity. Qualified students who are not music majors or minors are also invited to enroll. Music activity courses may be used to satisfy the general education requirement in creative arts and they provide suitable small unit electives for students with heavy academic programs. They may be repeated for credit. Music 3500 is open to students in lower, upper, and graduate divisions. The following sections are available.

1. Chorus
2. Orchestra
3. Band
4. College Singers
5. Opera Workshop
6. Instrumental Ensemble

5500. Music Performance Activities

(See Music 3500 for complete description—graduate students register for Music 5500.)

Music Education**3391, 3392. Conducting**

Techniques of conducting, score reading, interpretation, and rehearsing, gained through observation and laboratory experience. Music 3391; choral emphasis; Music 3392; instrumental emphasis. Prerequisite: upper division standing. Music 3391 must precede Music 3392. One hr. lect., 4 hrs. act. Three units each.

3580. Music Performance Laboratory

Performance through minor instruments and voice of music suitable for use in school. Opportunity for student conducting. Minimum of 3 quarters required of music majors following completion of conducting and basic instrument courses. One unit credit following completion of 3 quarters work.

5300. Curriculum Seminar in Music Education

Evaluating traditional music curriculum practices from elementary grades through junior college; survey of recent trends; and ways of effecting curriculum change. Prerequisite: graduate standing in music or consent of instructor. Three units.

5320. Seminar in Choral Literature

Designed for the advanced student of choral literature. Particular emphasis given to the study of the best of representative choral works of various periods and styles, utilizing the student in the role of both conductor and performer. Prerequisite: Graduate standing in music or consent of instructor. Three units.

5330. Music in the Elementary School

Aims, methods, and organization of materials for elementary classroom music with application to the adopted state music texts. Prerequisites: Music 1008 and competency as determined by Music Department. 2 hrs. lect., 2 hrs. act. Three units.

5335. Music in the Secondary School

Place and function of music in grades 7 through 12 with emphasis on general music, choral and instrumental classes; aims, methods, materials, and A-V techniques. 2 hrs. lect., 2 hrs. act. Prerequisite: Consent of instructor. Three units.

5360. General Music Methods and Materials

Exploring methods and planning activities and projects for the general music curriculum in the junior and senior high schools. Three units.

5391, 5392. Advanced Conducting (Choral I and Instrumental II)

Advanced study of selected representative music literature. Includes analysis, interpretation, score reading, and actual experience in conducting in an advanced rehearsal situation. Prerequisite: Music 3391, 3392 or equivalents. Three units each quarter. (Choral offered 1965-66; Instrumental offered 1966-67)

6361. Voice Pedagogy

Designed for voice teachers and choral directors. Presentation of methods of instruction, techniques of voice building, vocal hygiene, and materials for vocal instruction in private and class lessons and in vocal ensembles. Three units. (offered 1967-68)

6362. Theory Pedagogy

Techniques in the teaching of the various elements of music: sight singing, rhythmic and melodic perception, and harmony. A review of the principal materials available. Prerequisite: Theory major or consent of instructor. Three units. (offered 1968-69)

6381. Administration of the Music Program

Principles and practices of administration and supervision of music in the schools. Emphasis upon improving instruction, personnel practices, budget and finance, equipment and housing, scheduling, and public relations. Prerequisite: teaching experience in elementary or secondary schools. Three units. (offered 1965-66)

6900. Introduction to Graduate Studies

Problems of music research involving bibliographical survey and method in the four main areas of music history and literature, music theory and composition, music education, and performance; writing style and organization and writing of the research study. Three units.

6910. Thesis

Thesis or equivalent work in performance or original composition. Six units.

Miscellaneous Courses**5900. Independent Study**

One-four units.

5901. Directed Group Studies

One-five units.

SPEECH-DRAMA MAJOR

The baccalaureate major in Speech and Drama is offered to the student interested in pursuing one or more of the following goals: (1) the achievement of a liberal education with special emphasis on understanding of and creative activity in speech and drama; (2) experience, knowledge and training in areas important to careers in business and industry; (3) training for teacher credentials in speech and drama; (4) pre-professional training for those interested in careers in the theater and its allied arts, in law or the ministry; (5) preparation for graduate study in speech or drama. The student majors in Speech and Drama, with emphasis in either aspect of the field, but all students take courses in both.

Requirements are as follows:

- I. Complete the 76-unit requirement in general education. Speech/Drama majors should elect courses in music, art, foreign languages, and English.

- II. Complete the following requirements in the major:

Lower Division

Oral and Written Expression I and II, Fundamentals of Speech, Introduction to Theater, Interpretive Reading, Argumentation and Debate.

Upper Division

Minimum of thirty and maximum of fifty units in upper-division Speech and Drama courses, to be approved by departmental adviser. Various combinations of courses in the upper division may be taken so long as prerequisites are observed, though the student is advised to choose either a General Speech or a Theater emphasis.

- III. Teaching candidates must (a) take at least 36 units of upper-division work in EITHER General Speech (called "Rhetoric and Public Address" by the state credentials office) OR in Drama; (b) complete the requirements for admission to teacher education (see Division of Education section); (c) take Speech/Drama 4355, Teaching of Speech and Dramatics; (d) complete the requirements for a teaching minor, preferably English or Social Science; (e) if transfer candidates, take at least one course (more by advisement) in either Speech or Drama at Cal-State, Hayward.

Recommended Programs for the Speech-Drama Major**THEATER EMPHASIS—APPROVED FOR CREDENTIAL**

	Units		
	F	W	S
First Year			
Oral and Written Expression I, 1001	3		
Oral and Written Expression II, 1002		3	
Fundamentals of Speech, 1007			3
Second Year			
Introduction to Theater, 1010	5		
Interpretative Reading, 2310		4	
Argumentation and Debate, 2411			5
Third Year			
Acting, 2012	4		
Fundamentals of Play Production, 2110			5
Creative Dramatics, 3650		3	
Development of Dramatic Art, I, II, III; 3201, 3202, 3203	3	3	3
Fourth Year			
Advanced Acting, 4012	4		
Stagecraft, 3916	3		
Play Directing, 4315		4	
Introduction to Radio and Television, 3310		4	
Introduction to Shakespeare, Eng. 3250			4
Speech/Drama Workshop, 4180	2	2	2

GENERAL SPEECH EMPHASIS—APPROVED FOR CREDENTIAL

	Units		
	F	W	S
First Year			
Oral and Written Expression I, 1001.....	3		
Oral and Written Expression II, 1002.....		3	
Fundamentals of Speech, 1003.....			3
Second Year			
Introduction to the Theater, 1010.....	5		
Interpretative Reading, 2310.....		4	
Argumentation and Debate, 2411.....			5
Third Year			
Mass Media of Communication, 2210.....	4		
Persuasion, 3515.....		4	
Business and Professional Speech, 3412.....			4
Public and Group Discussion, 3510.....	5		
Fourth Year			
Introduction to Radio and Television, 3310.....	4		
Advanced Public Speaking, 3510.....		4	
History of Rhetoric, I, II, III, 5201, 5202, 5203.....	4	4	4
Speech/Drama Workshop, 4180.....		2	2

SPEECH-DRAMA MINOR

Upon approval of the departmental adviser credential candidates may enroll in a program leading to a minor in speech *or* in drama. Such a program should include a minimum of 30 units of approved courses in *either* speech or drama. A minor in speech or drama will normally consist of about 20 units from the lower division and 10 units from the upper division.

GENERAL SPEECH-DRAMA COURSES

* 1001, 1002. Oral and Written Expression, I-II

A theory and skills course covering all aspects of rhetoric, with special attention to oral communication, and work in written expression. Special emphasis is on research, organization, clarity, integrity, and delivery. Three units each term.

1007. Fundamentals of Speech

A general survey of the field of speech and drama, with introductory units in voice and diction, theater, interpretation, and public speaking. Prerequisite to all Speech and Drama courses. Laboratory required for students with special speech problems. Three units.

2210. Mass Media of Communication

Importance of periodicals and newspapers, motion pictures, radio, and television. Comparative analysis and evaluation. Development of criteria for responsible judgments. Four units.

2310. Interpretative Reading

A fundamental course devoted to theory, methods, and practice of oral communication of different types of literature. Four units.

* Designed to meet the GE requirements in Communication.

A student who fails either English 1001 or Speech and Drama 1001 must present evidence of satisfactory completion of an independent study course (emphasizing the mechanics of English) or equivalent before repeating either of these courses.

3310. Introduction to Radio and Television

A course designed to improve understanding of these media; studying programming, elements of production, business management, aesthetics, history. Four units.

4180. Speech/Drama Workshop

An activity course for students participating in acting, stagecraft and/or forensic activities. Admission by consent of the instructor only. Six units maximum. One-three units.

4355. Teaching of Speech and Dramatics

To develop skills in both curricular and extra-curricular uses and activities in choral reading, creative and formal dramatics, interpretative reading, public speaking, discussion and debate, and informal speech activities as tools for the speech teacher. AV techniques. Prerequisite: Consent of instructor. Four units.

4610. Speech Development in the Classroom

Techniques appropriate for speech activity improvement and for cultivation of student's speech habits. Designed for elementary and secondary teachers. Three units.

5900. Individual Study in Speech or Drama

Two-five units.

5901. Directed Group Study in Speech or Drama

Two-five units.

DRAMA COURSES

1010. Introduction to the Theater

A survey of the world of the drama, with units in stagecraft, production, selection, acting, etc. A required introduction to the field for majors, a survey-appreciation course for others. Can be used to fulfill the Creative Arts (drama) G.E. requirement. Five units.

2012. Acting

Techniques of performance in relation to historical modes of production. Play analysis in relation to character, vocal method, body movement, dance. Four units.

2110. Fundamentals of Play Production

Analysis of dramatic productions. Attention to the physical theater and its equipment, stage scenery; properties; stage lighting and sound; organization and design of stage productions. 3 hrs. lect., 6 hrs. lab. Five units.

3012. Advanced Acting

Creative character analysis and portrayal. Use of short plays and scenes to teach advanced techniques in acting. Prerequisite: Speech-Drama 2012. Four units.

3201. Development of Dramatic Art I: The Greek Period Through the Middle Ages

A study of the historic development of the theater from the Greek Period through 1400, including study of representative plays, physical aspects of the theater and production practices. Three units.

3202. Development of Dramatic Art II: The Renaissance Through the Seventeenth Century

A study of the historic development of the theater from 1400 through 1700, including study of representative plays, physical aspects of theater and production practices. Three units.

3203. Development of Dramatic Art III: The Eighteenth Century to the Present

A study of the historic development of the theater from 1700 to this year, including study of representative plays, physical aspects of theater and production practices. Three units.

3650. Creative Dramatics

Theory and techniques for developing the creative capacities of children through improvisations of stories; participation and leadership in creative dramatics provided

Speech-Drama

by means of a creative dramatics class with children. 2 hrs. lect., 2 hrs. act. Three units.

3916. Stagecraft

Theory and practice of planning and execution of scenery for stage production. 2 hrs. lect. 2 hrs. act. Three units.

4050. Trends in Modern Theater

Lecture and discussion of contemporary drama on the stage, in motion pictures, and television. Study and analysis of current dramatic activity in the Bay Area. Field trips to current dramatic events and production centers. Fulfills Creative Arts general education requirement. Three units.

4315. Play Directing

Study of the principles of stage directing: composition, movement, business, tempo, directing procedures, problems in historical styles of production. Prerequisites Sp/Dr 2012 and 2110. Four units.

4650. Children's Theater

Theory and techniques of selecting, directing, and producing plays by and for children. Opportunity for working with a children's play to be presented for a child audience. 2 hrs. lect., 2 hrs. act. Three units.

RHETORIC AND PUBLIC ADDRESS

2411. Argumentation and Debate

A course stressing those elements of logic and rhetoric making up responsible argumentative discourse. Practice in parliamentary, legislative, and forensic debating technique. Five units.

3412. Business and Professional Speech

A course designed to meet the needs of business management. Units in explanations, sales and policy speaking, reading aloud, and conference work. Four units.

3510. Public and Group Discussion

Principles and methods of public and group discussion in problem solving and learning situations. Development of individual skills in discussion preparation, participation, and leadership through practical application. Five units.

3515. Persuasion

A study of the theory and practice of the principles of social psychology as applied to persuasion. Choice, arrangement and adaptation of materials implementing this theory. Four units.

4350. Advanced Public Speaking

Principles of public speaking and the development and presentation of talks designed to achieve specific purposes. May fulfill teaching credential speech requirement. Four units.

5201. History of Rhetorical Theory and Practice, I: Greek and Roman Rhetoric

A study of the teachings of the great rhetoricians and rhetorical scholars from Corax to Quintilian, from fifth century B.C. to second century A.D., and of the great speeches and speakers during this period. Four units.

5202. History of Rhetorical Theory and Practice II: British Rhetoric and Oratory

A study of the teachings of the great rhetoricians and rhetorical scholars in British history of the great speeches and speakers from Chatham to Churchill. Four units.

5203. History of Rhetorical Theory and Practice III: American Rhetoric and Oratory

A study of the teachings of the great rhetoricians and rhetorical scholars in American history, of the great speeches and speakers from Jonathan Edwards to Adlai Stevenson. Four units.

DIVISION OF EDUCATION

The Division of Education includes the following departments: Teacher Education, Counseling and Pupil Personnel, Health and Physical Education, Recreation, and School Administration and Supervision. The programs and courses of the departments are listed separately:

Professors: Burnett (head) (chairman, Department of School Administration and Supervision), Brownell, Joyal, Lawrence, Lepore, Lutt, Marsh (chairman, Department of Teacher Education), Pederson, Peters, Schunhoff, Shriner, Vandenberg (chairman, Department, Health and Physical Education), White (chairman, Department of Counseling and Pupil Personnel); Associate Professors: Barclay, Carlson, Comer, Davies, Hendrickson, McHugh, Niepoth (chairman, Department of Recreation), Sabath, Seavey, Soldahl, Worland, Yeager, Zeitlin, Whitehorn; Assistant Professors: Brock, C. Brown, D. Brown, Cheney, Davidson, Enos, Gobin, Hergert, T. Jones, W. Jones, Larson, M. Martin, R. Martin, Mathews, Niclai, Rivenes, Railton, Spencer, Stone.

CURRICULA OFFERED

Baccalaureate Degrees Offered in the Division

Majors in:

Elementary Education (The B.S. Degree in Education is limited to those students accepted into the program before November 1, 1963. This degree will be discontinued after summer quarter, 1966.)

Physical Education (B.S.)

Recreation (B.S.)

Minors in:

Physical Education

Recreation

IMPORTANT NOTICE

Prior clear admission by the college to one of the credential programs described in previous college publications must have been obtained by the candidate who seeks a credential based upon pre-Fisher Bill (Licensing of Certificated Personnel Law of 1961) requirements. The qualified candidate must complete the requirements by September 14, 1966.

Non-degree Credential Programs and Courses Offered

Pre-Fisher Bill Credentials:

The General Elementary Credential (pre-Fisher Bill) is limited to candidates who had been declared eligible for this program as of November 1, 1963. This credential is obtained through institutional recommendation.

The General Secondary Credential (pre-Fisher Bill) is limited to candidates who had been declared eligible for this program as of November 1, 1963. This credential is obtained through direct application rather than through institutional recommendation.

Fisher Bill Credentials:

A program leading to the Standard Teaching Credential with Specialization in Elementary School Teaching. (The credential is obtained either through institutional recommendation or by direct application, contingent upon the outcome of accreditation applied for and pending as of December, 1964.)

A program leading to the Standard Teaching Credential with Specialization in Secondary School Teaching. (Institutional recommendation or direct application contingent upon the outcome of accreditation applied for and pending as of December, 1964.)

A program leading to the Standard Teaching Credential with Specialization in Junior College Teaching. (Accreditation pending as of December, 1964.)

A program leading to the Standard Designated Services Credential with a Specialization in Pupil Personnel Services. (Accreditation pending as of December, 1964.)

A program leading to the Standard Supervision Credential. (Accreditation pending as of December, 1964.)

PURPOSES

The Division of Education is concerned at the undergraduate level with offerings in selected areas in the general education program of the College and baccalaureate programs for certain majors. It is concerned at the graduate level with the professional education of teachers, and programs for specialists in selected areas of school service. Graduate programs prepare students for elementary school teaching, for secondary school teaching, for junior college teaching, for recreation leadership, and for specialists in health and physical education, pupil personnel services, and supervision and school administration.

THE DEPARTMENT OF TEACHER EDUCATION

The Department of Teacher Education offers graduate programs and graduate-level courses primarily concerned with the Standard Teaching Credentials and the in-service education of school teachers.

Students who plan to apply for admission to graduate teacher education programs are encouraged to acquire experience with children and youth by participating in community agencies, youth-serving organizations, or in camp counseling during the years while they are completing work leading to the bachelor's degree. They are also encouraged to consult with an adviser in the Department of Teacher Education and participate in the co-curricular activities in the department and its student organizations. The professional courses are taken at the graduate level. Undergraduates who intend to apply for admission to a credential program following their graduation will be assigned an education adviser to assist in program planning.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

There are four program-admission steps for graduate students working toward the Standard Teaching Credentials with specializations in either elementary school or secondary school teaching. (1) Admission to course work; (2) preliminary candidacy; (3) full candidacy; (4) completion of the program.

(1) *Admission to course work:*

Students of senior standing who intend to apply for candidacy in the elementary credential program once they become graduate students may enroll in Education 4021 and the appropriate public school laboratory upon approval of their undergraduate education adviser.

Students admitted by the College on graduate standing, but who have not been admitted to preliminary candidacy in one of the credential programs, may be admitted to selected course work in professional education but only upon approval of their education adviser.

(2) *Admission to preliminary candidacy:*

Students admitted by the College on graduate standing are eligible to apply for preliminary candidacy standing.

Graduate candidates classified as "no-objective" are *not* eligible for preliminary candidacy standing. These students may apply for preliminary candidacy, to take effect when their "no-objective" status is changed to a credential-objective status. **ADMISSION TO THE COLLEGE ON GRADUATE STANDING DOES NOT CONSTITUTE ADMISSION TO A TEACHER CREDENTIAL PROGRAM.**

Preliminary candidacy may be attained only after these steps have been completed:

- Admission to the College on graduate standing has been applied for.
- Application for preliminary candidacy has been filed. (Appropriate forms may be obtained from the Credentials Secretary. Full college transcripts must accompany application.)
- Assignments to Education adviser, and preliminary interview. (For secondary and junior college candidates only, the student must be interviewed by advisers in the appropriate teaching major and teaching minor departments.)
- Successful completion of interviews and selected examinations to be completed on the following dates:

For preliminary candidacy for Fall, 1965:

Saturday, July 10, 1965, 9 a.m.-12 noon; 1 p.m.-4 p.m. or
Saturday, Aug 28, 1965, 9 a.m.-12 noon; 1 p.m.-4 p.m.

For preliminary candidacy for Winter, 1966:

Saturday, Oct. 9, 1965, 9 a.m.-12 noon; 1 p.m.-4 p.m. or
Saturday, Nov. 13, 1965, 9 a.m.-12 noon; 1 p.m.-4 p.m.

For preliminary candidacy for Spring, 1966:

Saturday, Jan. 15, 1966, 9 a.m.-12 noon; 1 p.m.-4 p.m. or
Saturday, Feb. 12, 1966, 9 a.m.-12 noon; 1 p.m.-4 p.m.

- The candidate must have earned a "C" average throughout his previous college work in order to be eligible for preliminary candidacy.
- Formal notification of acceptance of preliminary candidacy is received.

(3) *Admission to full candidacy:*

Full candidacy constitutes acceptance into Phase I of student teaching. Approval is given only by the COLLEGE CREDENTIALS BOARD.

Students are eligible to apply for full candidacy following preliminary candidacy, during which they must have completed successfully a minimum of 12 units of work at the College, including a field laboratory experience. Secondary and junior college candidates must receive the approval of their appropriate teaching major and teaching minor departments, in addition to their Education adviser, before admission to Phase I of student teaching.

Moreover a candidate must:

Demonstrate adequate intellectual ability; give evidence of breadth of aptitudes and personal characteristics appropriate to teaching as a profession and for adjustment to public school condition; rate satisfactorily on a health examination.

The candidate must have earned at least a "C" average to be eligible for full candidacy, and he must maintain that average in both his overall college and professional work in order to retain full candidacy status. He must also maintain a high level of performance in the skills of writing, spelling, speaking, and language usage.

Students who plan to teach in California must meet citizenship requirements. Students are responsible for observing all deadlines in filing applications.

Application forms for admission to credential programs and teaching are available at the office of the Credentials Secretary of the Education Division. For detailed information about steps in candidacy, students should consult an Education adviser.

Prospective candidates who do not meet the above standards are subject to denial of candidacy.

(4) *Completion of the program:*

Successful completion of the program depends upon the candidate's maintenance of high levels of performance as outlined under (3) above, as assessed by the College supervisory staff and those faculty members whose assignments include responsibilities in teacher education. Students may be removed from the teacher education programs at any time upon the action of an appropriate college committee and concurrence by the Chairman of the Department of Teacher Education and the Head of the Division of Education.

I. THE ELEMENTARY TEACHER EDUCATION PROGRAMS

A. *Requirements for the Bachelor of Science Degree in Elementary Education*

Students who plan to obtain the Bachelor of Science degree with a major in education and at the same time complete the requirements for the general elementary credential must have been accepted in the program prior to November 1, 1963. (New requirements stipulated under the Licensing of Certificated Personnel Law of 1961—Fisher Bill—pertain to candidates for credentials after that date.) Students qualified to receive the general elementary credential are referred to the requirements outlined in the 1963-64 *College Bulletin*. Before applying for this pre-Fisher Bill program, the student must OBTAIN THE PERMISSION OF THE CHAIRMAN OF THE DEPARTMENT OF TEACHER EDUCATION.

B. *Requirements for the Standard Teaching Credential with a Specialization in Elementary Teaching*

The department offers a program at the graduate level which includes the State requirements for the Standard Teaching Credential with a Specialization in Elementary Teaching. Students accepted into the elementary program starting with the Fall Quarter 1965-66 will normally take courses leading to this Standard Credential.

1. **General Requirements:**

Satisfactory compliance with graduate standing admission standards of the College, which include a baccalaureate or higher degree from an approved institution.

Admission to the credential program as a graduate student.

Successful completion of a program of studies leading to a teaching major, a teaching minor, and general education as defined in the California Certification requirements, Certificated Personnel Law of 1961, and as required by the College.

Successful completion of a program of post-baccalaureate studies in professional education as defined in the California Certification Requirements and as required by the College.

Successful completion of a year of post-baccalaureate work as stipulated by the College.

Constitution and other statutory requirements.

2. **Pre-professional Education Requirements:**

Except for a course in Child Growth and Development and a public school laboratory experience, which upon approval of an Education adviser may be taken as undergraduate electives, the professional education courses are taken post-baccalaureate. Before admission to preliminary candidacy as a graduate student, the candidate must have met the following:

(Refer to the prior section, Admission to the Teacher Education Program, for details.)

Completion of the general education requirements:

Completion or near completion of a teaching credential major.

Completion of a teaching major may be concurrent with work leading to the following baccalaureate majors: Business Education, Economics, Art, Music, Speech, Drama, Physical Education, English, History, Spanish, Biological Science, Physical Science, Physics, Chemistry, Mathematics, Social Science, Political Science, and Psychology.

The *undergraduate* student is asked to consult with both his baccalaureate adviser AND AN ADVISER IN THE DEPARTMENT OF TEACHER EDUCATION concerning the practicability of specific baccalaureate majors to be used as teaching majors. Details of these major programs may be found outlined in this *Bulletin* under the appropriate divisions and departments. *Transfer* graduate students who hold a baccalaureate degree completed at another institution must consult an adviser in Education.

3. **Progress Toward Completion of a Teaching Minor:**

Teaching minor, a credential requirement only, may be completed at this College through the appropriate selection of electives in any one of the following areas: Economics, Business Education, Art, Music, Speech, Drama, Physical Education, English, Spanish, History, Chemistry, Physics, Biology, Mathematics, Anthropology, Geography, Journalism, Political Science, Psychology, and Sociology. For undergraduates, these minor programs may be found outlined either in this *Bulletin* under the appropriate division and department or in the office of the appropriate division head. Students transferring with a completed baccalaureate degree and/or those contemplating completion of any part of the teaching minor in the fifth year of work are to consult with an adviser in Education. Most students, by careful planning, will complete their teaching minor prior to completion of the bachelor's degree.

4. **Submittal of a Transcript to the Department of Teacher Education and Verification of Appropriate Work In:**

English (9 quarter units, including completion of the communications requirement and a course in literature or the equivalent); mathematics

(a minimum of $4\frac{1}{2}$ quarter units of course work in the theory of the structure, arithmetic, and algebra of the real number system or calculus); music; art; speech; social sciences (includes satisfactory completion of the statutory requirements in U.S. Constitution); science; psychology; verification of experience with children either in a community youth-service agency or a school laboratory program.

C. The Professional Education Requirements		Units
Ed. 5025	Psychological Foundations of Education (corequisite Public School Lab II or Student Teaching).....	3
Ed. 5030	Sociological Foundations of Education (corequisite Public School Lab II or Student Teaching).....	3
Ed. 5100	Evaluation.....	3
Ed. 5800	Elementary School Methods	
	Ed. 5811 Language Arts in Elementary School.....	3
	Ed. 5821 Social Studies in Elementary School.....	3
	Ed. 5831 Reading in Elementary School.....	3
	(Corequisite Public School Lab II or Student Teaching)	
Ed. 5250	Teaching Resources in the School (Corequisite Public School Lab II or Student Teaching).....	2
Ed. 5262	Public School Lab II.....	1 $\frac{2}{3}$
Ed. 5601	Student Teaching in Elementary School I.....	4
Ed. 5602	Student Teaching in Elementary School II.....	5
Math. 4020	Teaching Mathematics in Elementary Schools.....	3
Electives:		
Group 1. At least one course taken by advisement from the following:.....		3-4
Ed. 5232	Correction of Reading Difficulties	
	Ed. 5240. Children's Literature	
	Ed. 5281. Curriculum Planning in the Nursery School, Kindergarten & Primary Grades	
	Other	
Group 2. Student's majoring or minoring in Art, Music, Science, or Physical Education must take one of the following:.....		3
	Mus. Ed. 330. Music in the Elem. School	
	P.E. 4200. Methods & Materials in Health & P.E.	
	Sc. Ed. 4020. Science in the Elem. School	
	Art 4350. Arts & Crafts in Elem. School	
Group 3. Additional electives to complete the requirement of a postbaccalaureate year. Recommended electives include:.....		3-9
	Engl. Grammar and Linguistics	
 A graduate level course in the student's teaching major.	
 A course in the student's teaching minor.	
	Math. 4022. Foundations of Geometry	
	P.E. 3200. Fundamental Movement	
	H.E. 4600. Health Programs	
 Other	
 Selected	
 Other courses from Group 2	
	Minimum Fifth Year Requirement.....	45

II. THE SECONDARY TEACHER EDUCATION PROGRAMS

A. Requirements for the Standard Teaching Credential with a Specialization in Secondary Teaching.

The department offers a professional graduate program which leads to the Standard Teaching Credential with a Specialization in Secondary Teaching.

All secondary candidates are required to enter this program except for those students admitted to the secondary credential programs governed by legislation prior to the Licensing Law of 1961. These few exceptions must be approved by the Chairman of the Department of Teacher Education and are referred to the requirements outlined in the 1963-64 *College Bulletin*.

Undergraduate students who plan eventually to enroll in the graduate secondary program are encouraged to acquire experience with children and youth by participating in community agencies, youth-serving organizations, or in camp counseling during the years while they are completing work leading to the baccalaureate degree. They are also encouraged to consult with an advisor in the Department of Education and participate in the co-curricular activities in the department and in its clubs.

1. General Requirements

Meet graduate admission standards of the College. Hold a baccalaureate or higher degree from an approved institution.

2. Pre-professional Education Requirements

Applicants for preliminary acceptance and full acceptance into the secondary program must have completed the steps outlined in the prior section of this Bulletin, *Admission to the Teacher Education Program*.

An applicant must complete an application form and be interviewed by an Education adviser and by advisers of the divisions appropriate to his teaching major and teaching minor prior to admission into preliminary candidacy. He must submit a transcript which shows work leading toward, or fulfilling, the credential requirements for general education and requirements for a teaching major and a teaching minor. The teaching major and teaching minor must be approved by advisers from the appropriate College divisions. The student is to consult with advisers from his major and minor teaching fields and with an adviser from the Department of Education concerning the appropriateness of majors, minors, and major-minor combinations.

3. Minimum Teaching Major and Teaching Minor Requirements

A *teaching major* consists of a minimum of 36 quarter units of upper division or graduate work. There are two kinds of teaching majors:

(1) The interdepartmental major, which consists of at least 36 quarter units of upper division or graduate level course work and which includes a single academic subject consisting of at least 23 quarter units of upper division or graduate work.

(2) The single subject major, which consists of at least 36 quarter units of course work in a single academic subject, at least 9 units of which are specified and must be taken at the upper division or graduate level.

A minimum of 9 quarter units of graduate level work in either the major or minor fields must be taken after the granting of the baccalaureate degree.

No more than 9 quarter units of work in general education may be applied toward the requirements for a teaching major or a teaching minor.

Business education and physical education teaching majors are subject to different credential requirements from those outlined above. Students with teaching majors in those fields should consult an adviser in the appropriate College division or department.

Before full candidacy is attained, (acceptance into Student Teaching, Phase I), the candidate's teaching major and teaching minor must have been approved by the appropriate departments. The acceptability of a candidate's teaching fields preparation will be judged against the quality and balance of his course work, as these relate to teaching in the secondary schools.

A *teaching minor*, not a baccalaureate requirement at the College, consists of a minimum of 30 quarter units of undergraduate and/or graduate work. At least 9 quarter units must be taken at the upper division or graduate level. There are two kinds of teaching minors:

- (1) The interdepartmental minor. The student should consult his Education adviser for details related to this minor.
- (2) The single subject minor.

4. The Professional Graduate Secondary Teaching Program

General prerequisite: Baccalaureate degree; satisfactory completion or partial completion of a teaching major and a teaching minor, as determined by the appropriate College division or departments; and preliminary acceptance into the secondary credential program.

Acceptance by the College as a graduate student does not constitute acceptance into the secondary credential program.

	Units
Minimum post-graduate course work in content courses in the teaching major or teaching minor.....	9
Ed. 5020 Psych. Foundations of Education I.....	3
Ed. 5030 Sociological Foundations of Education I.....	3
Ed. 5262 Public School Laboratory II.....	2
Ed. 5025 Psych. Foundations of Education II.....	3
Ed. 5250 Teaching Resources Laboratory.....	2
Ed. 5651 Student Teaching in the Secondary School Phase I.....	4
Ed. 5652 Student Teaching in the Secondary School Phase II.....	5
Ed. 5270 Secondary School Curriculum.....	4
Teaching Major Methods (See appropriate Division).....	3
Teaching Minor Methods (See appropriate Division).....	3
Plus completion of Teaching Major and Teaching Minor.....	—
Minimum post-baccalaureate units required.....	45

SCHOOL DISTRICTS PARTICIPATING IN THE FIELD EXPERIENCE PROGRAM

The in-school field work feature of the education of teachers, supervisors, administrators and guidance workers is made possible through the cooperation of a number of public school districts in the service area of the college. The assisting school districts as of the fall quarter, 1964, include:

Alamo Elementary School District
 Amador Valley Joint Union High School District
 Acalanes Union High School District
 Alameda County Schools Office (Special Schools)
 Alameda Unified School District
 Alviso Elementary School District
 Canyon Valley Union High School District

Castro Valley Elementary School District
 Decoto Elementary School District
 Emery Unified School District
 Fremont Unified School District
 Hayward Unified School District
 John Swett Union High School District
 Livermore Elementary School District
 Livermore Joint Union High School District
 Martinez Unified School District
 Milpitas Elementary School District
 Monterey Union High School District
 Moreland Elementary School District
 Mt. Diablo Unified School District
 Newark Unified School District
 Oakland Unified School District
 Pittsburg Unified School District
 San Leandro Unified School District
 San Lorenzo Unified School District
 San Pablo Elementary School District
 South County Junior College District
 Tracy Union High School District
 Walnut Creek Elementary School District
 Washington Union High School District

DESCRIPTION OF COURSES

EDUCATION

Ed. 4021. Child Growth and Development

Growth and development of the child: prenatal through childhood with special attention to the intellectual, social, and personality development in childhood. Influence of the home and school environment. Prerequisite: Basic psychology. (Students interested in becoming elementary school teachers should enroll concurrently in public school laboratory I.) Lect. 3 hrs. Three units.

4264. Public School Laboratory IV

Public school participation preceding student teaching and weekly on-campus group conference; includes use of A-V materials and resources. Lab. 9 hrs. Three units.

4600. Student Teaching in the Elementary Schools

Full-time student teaching under the supervision of a public-school teacher and a member of the college faculty in conjunction with a student-teaching seminar. Prerequisites: Full candidacy in elementary-education program and approval of Committee on Credentials. (Concurrent registration in Ed. 4601) Thirteen units.

4601. Student Teaching Seminar—Elementary Schools

Weekly conference period required as corequisite with student teaching—Ed. 4600. Two units.

4650. Student Teaching in the Secondary Schools

Full-time student teaching under the supervision of a public-school teacher and a member of the college faculty in conjunction with a student-teaching seminar. Prerequisite: Full candidacy in secondary-education program and approval of Committee on Credentials. (Concurrent registration in Ed. 4651) Thirteen units.

4651. Student Teaching Seminar—Secondary Schools

Weekly conference period required as corequisite with student teaching—Ed. 4650. Two units.

4900. Individual Study
Two-four units.

5000. Philosophy of Education

Foundational course in philosophy of education. An examination of philosophical issues in contemporary education, aimed at encouraging individual development of a coherent, consistent philosophy by which educational practice may be guided. Four units.

Ed. 5001. History of Education

A survey of major developments in western education from the Greeks to the present day; major emphasis is placed upon the implications involved for modern practice. Prerequisite: Two courses from among Ancient, Medieval, or European History; American History; or permission of the instructor. Four units.

5010. Contemporary American Education

A critical analysis of relationships between major social and historical developments and American education, emphasizing goals, purposes, scope and functioning of elementary and secondary education. (Meets credential requirements in principles of education.) Four units.

5020. Psychological Foundations of Education I

Problems of adolescence as reflected in and influenced by the school-community and society at large; counseling and guidance of secondary school students; analysis of current practices in evaluation useful to the teacher and to the school's pupil personnel services. Prerequisites: Preliminary acceptance into the Standard Teaching Credential program, concurrent registration in Ed. 5030 and Ed. 5262. Three units.

5021. The Exceptional Child

Characteristics of children who deviate physically, mentally, socially or psychologically from normal children. Methods of identification and suggested educational adjustments. Prerequisite: Teaching credential or consent of instructor. Three units.

5025. Psychological Foundations of Education II

Research and theory in the teaching-learning process; individual differences and their development; learning theory applied to the teaching of specific school subjects; evaluation of classroom learning; mental hygiene. Prerequisite: Basic Psychology and Child Growth and Development or Adolescent Psychology, or Psychological Foundations of Education I. (Concurrent registration in a public school laboratory or student teaching.) Lect., 3 hrs. Three units.

5030. Sociological Foundations of Education I

Cultural historical development of the public schools in the United States; the changing social, political, and economic forces shaping the changing public school. Prerequisite: Admission into the Standard Teaching Credential program. (Concurrent registration in a public school laboratory or student teaching.) Lect., 3 hrs. Three units.

5040. Teaching the Adolescent

Characteristics of adolescents; influences affecting adolescent behavior; analysis of current forces upon junior and senior high school students; application to school procedures. (Meets secondary-credential requirements for growth and development.) Prerequisite: Basic educational psychology course. Three units.

5060. Human Relations in Teaching

Teaching procedures and content emphasizing human relations in school setting. Analysis of effects of roles, statuses, and purposes upon the individual. Understanding of group processes. Prerequisite: Consent of instructor. Four units.

5069. Home and School

Dynamics of family, pupil-teacher, teacher-parent, and pupil-pupil relationships including methods and materials of family counseling, working with parent groups,

parent conferences, home visits and problems of home and school. Prerequisite: Teaching credential or consent of instructor. Lect., 3 hrs. Three units.

5100. Evaluation in Education

Principles, techniques, and current practices of evaluation in schools. Relationship to curriculum; current practices in tests and measurements. Prerequisite: Basic educational psychology course and Educ. 5800 series or equivalent. Lect. 2 hrs., lab. 3 hrs. Three units.

5210. Improving Language Arts in the Elementary Schools

Research in psychology and methods of the teaching-learning process in speaking, listening, spelling, and writing; relation to school curriculum materials and resources. Prerequisite: Teaching experience, Ed. 5800 series or equivalent, or permission of instructor. Three units.

5220. Improving Social Studies in Elementary Schools

Study of problems in teaching social studies in elementary schools. Development of plans and materials. Review of state framework for social studies. Prerequisite: Teaching experience, Ed. 5800 series, or equivalent, or permission of instructor. Three units.

5230. Improving Reading in the Elementary Schools

Development of reading programs; analysis of reading needs, materials and techniques for reading instruction, including lectures, demonstrations, production of materials and plans for classroom use. Prerequisite: Teaching experience, Ed. 5800 series or equivalent, or permission of the instructor. Three units.

6231. Analysis of Reading Problems

Use and interpretation of informal, formal, group and individual tests used in the analysis of reading difficulties; methods of difficulty analysis; diagnostic test evaluation; assessment of psychological emotional factors and physical factors. Prerequisites: Ed. 5230, Ed. 5100, and consent of instructor.

6232. Correction of Reading Difficulties

Group and individual techniques, case studies, sample lessons and demonstrations of remedial methods. Construction, use, and evaluation of materials for the correction of reading difficulties. Prerequisite: Teaching experience, Ed. 5231, or consent of instructor. Three units.

6233. Laboratory Practice in Correction of Reading Difficulties

The laboratory will provide remedial instruction for children with reading difficulties. Daily practice in tutoring children in clinical situation. Each teacher will practice individual tutoring, group remedial activities, parent interviews, case study and clinic reports. Prerequisite: Ed. 5232 and consent of instructor. Six units.

5240. Children's Literature

Examination of values in folk tales, classical myths, and legends. Major attention to body of contemporary writing especially created to satisfy interests and needs of children. Criteria for continuing selection and appreciation of children's literature emphasized. Prerequisite: Consent of instructor. Three units.

5241. Literature for Adolescents

Examination of the values to be found in folk tales, classical myths and legends, as well as the body of contemporary writing, especially created to satisfy interests and needs of adolescents. Three units.

5250. Teaching Resources in the School

Identification and review of teaching resources and materials used in school teaching; utilization of audio-visual aids and programmed learning developments in specific subjects; introduction to the college curriculum resources laboratory. Prerequisite: Admission into the Standard Teaching Credential program. (Concurrent registration in a Public School Laboratory course or student teaching.) Lect. 1 hr., act. 2 hrs. Two units.

5251. Audio-Visual Methods and Materials

Selection, utilization and evaluation of audio-visual methods and materials in the teaching-learning process; operation of audio-visual equipment. (Fulfills credential requirement. No credit for students with prior audio-visual course.) Prerequisite: Teaching experience or permission of instructor. 1 hr. lect., 4 hrs. act. Three units.

5252. Preparation of Instructional Materials

Laboratory experience in the preparation of a variety of visual materials. Techniques of illustration, lettering, mounting, coloring, and duplication of graphic materials used to produce pictures, maps, charts, posters, slides, and displays. Prerequisite: Ed. 5251 or equivalent and teaching experience. Lect. 2 hrs., act. 2 hrs. Three units.

Ed. 5261. Public School Laboratory I**Ed. 5262. Public School Laboratory II****Ed. 5263. Public School Laboratory III****Ed. 5264. Public School Laboratory IV**

Three hours supervised participation in public schools and/or youth agencies for each unit of credit. (Concurrent registrations as required with specific courses.) Lab. I, one unit; Lab. II, two units; Lab. III, one-three units; Lab. IV, four units.

5270. Secondary School Curriculum

Analysis of secondary school curriculum: practices, trends, and issues; roles of the secondary teacher, student, parent, administrator, supervisor, and counselor; current practices and techniques in measurement related to curriculum improvement. Prerequisite: graduate standing and acceptance into the secondary credential program. Four units.

5275. Teaching in the Junior High School

Characteristics of junior high school students; influences affecting junior high school student behavior; analysis of current forces upon junior high school students; study of the junior high schools as a unique intermediate unit. Prerequisite: Growth and Development or permission of instructor. Four units.

5281. Curriculum Planning in the Nursery School, Kindergarten and Primary Grades

Selecting, developing, and managing activities for very young children. Special problems in curriculum development for nursery, kindergarten and primary education with emphasis on language development, pre-reading, and initial reading experiences. Prerequisite: Student Teaching phase I. (Open only to students with major interest in primary school education.) Three units.

Ed. 5601. Student Teaching in the Elementary School Phase I**Ed. 5602. Student Teaching in the Elementary School Phase II****Ed. 5651. Student Teaching in the Secondary School Phase I****Ed. 5652. Student Teaching in the Secondary School Phase II**

Student teaching under the supervision of a public school teacher and a member of the College faculty. Prerequisite: Candidacy in the credential program and approval of the Committee on Credentials. (Concurrent registrations as required by the department. Normally, the student teaching sequence will cover two quarters.) Phase I, four units. Phase II, five units.

Ed. 5603. Student Teaching Seminar Elementary School

Conference periods with College supervisors. Two units.

5700. Teaching the Gifted

Problems of curriculum, teaching-learning, and patterns of administration and organization of school programs for the gifted. Emphasis on methods, materials, and resources. Prerequisites: Teaching experience, or consent of instructor. Three units.

Ed. 5800 Series, Elementary School Methods

Prerequisite: Admission to preliminary candidacy in the elementary teaching credential program. (Concurrent registration in the series and Public School Lab. III, or student teaching.)

5811. Language Arts in the Elementary School

Curriculum, methods, and resource materials in speaking, listening, spelling, writing. 2 hrs. lect., 2 hrs. activity. Three units.

5821. Social Studies in the Elementary School

Curriculum, resource materials, and methods in scope and sequence of social studies in the elementary school. 2 hrs. lect., 2 hrs. activity. Three units.

5831. Reading in the Elementary School

Materials and methods of reading development; emphasis on group and individual techniques. 2 hrs. lect., 2 hrs. activity. Three units.

5900. Individual Study

One to five units.

5901. Directed Group Study

One to four units.

6020. Research in Education

Methods and procedures of research tools in education; sources and uses of data. Critical analysis of published research. Preparation of a research project to include references, rationale, and outline. Ed. 4100 and course in statistics recommended. Four units.

6236. Seminar in Reading

Comprehensive review and evaluation of research and literature in the field of reading; investigation of a research topic; selection of the problem; literature survey, and interpretations and summaries of findings. Prerequisite: Ed. 6020. 3 units.

6700. Advanced Education Psychology

(See Psychology Department for course description.)

6900. Individual Study

Two-four units.

6901. Group Study

Two-four units.

For descriptions of the following courses please refer to the listing under the appropriate division or department:

Subject Area Methods Courses

Principles, practices, trends, instructional methods, and evaluation procedures useful in a special subject or broad field taught in the secondary school. Prerequisite: Graduate standing and preliminary or formal acceptance in to the secondary credential program. 3 units.

English 5694. *Linguistics and Composition*

The Department of Counseling and Pupil Personnel

The Department of Counseling and Pupil Personnel offers a program designed to meet the requirements for the Designated Services Credential with a specialization in Pupil Personnel Services. Within this specialization, students may follow concentrations to prepare for work in the areas of Counseling, Child Welfare and Attendance, Psychometry, and Psychology.

The Department also offers the degree of Master of Science in Education with a concentration in Pupil Personnel Services. It may be pursued in conjunction with, or independently of, a credential program. The concentration area will be worked out with an adviser to reflect the specialized goals of the student, whether these be in Counseling, Psychometry, or School Psychology.

For those persons seeking certification under the Designated Services Credential, this master's degree will meet the requirement stated in Section 6402 (a) (4) as a Master's Degree in Counseling. The degree may be of interest also to persons who have completed the General Pupil Services Credential and to persons working or preparing for employment in related fields which do not require a credential.

Both the credential and master's degree programs are entirely post-baccalaureate. They may be based upon either a teaching credential or an approved bachelor's degree program.

APPLICATION AND ADMISSION

A person holding a bachelor's degree from an accredited institution may begin post-baccalaureate study in either of two ways. He may be admitted to the College for graduate study as a non-objective student and may enroll in those courses for which he has the necessary prerequisites. Non-objective status means that a student has not yet applied to and been admitted by a particular department to work toward a specific program or degree. In contrast, a person may apply for direct admission to a departmental program as an objective graduate student working toward a declared objective, such as the credential or master's degree programs. Enrollment as a non-objective student is normally undertaken primarily by persons wishing to continue professional study and growth and not be restricted in their choice of courses by credential or degree requirements. It may also be appropriate as a temporary measure either when time does not allow completion of the procedures required for admission to an objective status, or when prerequisites or other deficiencies exist.

Although the credential and master's degree programs are not identical, the former is conducted at the same level of graduate school standards as the latter; consequently, admission standards and requirements are common to the two programs except for prerequisites.

Admission to the college to study as a non-objective graduate student is granted upon the submission of evidence of completion of a bachelor's degree from an accredited institution. Normally, before course work within the Department of Counseling and Pupil Personnel may be taken, prerequisite study must have been completed in the following areas: General Psychology, Learning, Measurement, and Child Growth and Development.

To be accepted directly by the Department of Counseling and Pupil Personnel for work toward either the credential or degree objective, applicants must have a 2.5 overall undergraduate average or better, and have completed the prerequisite coursework. When post-baccalaureate work has been completed, it is expected that the achievement level of such work will equal or exceed the 2.5 required for the undergraduate record and any work completed toward the graduate objective will equal the 3.0 grade point average required for completion of the program.

Transfer from non-objective to objective status should be accomplished as soon as one qualifies to do so, since normally not more than twelve units of work taken in non-objective status may be applied toward a program contract. Transfer is possible when prerequisites and grade point average requirements have been met.

For advancement to "Credential Candidacy", i.e., to developing a contract for a credential program, a person must complete three or more of the following courses, maintaining a 3.0 average on all work counting toward the credential: Coun. 5750, Coun. 6901, Coun. 6735, Educ. 5021, Psy. 4410, and Psy. 4610. Supporting recommendations from faculty members of the department will be required.

Advancement to "Degree Candidacy", i.e., completion of a contract for and acceptance as a master's degree candidate requires the same general steps as for "Credential Candidacy" except that some differences will occur in the courses required as part of the prerequisite group.

Admission to the college to enroll in classes as a non-objective student will be granted as late as the regular registration period dates, providing the student presents an official transcript meeting the requirements previously stated. To avoid delay, however, students are encouraged to seek admission prior to registration.

Application for admission as an objective student with a declared credential or degree objective is to be made to the department at least six weeks prior to the opening of a term. Two official transcripts of all collegiate work should accompany two copies of the completed application blank at this time. Satisfactory performance on standardized tests prescribed by the department and completion of an interview with a member of the department faculty must be accomplished before advancement to candidacy and are recommended for completion prior to being admitted if such is feasible for the student.

Admission to field work or internship assignments requires maintenance of a 3.0 average on the contract program, supporting recommendations from faculty and present or previous employers, and the development of an agreement for placement in selected districts. Application for field placement is to be filed at least six weeks before the start of the term for which placement is desired.

The Standard Designated Services Credential With a Specialization in Pupil Personnel Services

(CALIFORNIA ADMINISTRATIVE CODE, TITLE 5)

As of January 1, 1964, this credential has replaced the General Pupil Personnel Services Credential. Persons commencing training after that date must meet the requirements of these new regulations if they wish certification to work in schools in the following areas: child welfare and attendance, psychometry and psychology, pupil counseling (including rehabilitation counseling) and social work.

A copy of the credential requirements may be obtained from either the Counseling and Pupil Personnel Department Office or the State Department of Education. A summary statement of the requirements for the various specializations and the Cal State programs to meet them follows:

Three general requirements must be met.

1. A master's degree in counseling, psychology, or an academic subject. (See details in credential code section 6402 (a))
2. Forty-five or ninety quarter hours of post-baccalaureate course work in pupil personnel, depending upon the candidate's teaching experience and credential goal. (See details in code section 6402 (b) and 6402 (d))
3. Field work or internship. (See details in code section 6402 (c))

The program of a student will depend upon which duties he wishes authorization to perform; whether or not he has three years of successful teaching experience, and whether or not he already holds a master's degree in counseling, psychology, or an academic subject matter area, or needs to earn one.

Descriptions of the college program concentrations leading to the various duty authorizations follow. Within each, the requirements for persons with and without teaching experience are separately stated. Consult with an adviser to determine the sequence of courses to follow. Neither course numbers nor order of listing indicates the order in which courses should be taken.

1. Authorization limited to Pupil Counseling and Child Welfare and Attendance.
 - (a) Applicant with 3 years successful teaching experience and 45 quarter hours of other post-baccalaureate work (such as the 5th year teaching credential work) will complete Course Groups 1 and 2. (See code number 6402 (b) regarding explanation of the credit and experience substitution possibilities)

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- (b) Applicant *without* teaching experience will complete Course Groups 1, 2, and 3 except that he may substitute electives for Psy. 6720, Coun. 6911, Coun. 6912, and Coun. 6025.
- 2. Authorization for administration of individual examinations under supervision for purposes of placing pupils in special classes. (Psychometry)
 - (a) Applicant *with* 3 years teaching experience will complete Course Groups 1, 2, and starred courses of Group 3.
 - (b) Applicant *without* teaching experience will complete Course Groups 1, 2, starred courses of Group 3, and approved electives to reach a total of at least 90 quarter hours.
- 3. Authorization as a competent psychologist.
 - (a) All applicants will complete Course Groups 1, 2, and 3.
- 4. Authorization as a school social worker.
 - (a) Social work duties may be performed by a person credentialed as a competent psychologist. The college does not presently offer a social work specialization as such.

Course Group I

Code Requirements—and Cal-State Courses

6402(a)(4)

- (A) Pupil personnel services, concepts, and procedures
Coun. 5750. Pupil Personnel Work (4)
- (B) Dynamics of individual behavior
Psy. 4410. Behavior Pathology (4)
Psy. 4610. Psychology of Personality (4)
- (C) Counseling theory and procedures
Coun. 6750. Counseling Theory (4)
- (D) Measurement theory and procedures
Coun. 6901. Appraisal Procedures (4)
- (E) Group process theory and procedures
Coun. 6902. Group Theory and Procedures (4)
- (F) Educational and career planning
Coun. 6735. Educational and Vocational Planning (4)
- (G) Research methodology
Ed. 6020. Research in Education (4)
- (H) Remedial and special education
Ed. 5021. The Exceptional Child (3)
- (I) Laws relating to children
Coun. 5570. Organization and Administration of Pupil Personnel Services (4)
- (J) Organization of Pupil Personnel Services
Coun. 5570. Organization and Administration of Pupil Personnel Services (4)

Group II

6402(c)

- Coun. 6610 Pupil Personnel Seminar (2)
- Coun. 6660 Field Work in Pupil Personnel Services (2)
or 6770 Pupil Personnel Internship
- Coun. 6620 Pupil Personnel Seminar (2)

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- Coun. 6661 Field Work in Pupil Personnel Services (2)
or 6770 Pupil Personnel Internship
- Coun. 6630 Pupil Personnel Seminar (2)
- Coun. 6662 Field Work in Pupil Personnel Services (2)
or Coun. 6770 Pupil Personnel Internship (2-6)

Group III

6402(d)(1)

- * Coun. 6810 Advanced Pupil Personnel Seminar (2)
- * Coun. 6860 Advanced Field Work in Pupil Personnel Services (2)
- (A) Diagnostic tests of learning difficulties
* Coun. 6746 Learning Difficulties (4)
- (B) Individual tests of intelligence
* Psy. 6720 Individual Mental Tests (4)
* Coun. 6911 Individual Mental Testing Practicum (4)
- (C) Tests for determining whether and to what extent a minor varies from the normal with respect to mental or emotional characteristics
* Coun. 6912 Projective Techniques (4)
- (D) Case studies of children who vary from the normal with respect to mental or emotional characteristics and preparation of reports thereon
* Coun. 6025 Clinical Study of Atypical Children (4)

6402(d)(2)

To complete the required number of hours and provide the basis for College verification of competency as a psychologist, the following additional courses as part of Group III will normally complete the program for the psychologist authorization. The department may require additional educational experiences if such is deemed essential to develop the competency level needed for this verification.

- Coun. 6751 Advanced Counseling Seminar (4)
- Psy. 6700 Advanced Education Psychology (4)
- Stat. 4001 Statistical Analysis I (4)
- Coun. 6820 Advanced Pupil Personnel Seminar (2)
- Coun. 6830 Advanced Pupil Personnel Seminar (2)
- Coun. 6861 Advanced Field Work in Pupil Personnel Services (2)
- Coun. 6862 Advanced Field Work in Pupil Personnel Services (2)
- Coun. 6880 Advanced Pupil Personnel Internship (2-6)

MASTER OF SCIENCE IN EDUCATION CONCENTRATION IN PUPIL PERSONNEL

The program consists of three parts:

General Professional Education

12 quarter units

The content of the required work in General Professional Education is based on the disciplines of philosophy, psychology, sociology, history of education, and comparative education.

The work will give the student an understanding, at an advanced level, of public and private education and the major functions, responsibilities, and goals of each.

Concentration

20-30 quarter units

A concentration will include an approved program of upper division and graduate courses selected to advance the student in his field of specialization.

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A Thesis, Project, or Field Study

3-6 quarter units

This terminal work resulting in a thesis or written report, is to be conducted under the supervision of the staff in the area of a student's specialization for the integration of theory, practice, and research.

Degree requirements include the following:

1. Completion of an approved program of study involving a minimum of 45 quarter units of approved course work, 36 of which must be residence credits, and 18 of which must be numbered in the 6000 series. A maximum of 9 quarter units of transfer credit may be applied toward the degree.
2. Maintenance of a 3.0 (B) average or higher on work taken toward the degree.
3. Successful completion and presentation of a thesis, project, or field study.
4. All work toward the master's degree program must be completed within the seven years immediately preceeding the date on which the degree is to be awarded.

Within the general plan of the degree, a student's program will be worked out with an adviser. The sample program shown is one which might be taken by those completing a degree concentration which relates meaningfully to the school credential program authorizing service as a counselor. It is not intended as a model nor a statement of the requirements common to all candidates.

Sample Program—Counseling Specialization

<i>General Professional Education</i>	12
Educ. 6020 Research in Education	4
Psy. 4610 Psychology of Personality	4
Educ. 5010 Contemporary American Education	4
<i>Concentration</i>	20-30
Coun. 5570 Organization and Administration of Pupil Personnel Services (or Coun. 5670)	4
Coun. 6735 Educational and Vocational Planning (or Coun. 6710)	3-4
Coun. 6750 Counseling Theory (or Coun. 6720)	3-4
Coun. 6901 Appraisal Procedures	4
Coun. 6610, 6620, 6630 Pupil Personnel Seminar	2-6
Coun. 6660, 6661, 6662 Field Work in Pupil Personnel or Coun. 6760, 6761	2-6

Thesis, Project, or Field Study

3-6

Electives worked out with adviser to reach a minimum of 45 quarter units.

(Check course descriptions in the Departments of Education and Psychology also for related course listings and course prerequisites.)

Counseling

5570. Organization and Administration of Pupil Personnel Services

Study of organizational patterns; roles, responsibilities, and interrelationships of personnel assigned to further personal, educational, and vocational goals of pupils. Study of relevant laws relating to the education, employment, health, and welfare of school age children. Prerequisite: Coun. 5750. Four units. 3 hrs. lect., 3 hrs. lab.

5641. School and Child Welfare

Application of federal, state, and local laws relating to education, employment, health and welfare of school-age children. Problems of child welfare and attendance. Prerequisite: Teaching credential or consent of instructor. Three units.

5670. Organization and Administration of Pupil Personnel Services

A comprehensive study of pupil personnel services including community resources. Emphasis on the organization, administration, and evaluation of school

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services that further personal, educational and vocational goals of pupils. Prerequisites: Coun. 5750. Four units. 3 hrs. lect., 3 hrs. lab.

5750. Pupil Personnel Work

Basic services included in public school pupil personnel programs. Philosophy, rationale, and basic concepts underlying such services are developed as background for study of procedures, techniques, and materials employed by teachers, counselors, and others in providing guidance and related psychologically oriented personnel services. Prerequisite: Senior or graduate standing. 3 hrs. lect. and 3 hrs. lab. Four units.

5901. Directed Group Study

One to four units.

6025. Clinical Study of Atypical Children

Advanced case study of children who evidence mental and emotional characteristics such that their placement in the regular school curriculum is questionable. Prerequisites: Projective techniques and Individual Mental Testing. Four units. 3 hrs. lect., 3 hrs. lab.

6610, 6620, 6630. Pupil Personnel Seminar

Analysis and application of theoretical constructs to actual situations through case study methods, review and application of current research and new materials. Prerequisites: Concurrent registration in Field Work and department approval. Two units each.

6660, 6661, 6662. Field Work in Pupil Personnel Services

Supervised field work in pupil personnel services in organized program for the various specializations for the pupil personnel services credential. Prerequisite: Approval of department, advance application, concurrent registration Pupil Personnel Sem. Two units each.

6670. Supervision of Pupil Personnel Services

Study of responsibilities carried by individual serving as supervisor or director of pupil personnel services. Staffing, budget, in-service training programs. Required for supervision credential. Prerequisites: Completion of 45 units in pupil personnel, and department approval. Four units. 3 hrs. lect., 3 hrs. lab.

6735. Educational and Vocational Planning

Sources of educational and occupational information; evaluation of such information, and its clinical use in the counseling process. Prerequisite: Ed. 5750. 3 hrs. lect., 3 hrs. lab. Four units.

6746. Learning Difficulties

Diagnosis of learning problems in the major areas of the school curriculum. Identification of resources and programs useful in remediation and in improved techniques of study. Prerequisite: Upper division course work in measurement and learning. 3 hrs. lect., 3 hrs. lab. Four units.

6750. Counseling Theory

Theory and techniques of counseling students. Use of relevant environmental and individual data in facilitating personal decisions and the development of sound educational and vocational plans. Prerequisites: Ed. 5750, Coun. 6735, Coun. 6901. Four units. 3 hrs. lect., 3 hrs. lab.

6751. Advanced Counseling Seminar

Relationship of counseling theory and methodology to theory of learning and personality development. Development of a personal philosophy of counseling. Prerequisite: Coun. 6750. 3 hrs. lect., 3 hrs. lab. Four units.

6752. Rehabilitation Counseling

Special considerations involved in counseling persons with the more frequently occurring handicaps. Prerequisite: Coun. 6750. 3 hrs. lect., 3 hrs. lab. Four units.

6770. Internship in Pupil Personnel

Completion under supervision in appropriate field settings of assigned learning experiences in the area of the student's concentration. Prerequisite: Concurrent registration in Pupil Personnel Seminar, departmental approval and advance application. Two to six units, usually three quarters of two units each.

6810, 6820, 6830. Advanced Pupil Personnel Seminar

Integrative seminar for second year students focusing upon clinical application of advanced counseling, psychometric, and psychological techniques. Prerequisites: Concurrent registration in field work, department approval. Two units each.

6860, 6861, 6862. Advanced Field Work in Pupil Personnel Services

Application in field settings of advanced clinical skills related to the various areas of concentration in the credential. Prerequisites: Concurrent registration in Coun. 6810, 6820, or 6830, department approval, advance application. Two units each.

6880. Advanced Pupil Personnel Internship

Field assignment for second year students completing the requirements for the pupil personnel credential. Prerequisites: Concurrent registration in Coun. 6810, 6820, or 6830, department approval, advance application. Two to six units, usually three quarters of two units each.

6901. Appraisal Procedures

Interpretation and use of standardized tests commonly used in the counseling process. Prerequisite: Ed. 4100, Ed 5750. 3 hrs. lect., 3 hrs. lab. Four units.

6902. Group Theory and Procedures

Principles of group dynamics and group processes as applied to counseling groups organized for facilitating academic, vocational, or personal growth. Study of selected special group activities. Prerequisite: Coun. 6750, 3 hrs. lect., 3 hrs. lab. Four units.

6910. Thesis

Supervised thesis and/or project work. In addition to class sessions, students should plan on devoting substantial blocks of time to laboratory projects, research activities, and intensive periods of group study and independent writing. Prerequisite: Educ. 6020. Three-Six units.

6911. Individual Mental Testing Practicum

Clinical practice under supervision of individually administered tests of mental ability. Prerequisite: Psy. 6720. 12 hrs. lab. Four units.

6912. Projective Techniques

Study of instruments and procedures commonly employed in clinical study of emotional and social adjustment. Prerequisite: Psy. 6720. 3 hrs. lect., 3 hrs. lab. Four units.

For description of the following courses please refer to the listing under the appropriate division or department.

- Ed. 5021 The Exception Child
- Ed. 5069 Home and School
- Ed. 6020 Research in Education
- Psy. 4410 Behavior Pathology
- Psy. 4610 Psych. of Personality
- Psy. 6720 Individual Mental Tests
- Psy. 6700 Advanced Education Psych.
- Stat. 4001 Statistical Analysis I

The Department of School Administration and Supervision

The Department of School Administration and Supervision offers courses which may be used to meet State requirements for the Administration and Supervision credentials in effect before November 1, 1963, and for the Standard Supervision Credential which became effective after that date. The program of the department is designed to meet the needs of graduate students with previous successful school experience as a teacher, supervisor or administrator seeking the authorization to serve in administrative or supervisory positions in the public schools of California.

Selected program planning also may lead to the Master of Science Degree in Education as explained below.

ADMISSION TO THE PROGRAM IN SUPERVISION AND ADMINISTRATION

Students may qualify for work toward credentials in the Department of School Administration and Supervision as follows: (1) Students will be admitted to the course work of Group I below on the basis of graduate standing and satisfactory experience in the field of education. Prior to completion of the courses in Group I, the student will fill out an application form; submit a transcript; be interviewed by a member of the Education faculty; and take the standardized tests prescribed by the department. (2) Students will be admitted to preliminary candidacy and the course work in Group II following satisfactory completion of the foregoing requirements. (3) Admission to field work or the internship in Group III is limited to students for whom the department has made arrangements with a cooperating school superintendent.

I. The Administration and Supervision Credential Programs

A. Requirements for the Elementary Administration, Secondary Administration, General Administration and General Supervision Credential program.

Students who had completed some of the course requirements for the several administration and supervision credentials in effect before November 1, 1963, are eligible to continue work toward the Elementary Administration, Secondary Administration, General Administration, or General Supervision credentials until September, 1966. Such students are referred to the courses outlined in the *1963-64 Bulletin*. Before entering this program leading to any of these several credentials the student must obtain the permission of the Chairman of the Department. Upon adviser approval, students may substitute courses from the new program below.

B. Requirements for the Standard Supervision Credential

Students completing their first administration or supervision course after November 1, 1963, are required to take courses leading to the Standard Supervision Credential. This credential authorizes holders to serve in the public schools of California as a general supervisor, a curriculum consultant, a supervisor of special areas or subjects, an elementary school principal, or a secondary school principal. Students should follow the course sequence outlined below in consultation with the faculty of the department.

Courses leading to the Standard Supervision Credential fall into three groups:

- Group I Prerequisites: Graduate standing and two years of teaching experience.
SAS 6000 Leadership and School Organization (4)
----- Two additional graduate courses approved by the department.

- Group II Prerequisites: Three years of teaching experience; three courses completed at Cal-State, Hayward; preliminary acceptance into the credential program by the department.
- SAS 6200 Foundations of Curriculum Development (4)
 - SAS 6300 Procedures for Curriculum Change (4)
 - SAS 6320 Public School Supervision (4)
 - SAS 6550 The Public School Principalship (4)
 - SAS 6650 Business and Legal Aspects of School Administration (4)
- Group III Prerequisites: Four years of teaching experience; completion of all Group II courses; approval of a cooperating superintendent.
- SAS 6800 Field Work (3-3) or
 - SAS 6850 Internship (2-2-2)

II. The Master of Science Degree Program in School Administration and Supervision

A. Admission to Candidacy

This program is open to graduates of accredited institutions who hold standard teaching credentials and who have completed a minimum of two years of successful teaching. All candidates follow the same steps leading to admission to candidacy:

1. File application in the Department Office.
2. Declare degree "objective" in the Offices of Admission and Records.
3. File in the Department Office two copies of official transcripts, covering all course work completed at other institutions.
4. Pass the Aptitude Test of the Graduate Record Examination.
5. Complete the three courses in Group I, Credential Programs with a grade point average of 3.0 (B).
6. Submit a Personal Data Form describing previous training and experience.
7. Be interviewed successfully by the Credential and Degree Committee.

B. Course Requirement for the Degree—Credential and Other

1. Credential courses include all courses listed in Groups I, II, and III, Credential Programs.
2. Other courses refer to additional ones required for the degree:
 - Educ. 6700 Advanced Educational Psychology (4)
 - Educ. 5100 Evaluation in Education (4)
 - Educ. 6020 Research in Education (4)
 - Educ. 5010 Contemporary American Education (4) or
 - Educ. 5001 History of Education (3) or
 - Educ. 5000 Philosophy of Education (4)
 - Coun. 5750 Pupil Personnel Work (4)
 - SAS. 6910 Thesis or Project (3-6)

C. Completion of Requirements for the Degree

1. Maintain a grade point average of 3.0 (B) or better in all courses.
2. Complete a minimum of 36 quarter units of course work in residence.
3. Complete all course work on the degree program within seven years preceding award of the degree.
4. Pass any final comprehensive oral and/or written examinations required by the Department.
5. Bind and file copies of the thesis or project report as required.
6. Complete five years of successful teaching experience.

III. The Master of Science Degree Program in Supervision With a Specialization in Reading

A. Admission to Candidacy

Candidates will follow the same procedures as those outlined above under II A for other administration and supervision candidates, with these exceptions:

1. SAS 6550, and Coun. 5750 are not required.
2. These additional courses are required:
 - Ed. 6231 Methods, Techniques and Research for Analysis of Reading Problems
 - Ed. 6232 Correction of Reading Difficulties
 - Ed. 6233 Laboratory Practice in Correction of Reading Difficulties
 - Ed. 6236 Seminar in Reading

B. Completion of Requirements for the Degree

Candidates will satisfy the requirements as outlined under II C for other administration and supervision candidates.

DESCRIPTION OF COURSES

SCHOOL ADMINISTRATION AND SUPERVISION

5200. Curriculum Development

Study of principles, procedures, and issues in public elementary and secondary school curriculum development, improvement and evaluation. (Meets credential requirements for supervision and administration.) Prerequisite: Teaching experience, regular credential, consent of instructor. Four units.

5600. Federal, State and Local School Administration

Relationship of local school districts to county, state and federal agencies. Legal, fiscal, organizational and administrative bases. Personnel dynamics. Leadership and the several publics. Phenomenon of growth. Prerequisite: Teaching experience and consent of instructor. Four units.

5640. Legal Aspects of Education

Consideration of the legal bases of federal, state, county and local administrative levels. Major legal provisions of the California Education Code and related sources affecting the administration of public schools. Prerequisite: Teaching experience and consent of instructor. Four units.

5901. Directed Group Study

One to four units.

6000. Leadership and School Organization

Leadership theories and practices in public schools. Legal, fiscal and administrative bases for school organizations. Organizational patterns in California schools. The relationship of local districts to county, state and federal educational agencies. Prerequisite: Graduate standing and two years of teaching experience. Four units.

6100. Advanced School Curriculum

Organization of curriculum development programs; technical aspects of preparing curricula; review of pertinent research; evaluation of curriculum programs. Aspects of school housing, law, and public relations. (Meets credential requirements for supervision and administration.) For school curriculum personnel. Prerequisites: Teaching experience, regular credential. Ed. 5200 or consent of instructor. Four units.

6200. Foundations of Curriculum Development

Determinants of curricula in elementary and secondary schools. Effects of national goals, state legislation and community forces on curriculum development. Theories and patterns of curriculum organization. K-14 curriculum sequences.

Supervision, Administration

Current issues and trends. Prerequisite: SAS 6000 and Department approval. Four units.

6300. Procedures for Curriculum Change

Planning and directing curriculum improvement programs. Organizing workshops, curriculum study groups, and other in-service work by teachers and administrators. Attention to action research, child study, outside consultants, lay participation, and the development of curriculum guides. Prerequisite: SAS 6000 and Department approval. Four units.

6310. Development of Curriculum Resources

Preparation of curriculum materials, community and commercial resources, curriculum laboratory planning and utilization. Relation to library services, duplication and circulation processes, and editing procedures. District, county, state, and college services. Prerequisite: Teaching experience and consent of instructor.

6320. Public School Supervision

Principles and techniques of classroom supervision in elementary and secondary schools. Evaluation of teaching, small group processes, human relations and communication skills in working with teachers and other leadership personnel. Prerequisite: SAS 6000, 6200 and Department approval. Four units.

6500. Administration of Elementary Schools

Evaluation of modern developments in the organization and administration of elementary schools. Principles and practices of supervising staff, providing leadership for the instructional program, and managing building, budget, extra-class activities, and community relationships. Prerequisite: SAS 6000 and Department approval. Four units.

6501. Administration of Secondary Schools

Evaluation of modern developments in the organization and administration of secondary schools. Principles and practices of supervising staff, providing leadership for the instructional program, and managing building, budget, extra-class activities, and community relationships. Prerequisite: SAS 6000 and Department approval. Four units.

6510. Advanced Curriculum Development, Materials

Development of curriculum resources, school and commercial sources, curriculum laboratory planning and utilization, relation to library service, duplication processes editing procedures. District, county, state and college services. Prerequisites: Teaching experience, regular credential, Ed. 5200 or consent of instructor. Four units.

6550. The Public School Principalship

Roles and duties of elementary and secondary school principals, including building and business management, public relations, instructional supervision, guidance services, extra-class activities, and professional growth. Evaluation of recent developments in organization and scheduling. Prerequisite: SAS 6000 and Department approval. Four units.

6600. Aspects of School Finance and Business Administration

Principles, problems, and practices of educational finance and business management; state and local support; legal aspects of finance. Aspects of planning, financing, and constructing school buildings. Prerequisite: Teaching experience and consent of instructor. Four units.

6610. School Housing

Study of the problems involved in planning, financing, and constructing school buildings. Surveys, population projections, site problems, educational specifications, equipment, care and maintenance, legal provisions. Includes case studies. Prerequisite: Teaching experience and consent of instructor. Four units.

6650. Business and Legal Aspects of School Administration

Practices and problems of school finance, schoolhouse planning and construction, and business management. The legal and financial relationships of local school

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districts to county, state and federal agencies. Special attention to the provisions of the California Education Code. Prerequisite: SAS 6000 and Department approval. Four units.

6800 Series—Field Work in Administration and Supervision

6801. Field Work I

6802. Field Work II

6803. Field Work III

Supervised study of a public school problem in administration, curriculum, or supervision. Problem must be of genuine concern to a local district and approved by the superintendent. Student must enroll for a minimum of two quarters. Prerequisite: Completion of all other credential requirements; approval by the Department and the cooperating district. Three units each quarter.

6850 Series—Internship in Administration and Supervision

6851. Internship I

6852. Internship II

6853. Internship III

6850. Internship

Arranged administrative and supervisory experiences for one full school year. Student must demonstrate competencies in several assignments (public relations, business, curriculum, personnel). District provides some release time from teaching duties. Student must enroll for three quarters. Prerequisite: Completion of all other credential requirements; approval by the Department and the cooperating district. Two units each quarter.

For the description of the following courses please refer to the listing under the appropriate division or department.

Ed. 5010. Contemporary American Education

Ed. 5100. Evaluation in Education

Ed. 6020. Research in Education

Coun. 5641. School and Child Welfare

Coun. 5670. Organization and Administration of Pupil Personnel Services

6910. Thesis

Supervised thesis and/or project work. In addition to class sessions, students should plan on devoting substantial blocks of time to laboratory projects, research activities and intensive periods of group study and independent writing. Prerequisite: Ed. 6020. (Three-Six units.)

DEPARTMENT OF RECREATION

The Department of Recreation offers courses leading to the bachelor of science degree in recreation. The purpose of this program is to prepare students for full-time, professional positions in governmental and private agencies which offer recreation services.

The Department also offers course work leading to a recreation minor.

RECREATION MAJOR

Students pursuing this degree must plan their program with a recreation adviser to assure proper selection of courses.

Requirements for the degree are as follows:

I. GENERAL EDUCATION. Complete the 76-unit requirement in general education.

II. MAJOR REQUIREMENTS.

A. Foundation Area: Upper-division courses in psychology and sociology, selected from an approved list (must include at least

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two courses in each area; psychology area may include courses in education that deal primarily with concepts related to growth and development or learning, and/or anatomy and physiology). 18 units

B. *Professional Area:* Rec. 1000, 3500, 3750, 4000, 4500, 5000, 5001, 5002. 40 units

C. *Elective or Minor Area:* Distributed elective units (including such areas as art, nature study, physical education, etc.) selected from an approved list, or completion of an approved minor. 28 units
86 units

D. *Additional Requirements:* Students must demonstrate competency in speech or must have completed satisfactorily a basic course in speech. A valid American Red Cross Standard First Aid Certificate is required of all recreation majors.

Illustrative Program for the Recreation Major

FRESHMAN YEAR		Units
Sp. 1001-2. Oral and Written Expression	6	
Biol. 1000. Principles of Biology	5	
P.E. 1100. Health and Physical Activity	3	
P.E. 1010. Activity	1	
Psy. 2000. General Psychology	4	
Soc. 2000. Introduction to Sociology	4	
Rec. 1000. Nature and Scope of Recreation	4	
Rec. 1500. Social Groups in Recreation	3	
General education requirements and/or electives (includes required course in mathematics)	18	
	48	

SOPHOMORE YEAR		Units
Phys. Sci. 1340. Principles of Physical Science	5	
Psy. 2010. General Psychology II	4	
Soc. 2400. Introduction to Social Organization	4	
P.E. 1011. Activity	1	
Rec. 2000. Principles and Practices in Organized Camping	3	
Distributed elective courses, selected from approved list, or courses in minor area *	12	
General education requirements and/or electives	19	
	48	

JUNIOR YEAR		Units
Rec. 3500. The Recreation Program	6	
Rec. 3750. The Recreation Setting	6	
Jr. Sym. 3801. Junior Symposium	3	
Courses in Psychology and Sociology, selected from an approved list *	12	
Distributed elective courses, selected from approved list, or courses in minor area *	12	
General Education requirements and/or electives †	9	
	48	

* Check with major adviser for details.

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SENIOR YEAR		Units
Rec. 4000. Structure of Recreation	5	
Rec. 4500. Trends and Problems in Recreation	3	
Rec. 5000, 2. Internship I, II	14	
Rec. 5001. Internship Seminar	2	
Sr. Sym. 4801. Senior Symposium	3	
Courses in psychology and sociology, selected from an approved list *	8	
Distributed elective courses, selected from approved list, or courses in minor area *	4	
General education requirements and/or electives †	9	
	48	

RECREATION

1000. Nature and Scope of Recreation

The nature, scope, and significance of recreation, including historical developments; organizational patterns in community recreation. Four units.

1500. Social Groups in Recreation

Analysis of social recreation groups; emphasis on participant characteristics, interpersonal relationships in the recreation setting, and the role of the recreator. Laboratory experiences in community agencies. Prerequisite: P.E. 3000 (Folk & Square Dance) or equivalent. 2 hrs. lect., 2 hrs. act. Three units.

2000. Principles and Practices in Organized Camping

Principles and current practices related to organized camping, including analysis of uses of outdoor recreation resources. Field trips to school and/or agency camps. 2 hrs. lect., 2 hrs. act. Three units.

3500. The Recreation Program

General principles of programming as related to community structure; analysis of the relationship of the recreator to the program, with emphasis on organizing, teaching, group leadership, and professional roles. Prerequisite: Rec. 1000 (or equivalent) or consent of instructor. 4 hrs. lect., 6 hours supervised field work. Six units.

3750. The Recreation Setting

Introductory study of recreation and park facilities; general principles related to operation of facilities, with emphasis on staff relationships and supervision. Prerequisite: Rec. 1000 (or equivalent) or consent of instructor. 4 hrs. lect., 6 hours supervised field work. Six units.

4000. The Structure of Recreation

Analysis of the structure of recreation agencies, with emphasis on organization, administration, finance, legal aspects, personnel, and interagency relationships. Prerequisites: Rec. 3500 and 3750 or consent of instructor. 4 hrs. lect., 2 hours act. Five units.

4500. Trends and Problems in Recreation

A study of selected trends and problems in recreation, with emphasis on the influence of changing patterns of leisure in contemporary society. Three units.

4900. Individual Study

One to five units.

5000. Internship I

Half-time assignment to a public, private or specialized agency (hospital, industry, etc.), under supervision of agency representative and major adviser. Prerequisites: Departmental approval and concurrent registration in Rec. 5001. Six units.

* Check with major adviser for details.

† Upper division G.E. electives must include one course each in science and humanities, selected from approved list.

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Application for permission to enroll in Rec. 5000 must be made during the quarter preceding enrollment. A minimum grade point average of 2.0 overall and in the major, completion of Rec. 4000, completion of at least 12 units in the Foundation Area, and satisfactory recommendations from the field work aspects of Rec. 3500 and 3750 are prerequisites for enrollment. Students should see a major adviser for specific details.

5001. Internship Seminar

Consideration of problems related to Internship experiences. Prerequisite: concurrent registration in Rec. 5000. Two units.

5002. Internship II

Half-time assignment to a public, private or specialized agency (hospital, industry, etc.), under supervision of agency representative and major adviser. Prerequisites: Departmental approval and Rec. 5000 (may be taken concurrently). Eight units.

RECREATION MINOR

A recreation minor is available. Students should check with a departmental adviser for details.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

The Department of Health and Physical Education offers course work enabling a student to obtain a baccalaureate major in physical education, a credential major and minor in physical education, and a minor in health science.

In addition, the department offers a wide selection of physical education activity courses open to all interested students and sponsors programs in intramural and intercollegiate athletics.

General Education Requirement in Health and Physical Education

All students are required to complete a total of five units in health and physical education in the general education pattern. A student may elect Option I or Option II in fulfillment of this requirement.

Option I	Units
P.E. 1100 Health and Physical Activity	3
P.E. 1010-2010 Required Activity Courses	2
	5
Option II	
H. Ed. 1000 Concepts of Health	3
P.E. 1000 Fundamentals of Physical Activity	½
P.E. 1010-2010 Required Activity Courses	1½
	5

Entering freshmen take Physical Education 1000 or Physical Education 1100, depending on the option selected, during the first quarter in attendance. Option I is designed as an integrated approach to the areas of health and physical education emphasizing the basic concepts of health as related to individual fitness and physical activity. Option II divides the areas of health and physical education into separate courses.

Students are counseled during the first quarter concerning the completion of the general education requirement in health and physical education. The require-

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ment should be completed by the end of the second year. No more than one physical education activity course per quarter will count toward the satisfaction of this requirement.

Students are encouraged to elect physical education activity courses beyond the general education requirement. Up to a maximum of six units credit for general activity courses may be granted toward graduation. This limitation does not apply to units earned for participation in the intercollegiate athletic program or in the activity laboratory sequence for students majoring or minoring in physical education.

PHYSICAL EDUCATION MAJOR (B.S. DEGREE) ¹	Units	
P.E. 3100—Scope and History	4	
P.E. 3400—Kinesiology	4	
P.E. 3410—Physiology of Activity	4	
P.E. 3420—Analysis of Body Motion	4	
P.E. 4100—Seminar in Principles and Program	4	
P.E. 4600—Organization and Administration	4	
	24	24
Selected Sports Skills and Techniques ²	3	3
Professional Physical Education Electives	6	6
<i>Requirements from Related Fields</i>		
Anatomy and Physiology 3301	4	4
Anatomy and Physiology 3302	4	4
<i>Electives from Related Fields²</i>		
Anthro. 3010—Social Anthropology	4	
Biol. 2500—Genetics	5	
Biol. 3500—Evolution	3	
H.Ed. 4600—School Health Programs	3	
Phil. 3150—Aesthetics	4	
Phil. 3400—Philosophy of Science	4	
Psych. 2010—General Psychology II	4	
Psych. 3100—Experimental Psychology I	5	
Psych. 3500—Social Psychology	4	
Psych. 4300—Motivation	4	
Psych. 4410—Behavior Pathology	4	
Rec. 1000—Nature and Scope of Recreation	4	
Soc. 2010—Social Problems	4	
Soc. 3100—Social Research	4	
Soc. 3500—Social Change	4	
Stat. 1500—Elements of Probability and Statistics	5	
Stat. 2001—Statistical Analysis I	4	
Zool. 3600—General Embryology	5	
Zool. 3610—Vertebrate Anatomy	5	
	15	20
	56	61

¹ Baccalaureate program in physical education is the same for men and women.

² An activity course will be required every quarter during the upper-division (junior and senior) years. No activity may be repeated. Activities will be selected in consultation with the adviser. This requirement is in addition to the general education, health and physical education requirement.

* Students will elect, in consultation with adviser, four courses from the approved list.

Health, Physical Education

Credential Requirements for Physical Education Major

I. All students must complete the bachelor of science degree in physical education at California State College at Hayward or an equivalent degree at an accredited institution of higher learning or the equivalent courses either at California State College or other accredited institution.

II. A student must also complete the following:

	Men	Women
P.E. 3210 Series		
3211—Theory of Interscholastic Football and Basketball	3	
3212—Theory of Interscholastic Baseball and Track	3	
3213—Theory of Combatives and Team Sports	2	
P.E. 3220 Series		
3221—Theory of Women's Team Sports		4
P.E. 3230 Series		
3231—Theory of Aquatics and Gymnastics	2	2
3232—Theory of Individual Sports	2	2
3233—Theory of Games and Rhythms	2	2
P.E. 3240 Series		
3241—Theory of Modern Dance		3
P.E. 5400—Rehabilitation of Athletic Injuries or		
5420—Health Appraisal and Guidance	3	3
P.E. 5500—Evaluation of Health and Physical Education	3	3
	20	19
P.E. 5200—Methods and Materials in Health and Physical Ed.	3	

In addition to the course work specified, all teaching candidates majoring in physical education must complete (a) a series of competency tests in a variety of physical education activities; (b) the requirements for admission to teacher education; (c) the professional courses in teacher education; and (d) the requirements for a minor.

Credential Requirements for a Physical Education Minor (Men and Women)

Required Core (18 units)	Units
P.E. 3100—Scope and History of Physical Education	4
P.E. 3400—Kinesiology	4
P.E. 4600—Organization and Administration of Physical Education	4
P.E. 5400—Rehabilitation of Athletic Injuries or	
5420—Health Appraisal and Guidance	3
P.E. 5500—Education of Health and P.E.	3
Electives (12 units selected from the following courses)	
P.E. 3210 Series	
3211—Theory of Interscholastic Football and Basketball	3
3212—Theory of Interscholastic Baseball and Track	3
3213—Theory of Combatives and Team Sports	2
P.E. 3220 Series	
3221—Theory of Women's Team Sports	4
P.E. 3230 Series	
3231—Theory of Aquatics and Gymnastics	2
3232—Theory of Individual Sports	2
3233—Theory of Games and Rhythms	2

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P.E. 3240 Series	Units
3241—Theory of Modern Dance	3
3242—Composition of Dance	3
	30
P.E. 5200—Methods and Materials in Health and Physical Education	3

In addition to the course work specified, all teaching candidates minoring in physical education must complete (a) a series of competency tests in a variety of physical education activities; (b) the requirements for admission to teacher education; and (c) the professional courses in teacher education.

Recommended Program for the Physical Education Major

	Units		
	F	W	S
First Year			
Biol. 1000	5		
Eng. 1001 or Sp. 1001	3		
G.E. and/or electives	8		
P.E. 1000	½		
Zoo. 1001		3	
Eng. 1001 or Sp. 1001		3	
G.E. and/or electives		10	
P.E. 1010		½	
Zoo. 1002			3
H.Ed. 1000			3
G.E. and/or electives			9
P.E. 1030			1
Second Year			
Phys. Sci. 1340 or Chem. 1100 or Physics 1000	5		
Psy. 2000	4		
G.E. and/or electives	7		
P.E. 2010	½		
A & P 3301		4	
G.E. and/or electives		12	
P.E. 2010		½	
A & P 3302			4
Electives in assoc. fields			4
G.E. and/or electives			7
P.E. 2030			1
Third Year			
P.E. 3100	4		
P.E. 3400	4		
Electives in assoc. fields	4		
Electives	3		
P.E. 3011	½		
P.E. 3410		4	
Symposium 3901		3	
Electives in assoc. fields		4	
Electives in P.E.		3	
P.E. 3030		1	
P.E. 3420			4

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	Units		
	F	W	S
Third Year—Continued			
Upper Div. G.E.			4
Electives in assoc. fields			4
Electives			3
P.E. 3011			½
Fourth Year			
Upper Div. G.E.	4		
Electives in P.E.	3		
Electives	8		
P.E. 4011	½		
P.E. 4100		4	
Symposium 4901		3	
Electives		8	
P.E. 4030		½	
P.E. 4600			4
Electives			11
P.E. 4012			½

HEALTH EDUCATION

For details of Health Science minor, consult departmental adviser.

1000. Concepts of Health

Analysis of the basic concepts and principles of individual health. Includes the investigation and evaluation of contemporary health problems and information. Meets general education health education requirement. Three units.

1100. Health and Physical Activity

Three units. (For description see P.E. 1100.)

4600. Health Programs

Health services, environment, and information for community and social institutions. Includes administration and interpretation of medical examinations. Three units.

4900. Individual Study

Two-four units.

4901. Directed Group Study

One-four units.

5200. Methods and Materials in Health and Physical Education

Three units. (For description see P.E. 5200.)

5420. Health Appraisal and Guidance

Recognition and appraisal of illness or disability in the classroom situation. Includes handling of emergencies. Three units.

PHYSICAL EDUCATION

1000. Fundamentals of Physical Activity

Instruction in the fundamental physical skills, with emphasis on individual fitness and evaluation of skill achievement. 2 hrs. act. One-half unit.

1010.¹ 2010.² 3010.³ 4010.⁴ Beginning Activity

1011.¹ 2011.² 3011.³ 4011.⁴ Intermediate Activity

¹ Activity courses taken during the freshman year.

² Activity courses taken during the sophomore year.

³ Activity courses taken during the junior year.

⁴ Activity courses taken during the senior year.

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1012.¹ 2012.² 3012.³ 4012.⁴ Advanced Activity

Instruction in designated physical education activities on the beginning, intermediate and advanced levels. May be repeated for credit. 2 hrs. act. One-half unit.

Archery	Gymnastics
Badminton	Modern Dance
Baseball	Relaxation and Special Exercise
Basketball	Soccer
Bowling	Social Dance
Conditioning and Weight Training	Tennis
Cross Country	Track and Field
Field Hockey	Tumbling and Trampoline
Folk and Square Dance	Volleyball
Golf	Wrestling

1020.¹ 2020.² 3020.³ 4020.⁴ Intercollegiate Activity

Participation in the intercollegiate athletic program on the varsity, junior varsity or freshman level. One unit.

1030.¹ 2030.² 3030.³ 4030.⁴ Activity Laboratory for Major and Minor Students

Instruction in and practice of necessary skills prerequisite to certain professional courses. 3 hrs. act. One unit.

1100. Health and Physical Activity

Analysis and application of the basic concepts of health with particular emphasis on individual fitness and physical activity. Includes the study of individual health appraisal and problems. Meets general education health education requirement. 2 hrs. lect., 2 hrs. act. Three units.

2100. Introduction to Dance

Understanding and appreciation of dance. Development, philosophy and relationship to the other arts. Includes analysis of ballet and modern dance choreography. Three units.

3100. Scope and History of Physical Education

The study of physical education with emphasis on historical development. Includes relationship to recreation, health education, and professional preparation. Four units.

3200. Fundamental Movement

Fundamental physical skills, self-testing activities, games and sports, and rhythms. Prerequisite: Completion of general education requirements in health and physical education including folk and square dancing. 2 hrs. lect., 2 hrs. act. Three units.

3210. Series (Men)

3211. Theory of Interscholastic Football and Basketball

Theory and technique of coaching interscholastic football and basketball. Includes practice, game, and schedule organizations. 2 hrs. lect., 2 hrs. act. Three units.

3212. Theory of Interscholastic Baseball and Track

Theory and technique of coaching interscholastic baseball and track. Includes practice, game, and schedule organization. 2 hrs. lect., 2 hrs. act. Three units.

3213. Theory of Combatives and Team Sports

Analysis and practice of the skills, techniques, and knowledges involved in teaching wrestling, boxing, volleyball and soccer. Prerequisite: Activity courses in combatives and team sports and/or skill proficiency. 1 hr. lect., 2 hrs. act. Two units.

3220. Series (Women)

¹ Activity courses taken during the freshman year.

² Activity courses taken during the sophomore year.

³ Activity courses taken during the junior year.

⁴ Activity courses taken during the senior year.

3221. Theory of Women's Team Sports

Analysis and practice of the skills, techniques, and knowledges involved in teaching, coaching, and officiating team sports for women. Prerequisite: Activity courses in team sports and/or skill proficiency. 2 hrs. lect., 2 hrs. act. Four units.

3230. Series (Coeducational)**3231. Theory of Aquatics and Gymnastics**

Analysis and practice of the skills, techniques, and knowledges involved in teaching and coaching aquatics and gymnastics. Prerequisite: Activity courses in aquatics and gymnastics and/or skill proficiency. 1 hr. lect., 2 hrs. act. Two units.

3232. Theory of Individual Sports

Analysis and practice of the skills, techniques, and knowledges involved in teaching golf, tennis, archery, and badminton. Prerequisite: Activity course in individual sports and/or skill proficiency. 1 hr. lect., 2 hrs. act. Two units.

3233. Theory of Games and Rhythms

Analysis and practice of the skills, techniques, and knowledges involved in teaching lead-up games, and folk, square, and social dancing. Prerequisite: Activity courses in rhythms and/or skill proficiency. 1 hr. lect., 2 hrs. act. Two units.

3240. Series (Dance)**3241. Theory of Modern Dance**

Analysis and practice of the skills, techniques, and knowledge involved in modern dance. Includes techniques, composition, and production. Prerequisite: Activity course in modern dance and/or skill proficiency and background. 2 hrs. lect., 2 hrs. act. Three units.

3242. Composition of Dance

Choreography and composition problems in modern dance. Includes discussion and practice of movement materials, traditional and modern forms. Prerequisite: Activity course in modern dance and/or skill proficiency and background. 2 hrs. lect., 2 hrs. act. Three units.

3400. Kinesiology

Study of joint articulation, muscular action, and basic principles of body mechanics as a foundation for the analysis of motor performance in physical education activities, athletics, and physical therapy. Prerequisites: Anat. and Phys. 3301 and 3302 or equivalent. 3 hrs. lect., 2 hrs. lab. Four units.

3410. Physiology of Activity

Study of the effects of physical exercise upon the circulatory, respiratory, digestive, and nervous systems. Relationship of endurance, fatigue, training and nutrition to the efficiency of physical performance. Prerequisite: P.E. 3400. 3 hrs. lect., 2 hrs. lab. Four units.

3420. Analysis of Body Motion

Analysis of human movement in the performance of various motor skills through the application of anatomical, kinesiological, and physiological concepts. Includes consideration of individual and adapted physical education. Prerequisite: P.E. 3410. 3 hrs. lect., 2 hrs. lab. Four units.

4100. Seminar in Principles and Programs

Development of the principles and program of physical education through an analysis and study of the scientific and cultural foundations. Prerequisite: P.E. 3100 and senior standing. Four units.

4600. Organization and Administration of Physical Education

Administration and policy formulation, classification, scheduling, class organization, finances and budgeting, equipment and facilities, and public relations in physical education, athletics, and intramurals. Prerequisite: P.E. 3100. Four units.

4900. Individual Study

Two-four units.

4901. Directed Group Study

One-four units.

5200. Methods and Materials in Health and Physical Education

Methods of teaching physical education and health education on the secondary level. Instructional materials, audio-visual resources, classroom organization, management and evaluative techniques. Prerequisite: Senior standing, physical education or health education major or minor. Three units.

5210. Elementary School Physical Education

The elementary school physical education program. Includes games, sports, fundamental rhythms and dances, and other activities commonly taught on the elementary level. Prerequisite: Teaching experience or consent of instructor. Three units.

5220. Physical Education Programs in Secondary Schools

Development of total program of instruction in secondary school physical education. Methods of instruction; intramural, extramural, and interscholastic athletics; recreation, rehabilitation, and preparation of courses of study. Prerequisite: Physical education major or consent of instructor. Three units.

5400. Rehabilitation of Athletic Injuries

Application of anatomy and physiology to the analysis, care, and prevention of athletic injuries including protective strapping, conditioning and sports medicine. Prerequisite: P.E. 3400. Three units.

5420. Health Appraisal and Guidance

Three units. (For description see H.Ed. 5420)

5500. Evaluation of Health and Physical Education

Principles and techniques in evaluation of instruction in health and physical education. Emphasis is given to test administration and construction, application of statistical procedures, and development and interpretation of research data. Prerequisite: Ed. 5100 or equivalent or Stat. 1500. Three units.

5610. Physical Education Facilities and Equipment

Functional planning of indoor and outdoor physical education facilities and equipment for schools and recreation centers; design and construction of facilities for a complete physical education and recreation program; survey of school plants and recreation facilities in California. Three units.

6400. Adaptive Physical Education

A study of the theory of adapted physical education as applied to the exceptional person. Special emphasis on the contribution of related disciplines to physical education for the handicapped. Prerequisite: P.E. 3420. 3 hrs. lect., 2 hrs. lab. Four units.

6410. Motor Learning and Performance

Advanced study of the scientific basis of movement behavior with an emphasis upon learning and performance variables. Prerequisite: P.E. 3420. 3 hrs. lect., 2 hrs. lab. Four units.

6800. Research in Health and Physical Education

Study and application of research techniques to selected problems in health and physical education. Prerequisite: P.E. 5500 and Ed. 5100 or Stat. 1500. Four units.

DIVISION OF HUMANITIES

English, Foreign Languages, History, Philosophy

Professors: Biella (head), Conner, Cuomo, Ham, Larsen, Mayers (chairman, department of Philosophy), Nikam, Pease, Peterson, Rice (chairman, Department of History), Rosenbaum, Vidal, Williams; Associate Professors: Bryant, Chan, Descouzis, DuFort, Roszak, Thompson, Vatuk; Assistant Professors: Beck, Berlinger, Brown, Carter, Clay, Collier, Cranston, Cummins, Dodson, Ewer, Furay, Glavin, Graham, Harrell, Jayne, Johnson, Kowalski, Krafchick, Lubin, Luppoli, Nomikos, Ovalle, Owens, Raack, Reeves, Reuter, Smith, Staehle, Staniforth, Sylvester, Valenza, Walz, Weeter, Yalom; Instructors: Frederick, Ganz, Johnson, Osborne, Pyne.

CURRICULA OFFERED

Graduate Degree

English (M.A.)

Baccalaureate Degrees

English (B.A.)

French (B.A.)

History (B.A.)

Language Arts (B.A.) An interdivisional major.

Social Science (B.A.) An interdivisional major; see Social and Behavioral Science for details.

Spanish (B.A.)

Minors

English

French

History

Philosophy

Spanish

PURPOSES

This division offers instruction in English, history, foreign languages, and philosophy. The courses lead to liberal arts degrees in English, French, history, and Spanish and to teaching majors and minors for the standard teaching credentials. Candidates for the master's degree in English may take courses leading to junior college teaching. Some of the offerings satisfy part of the general education requirements of the College.

HONORS IN ENGLISH AND HISTORY

The Division of Humanities offers upper-division English and History honors on the tutorial plan to students who can qualify for admission to honors. The purpose of the program is to offer mature students the opportunity for intensive special projects in reading, research, and writing in areas not ordinarily covered in the curriculum. The course includes the two years prior to graduation. Candidates will normally take two or three units each quarter for five of the six quarters. Applicants for the program will be selected by an honors board, and the actual deter-

mination of the honors award will be made by the board in the final quarter of the program. Students who complete the course successfully will receive the citation *Honors in English* or *Honors in History* upon graduation.

ENGLISH MAJOR

A candidate for the degree of Bachelor of Arts with major in English will:

I. Complete 76 units in general education, as prescribed by the faculty of the college. English courses in the 1000 series are designed to satisfy general education requirements.

II. Demonstrate a reading knowledge of a modern foreign language.

III. Complete requirements in the major: 48 units, including

A. A course in advanced writing (4 units).

B. Eng. 3250, Introduction to Shakespeare, and one other course in Shakespeare (8 units total).

C. Eng. 4040, Modern English Grammar (5 units).

D. A prescribed list of readings in English and American literature and language, designed to produce familiarity with the several types of literature, and with the works of the major writers of all periods. The student is advised to begin this reading as soon as he decides to major in English, and to read intensively during summer vacations. The reading program will culminate in:

E. Eng. 4950, Pro-seminar in English. The final examination in this course will be based on the reading list in (D) and will therefore be in effect a comprehensive examination in English (4 units).

F. Other courses in English, including

(1) Not more than 8 units in the 2000 series

(2) At least one of these courses: 3100, 3200, 3300, 3400, 3500

(3) At least one of these courses: 3600, 3601, 3650

(4) At least one of these courses: 4100, 4200, 4300, 4400, 4500, 4650, 4850.

IV. Candidates for the standard teaching credential with specialization in secondary teaching must complete (a) a baccalaureate degree with major in English; (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education, including English 5950. Consult with advisers in English and the Division of Education for details.

V. Candidates for the standard teaching credential with specialization in elementary teaching must complete (a) a baccalaureate degree with a major in English; (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education. Consult with advisers in English and the Division of Education for details, particularly concerning recommended patterns of general education courses.

NOTE: Eng. 4900 or 4901 may be substituted for any 4-unit section of the course requirements in English except 3250.

General English Minor

ENGLISH MINOR

I. Complete the following requirements: 30 quarter-units including Eng. 3250, Eng. 3020, and 4040.

A. Candidates for the standard teaching credential with specialization in secondary teaching must complete Eng. 5950 unless the adviser in English makes a specific exemption. Consult the Division of Education for requirements in professional education.

- B. Candidates for the standard teaching credential with specialization in elementary education must consult advisers in English and the Division of Education for details concerning professional education courses and recommended patterns of general education courses.

English Minor With Journalism Emphasis

- I. Complete the following requirements in the Upper Division: 30 quarter-units including Eng. 3250; Eng. 4040; 2 of these courses: Eng. 3100, 3200, 3300, 3400, 3500, 3800, 3801, 3802; 1 of these courses: Eng. 3600, 3601, 3650; Jour. 5200; and either Jour. 3400 or 4500.
- II. Candidates for teaching credentials see section A and B under General English minor.

MASTER OF ARTS IN ENGLISH

For admission to the program leading to the M.A. in English a student must hold a baccalaureate degree from an accredited college, with a major in English; his grade-point average in his English courses normally must be at least 3.0. Transfers from other colleges will be expected to familiarize themselves with the readings required of English majors at California State College at Hayward, and to read in areas in which they are deficient. A student who does not meet any of these requirements may petition the department by letter.

To qualify for candidacy for the M.A. in English, a student must (1) attain a satisfactory score on a Graduate Record Examination; (2) no later than the end of his second full quarter of graduate study, demonstrate a reading knowledge of a modern foreign language (Greek or Latin may be substituted, at the discretion of the department); and (3) complete at least 15 units of graduate work acceptable for the M.A.

The program leading to the M.A. in English requires the completion, with grades of A or B, of at least 45 quarter-units of credit beyond the B.A., including

- (1) Eng. 6000, 6010, 6020, and 6910 (thesis or equivalent);
- (2) Not more than 16 quarter-units of course work in the 3000 and 4000 series, approved by adviser;
- (3) Elective courses in the 6000 series, to complete the 45-unit requirement.

FRENCH MAJOR

A candidate for the degree of bachelor of arts with a major in French will:

- I. Take a proficiency examination in language competence given for the placement of students in appropriate French language and literature courses.
- II. Complete the 76-unit requirement in general education. Acquisition of a reading knowledge in a second language (e.g., by completion of a relevant minor) is strongly recommended.
- III. In Lower Division complete the 24 units provided by Fr. 1001 through Fr. 2003 (or equivalent).
- IV. In Upper Division complete Fr. 3001, 2, 3; and 33 units from among the literature courses.
- V. Candidates for the standard teaching credential with specialization in secondary teaching must complete (a) a baccalaureate degree with a major in French; (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education, including For. Lang. 5950. Consult with advisers in French and the Division of Education for details.

- VI. Candidates for the standard teaching credential with specialization in elementary teaching must complete (a) a baccalaureate degree with a major in French, (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education. Consult with advisers in French and the Division of Education for details, particularly concerning recommended patterns of general education courses.

FRENCH MINOR

- I. In Lower Division complete requirement III under major.
- II. In Upper Division complete Fr. 3001, 2, 3; and 9 units from among the literature courses.
- III. Candidates for the standard teaching credential with specialization in secondary teaching must complete For. Lang. 5950 unless the adviser in French makes a specific exemption. Consult the Division of Education for requirements in professional education.
- IV. Candidates for the standard teaching credential with specialization in elementary teaching must consult advisers in French and the Division of Education for details concerning professional education courses and recommended patterns of general education courses.

HISTORY MAJOR

I. General Education

Complete the 76-unit requirement in general education. A minimum of 4 quarter units in political science and 4 quarter units in economics are strongly recommended as a part of the social and behavioral science requirement in general education.

- II. Demonstrate a reading knowledge of one foreign language. Proficiency may be demonstrated either by two years of college level course work or by examination.

III. Complete the following requirements in the major:

Lower division: A minimum of 8 quarter units in either world history, western culture, or history of the Americas.

Upper division: A minimum of 40 quarter units in history, to include Hist. 4030 and Hist. 4031. Each student must take a minimum of 8 units in sequence in *each of three* of the following fields: (a) ancient and medieval; (b) modern Europe; (c) Asia; (d) United States; (e) Latin America. A comprehensive examination must be passed in the senior year. Hist. 3400 may not be counted toward completion of the 40-unit requirement.

HISTORY MINOR

A minor in history requires a minimum of thirty quarter units, at least twenty of which must be in upper-division courses, including one two-course sequence. The History of Western Culture course will fulfill six of the lower-division unit requirements.

TEACHER CREDENTIAL CANDIDATES

History may be offered as an academic major or minor by candidates for standard teaching credentials. Candidates must complete (a) a baccalaureate major (or minor) in history; (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education. Students should consult with advisers in history and the Division of Education for details.

LANGUAGE ARTS MAJOR

- I. Complete the 76 unit requirement in general education.

II. Complete these requirements in the following departments:

- A. *English* 2070, 3020, 3650, * 3700, * 3701, * 3702, 4040, and 5670.
 B. *Speech and Drama* 2310, * 3201, * 3202, * 3203, 3650, 5201, 5202, 5203.
 C. *Journalism* 3400 or 5200.
 D. *Education* 5240.

III. Sufficient additional courses in either *English* or *Speech and Drama* to complete a total of not less than 36 units of upper division work in that department, chosen from the following:

English 3250, 3500, 3600, 3800, 4060, 4070.

Speech and Drama 3310, 4050, 4650.

SPANISH MAJOR

I. Proficiency Examination

A proficiency examination designed to place lower-division students at appropriate levels of language achievement will be given. Students admitted to a more advanced level through this examination will be held responsible for the remaining number of units in the fulfillment of the lower-division requirement.

II. Spanish Major (BA)

A. General Education

Complete the 76-unit requirement in general education. Proficiency in another foreign language, both audio-lingual and reading, is strongly recommended.

B. Spanish

Lower Division: 24 units including the following courses: Span. 1001, 2, 3; Span. 2001, 2, 3. (Span. 2101, 2, 3 are strongly recommended for the Spanish major.)

Upper Division: 45 units including the following courses: Span. 3001, 2, 3; Span. 3101, 2, 3; Span. 3301, 2; Span. 4001, 2, 3; Span. 4503 and nine units chosen from the following: Span. 4101, 2, 3; Span. 4201, 2, 3; Span. 4301, 2, 3; Span. 4900, 1.

C. Candidates for the standard teaching credential with specialization in secondary teaching must complete (a) a baccalaureate with a major in Spanish; (b) the required professional courses in teacher education, including For. Lang. 5950. Consult with advisers in Spanish and the Division of Education for details.

D. Candidates for the Standard Teaching Credential with specialization in elementary teaching must complete (a) a baccalaureate degree with a major in Spanish; (b) the requirements for admission to teacher education; and (c) the required professional courses in teacher education, including Span. 5101. Consult with advisers in Spanish and the Division of Education for details, particularly concerning recommended patterns of general education courses.

III. Spanish Minor

A. Lower Division: As outlined above for the Spanish major.

B. Upper Division: 18 units: Span. 3001, 2, 3; Span. 3101, 2, 3.

* The student takes either of these two sets of courses (*English* 3700, 3701, 3702 or *Speech/Drama* 3201, 3202, 3203), not both.

C. Candidates for the Standard Teaching Credential with specialization in secondary teaching must complete For. Lang. 5950. Consult advisers in Spanish and the Division of Education for requirements in professional education.

D. Candidates for the Standard Teaching Credential with specialization in elementary education must complete Span. 5101. Consult advisers in Spanish and the Division of Education for details concerning professional education courses and recommended patterns of general education courses.

Illustrative Program for the Spanish Major

	FALL	WINTER	SPRING
Freshman			
Spanish 1001	4	Spanish 1002	4
English 1001	3	English 1002	3
History 1101	4	History 1102	4
P.E. 1100	3	Philosophy 1000	4
		P.E. 1010	1/2
	14	15 1/2	14 1/2
Sophomore			
Spanish 2001	4	Spanish 2002	4
Foreign Language 1001	4	Foreign Language 1002	4
Psychology 2000	4	Physical Science	5
Creative Arts	3	Social Science	4
P.E. 2010	1/2	P.E. 2010	1/2
	15 1/2	17 1/2	15
Junior			
Spanish 3001	3	Spanish 3002	3
Spanish 3101	3	Spanish 3102	3
Foreign Language 2001	4	Foreign Language 2002	4
Junior Symposium 3801	3	Life or Physical Science	4
Social Science	4	Junior Elective	3
	17	17	17
Senior			
Spanish 4001	3	Spanish 4002	3
Spanish 3301	3	Spanish 3302	3
Spanish Elective	3	Spanish Elective	3
Senior Symposium 4801	3	Senior Elective	3
Senior Elective	3	Senior Elective	3
	15	15	15

PHILOSOPHY MINOR

A minor in philosophy requires the following: 32 units including Phil. 1000, 2100; 3 of these courses: Phil. 2000, 3000, 3001, 3002; and any 3 additional upper-division philosophy courses.

DESCRIPTION OF COURSES

ENGLISH

- * **1001. Expository Writing**
The theory and practice of expository writing. Three units.
- 1002. Exposition and Rhetoric**
The theory and practice of expository writing. Three units.
- 1010. Introduction to Literature**
Studies in prose fiction, verse, and the drama. Prerequisite: Eng. 1001-2, SpDr 1001-2, or equivalent. Five units.
- 1250. Readings in Shakespeare**
Exposition and discussion, including historical and critical perspectives, of selected Shakespearean plays. Not open to English majors. Five units.
- 1811. Introduction to Poetry**
The elements of poetry: a study of structure, imagery, theme, and rhythm. Prerequisite: Eng. 1001-2, SpDr 1001-2, or equivalent. Five units.
- 1812. Introduction to Dramatic Literature**
Elements of the drama: a study of dramatic structure, characterization, and theme. Prerequisite: Eng. 1001-2, SpDr 1001-2, or equivalent. Five units.
- 1813. Introduction to Fiction**
Elements of fiction: a study of plot, characterization, language, and theme. Prerequisite: Eng. 1001-2, SpDr 1001-2, or equivalent. Five units.
- 2070. Introduction to Creative Writing**
Introduction to imaginative writing of various types. Four units.
- 3020. Advanced Expository Writing**
Expository writing and analysis in relation to traditional and contemporary theories of composition. Four units.
- 3100. Beowulf to Marlowe**
Epic and Romance, Chaucer, drama, other poetry and prose. Four units.
- 3200. Spenser to Milton**
Elizabethan, Jacobean, and Puritan; drama, poetry, and prose exclusive of Shakespeare; Milton. Four units.
- 3250. Introduction to Shakespeare**
Techniques and conventions of the Elizabethan theater; Shakespeare's comedies, histories and tragedies. Four units.
- 3251. Shakespeare's Comedies and History Plays**
Analysis of selected comedies and history plays. Prerequisite: Eng. 3250. Four units.
- 3252. Shakespeare's Tragedies**
Analysis of selected tragedies. Prerequisite: Introduction to Shakespeare. Four units.
- 3300. Dryden to Burns**
Restoration and 18th century poetry and prose; the novel; the drama. Four units.
- 3400. Wordsworth to Shaw**
Romantic, Victorian, and *fin de siècle* poetry and prose; the novel; the drama. Four units.
- 3500. Contemporary English Literature**
Major trends in British literature from World War I to the present. Four units.
- 3600. American Literature to 1865**
Writings of the colonial and revolutionary periods; transcendentalism; major poets and novelists. Four units.

* A student who has failed either English 1001 or Speech and Drama 1001 must present evidence of satisfactory completion of an independent study course (emphasizing the mechanics of English) or equivalent before registering in either of these courses.

- 3601. American Literature from the Gilded Age to 1918**
Realism and naturalism, major poets and novelists. Four units.

- 3650. Contemporary American Literature**
Major trends in American literature from World War I to the present. Four units.

- 3701. World Literature I**
Selected writings from the great cultures of the world from ancient times through the Middle Ages. Four units.

- 3702. World Literature II**
Selected writings from the great cultures of the world from the Renaissance through the Enlightenment. Four units.

- 3703. World Literature III**
Selected writings from the great cultures of the modern world. Four units.

- 3800. History of the Drama I**
Medieval and Elizabethan drama exclusive of Shakespeare. Four units.

- 3801. History of the Drama II**
Jacobean, Restoration, and 18th century drama. Four units.

- 3802. History of the Drama III**
19th and 20th century British and American drama. Four units.

- 4040. Modern English Grammar**
Review of traditional grammar; overview of modern linguistic theories. Five units.

- 4060. Introduction to Linguistics**
Origin, nature, and philosophy of language; history and comparison of language systems and structures. Four units.

- 4070. Creative Writing**
Writing descriptive sketches, short character studies, brief narrations, short stories, and simple poems; reading various types of imaginative writing. Four units.

- 4100. Studies in Medieval Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Eng. 3100 or equivalent. Four units.

- 4200. Studies in Renaissance Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Eng. 3200 or equivalent. Four units.

- 4300. Studies in Restoration and Eighteenth Century Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Eng. 3300 or equivalent. Four units.

- 4400. Studies in Nineteenth Century Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Eng. 3400 or equivalent. Four units.

- 4500. Studies in Contemporary English Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Either Eng. 3500 or Eng. 3650 or equivalent. Four units.

- 4650. Studies in Contemporary American Literature**
Intensive study of an important literary topic in the period. Maximum total credit 8 units. Prerequisite: Either Eng. 3600 or Eng. 3601 or equivalent. Four units.

- 4850. Studies in the Novel**
Intensive study of selected novels. Maximum total credit six units. Three units.

- 4900. Individual Study**
One-four units.

- 4901. Directed Group Study**
One-four units.

French

4950. Pro-seminar in English

An intensive survey of English and American literature and language. Includes a comprehensive examination in English. Four units.

4990. Honors in English

Intensive research and reading open to selected students only. A tutorial program to be taken for five of the six quarters prior to the student's graduation. Two to three units per quarter.

5670. Literature of California

Literature of California from the earliest times to the present. Three units.

5950. Teaching English in the Secondary School

Methods and curricula for the teaching of English in the junior high school, the high school, and the junior college. Audio-visual techniques. Prerequisite: Consent of instructor. Three units.

6000. Bibliography and Methods of Research

Introduction to bibliographic aids and materials; textual criticism; preparation of scholarly writing. Four units.

6010. Literary Criticism

Theory and practice of literary criticism; study of important critical works. Four units.

6020. Foundations of the English Language

Intensive study of representative writings in English from the beginnings to the Age of Johnson; development of modern pronunciation, sentence structure, and prose style. Four units.

6200. Renaissance Rhetoric and Poetics

Seminar in classical and medieval origins of Renaissance literary theory. Four units.

6210. Renaissance Drama

Seminar in themes and conventions; intensive study of a single dramatist or genre. Four units.

6900. Thesis

Thesis or an equivalent work in fiction, verse, or drama. Nine units.

FOREIGN LANGUAGES

FRENCH

Note: Students may be admitted to any of the following courses by consent of instructor.

1001. Elementary French

Introduction to the reading, writing, understanding, and speaking of French. Four units.

1002. Elementary French

Continuation of 1001. Prerequisite: French 1001. Four units.

1003. Elementary French

Continuation of 1002. Prerequisite: French 1002. Four units.

2001. Intermediate French

Continuation of 1003, with increased emphasis on the reading and writing of French. Prerequisite: French 1003. Four units.

2002. Intermediate French

Continuation of 2001. Prerequisite: French 2001. Four units.

2003. Intermediate French

Continuation of 2002. Prerequisite: French 2002. Four units.

3001. French Syntax

Written French and formal grammar. Prerequisite: French 2003. Three units.

German

3002. French Syntax

Continuation of 3001. Prerequisite: French 3001. Three units.

3003. French Syntax

Continuation of 3002. Prerequisite: French 3002. Three units.

3101. French Romanticism and Realism

Manifestations of romanticism and realism in French literature, with emphasis on nineteenth-century fiction. Prerequisite: French 2003. Three units.

3102. French Romanticism and Realism

Continuation of 3101. Prerequisite: French 2003. Three units.

3201. French Drama

Tragedy and comedy, with emphasis on the classical period. Prerequisite: French 2003. Four units.

3202. French Drama

Continuation of 3201. Prerequisite: French 2003. Four units.

4101. Contemporary French Literature

French fiction, poetry, and criticism from the mid-1880's to the present. Prerequisite: French 2003. Four units.

4102. Contemporary French Literature

Continuation of 4101. Prerequisite: French 2003. Four units.

4103. Contemporary French Literature

Continuation of 4102. Prerequisite: French 2003. Four units.

4301. The "Age of Enlightenment" in France

The era of Montesquieu, Diderot, Rousseau, and Voltaire. Prerequisite: French 2003. Three units.

4302. The "Age of Enlightenment" in France

Continuation of 4301. Prerequisite: French 2003. Three units.

4303. The "Age of Enlightenment" in France

Continuation of 4302. Prerequisite: French 2003. Three units.

4900. Individual Study

One-four units.

4901. Directed Group Study

One-four units.

GERMAN

1001. Elementary German

An audio-lingual approach to German, designed to give students skill in understanding, speaking, reading and writing the language. Four units.

1002. Elementary German

Continuation of 1001. Prerequisite: Ger. 1001 or consent of instructor. Four units.

1003. Elementary German

Continuation of 1002. Prerequisite: Ger. 1002 or consent of instructor. Four units.

2001. Intermediate German

A continuation of German 1003 with increased emphasis on audio-lingual facility, written composition and collateral reading. Prerequisite: Ger. 1003 or consent of instructor. Four units.

2002. Intermediate German

Continuation of 2001. Prerequisite: Ger. 2001 or consent of instructor. Four units.

2003. Intermediate German

Continuation of 2002. Prerequisite: Ger. 2002 or consent of instructor. Four units.

4900. Individual Study

One-four units.

4901. Directed Group Study

One-four units.

SPANISH

1001. Elementary Spanish

An audio-lingual approach to Spanish, designed to give students skill in understanding, speaking, reading and writing the language. No prerequisite. Four units.

1002. Elementary Spanish

Continuation of 1001. Prerequisite: Span. 1001 or consent of instructor. Four units.

1003. Elementary Spanish

Continuation of 1002. Prerequisite: Span. 1002 or consent of instructor. Four units.

2001. Intermediate Spanish

A continuation of Span. 1003 with increased emphasis on audio-lingual facility, written composition and collateral reading. Prerequisite: Span. 1003 or consent of instructor. Four units.

2002. Intermediate Spanish

Continuation of 2001. Prerequisite: Span. 2001 or consent of instructor. Four units.

2003. Intermediate Spanish

Continuation of 2002. Prerequisite: Span. 2002 or consent of instructor. Four units.

2101. Spanish Conversation

Practical application of Spanish in present-day experiences. Spanish sounds and intonation; vocabulary building. Prerequisite: Span. 1003 or consent of instructor. Three units.

2102. Spanish Conversation

Continuation of 2101. Prerequisite: Span. 2101 or consent of instructor. Three units.

2103. Spanish Conversation

Continuation of 2102. Prerequisite: Span. 2102 or consent of instructor. Three units.

3001. Spanish Grammar

Essentials of Spanish grammar and their application to advanced work in the language. Prerequisite: Major in Spanish or consent of instructor. Three units.

3002. Spanish Lexicon

Spanish vocabulary: word formation, cognate and topical vocabularies, and word families. Prerequisite: Major in Spanish or approval of instructor. Three units.

3003. Spanish Phonetics

Detailed study of the formation of Spanish sounds and intonation. Particular stress will be given to the problems English-speaking students face in acquiring an authentic pronunciation of Spanish. Prerequisite: Major in Spanish or consent of instructor. Three units.

3101. Survey of Spanish Literature: Middle Ages and Early Renaissance

Study of literary Spain of the Middle Ages and Early Renaissance. Prerequisite: Major in Spanish or consent of instructor. Three units.

3102. Survey of Spanish Literature: Renaissance, Golden Age and Baroque

Study of Spanish literature from the Renaissance to the 18th century. Prerequisite: Major in Spanish or consent of instructor. Three units.

3103. Survey of Spanish Literature: 18th, 19th and 20th Centuries

Study of Spanish literature from the 18th century to the present. Prerequisite: Major in Spanish or consent of instructor. Three units.

3301. Spanish Culture and Civilization: Prehistoric Period to Reign of the Catholic Kings

A study of Spanish culture—history, art, architecture and philosophy from the prehistoric period to the reign of the Catholic Kings. Prerequisite: Major in Spanish or consent of the instructor. Three units.

3302. Spanish Culture and Civilization: Reign of the Catholic Kings to Present

A study of Spanish culture—history, art, architecture and philosophy from the reign of the Catholic Kings to the present. Prerequisite: Major in Spanish or consent of instructor. Three units.

4001. Spanish Syntax

Detailed study of synchronic Spanish syntax. Prerequisite: Span. 3001 or consent of instructor. Three units.

4002. Spanish Syntax

Continuation of 4001. Prerequisite: Span. 4001 or consent of instructor. Three units.

4003. Spanish Syntax

Continuation of 4002. Prerequisite: Span. 4002 or consent of instructor. Three units.

4101. The Golden Age: Prose

The novel of the Golden Age in its various forms and non-fictional prose. Prerequisite: Major in Spanish or consent of instructor. Three units.

4102. The Golden Age: Drama

The major dramatists before Lope de Vega and the dramas of the cycles of Lope de Vega and Calderón. Prerequisite: Major in Spanish or consent of instructor. Three units.

4103. The Golden Age: Poetry

Study of the major poets of the Golden Age. Prerequisite: Major in Spanish or consent of instructor. Three units.

4201. The 19th Century Spanish Literature: Novel

Selected readings from the major novelists of the 19th century, including Alarcón, Galdós, Pereda and Pardo Bazán. Prerequisite: Major in Spanish or consent of instructor. Three units.

4202. The 19th Century Spanish Literature: Drama

Selected readings from major dramatists of the 19th century. Prerequisite: Major in Spanish or consent of instructor. Three units.

4203. The 19th Century Spanish Literature: Poetry

Selected readings from the major poets of the 19th century. Prerequisite: Major in Spanish or consent of instructor. Three units.

4301. Contemporary Peninsular Readings: The Generation of '98

Study of the major poets, novelists and essayists of the Generation of '98. Prerequisite: Major in Spanish or consent of instructor. Three units.

4302. Contemporary Peninsular Readings: Novel and Essay

Study of the major novelists and essayists of the 20th century. Prerequisite: Major in Spanish or consent of instructor. Three units.

4303. Contemporary Peninsular Readings: Poetry and Drama

Major poets and dramatists of the 20th century. Prerequisite: Major in Spanish or consent of instructor. Three units.

4503. Proseminar in Hispanic Studies

Review of Spanish language, literature and civilization. Prerequisite: Major in Spanish with senior standing or consent of instructor. Three units.

4900. Individual Study

Two-four units.

4901. Directed Group Study

One-four units.

5101. Spanish Language and Methods for Elementary Teachers

Methodology in teaching Spanish at the elementary level. Particular stress will be given to improvement in linguistic skills. Prerequisite: One year of college Spanish and consent of instructor. Three units.

5102. Spanish Language and Methods for Elementary Teachers

Continuation of 5101. Prerequisite: Span. 5101 or consent of instructor. Three units.

5103. Spanish Language and Methods for Elementary Teachers

Continuation of 5102. Prerequisite: Span. 5102 or consent of instructor. Three units.

FOREIGN LANGUAGES**5950. Methods in the Teaching of Foreign Languages**

Methods, practice, and techniques in the teaching of modern foreign languages on the secondary level. Particular stress will be given to the audio-lingual and audio-visual approach. Prerequisites: Competence in at least one foreign language and consent of instructor. Three units.

HISTORY**I. Lower Division**

HWC 1001, 1002, 1003. History of Western Culture courses are listed at the front of the Bulletin under Interdivisional Programs in General Education.

1101. History of the United States to 1865

A survey of the development of the American nation from colonial times to the close of the Civil War. (With Hist. 1102 meets statutory requirements in U.S. History and American Institutions.) Four units.

1102. History of the United States Since 1865

A survey of American history from the Civil War to the present. (With Hist. 1101 meets statutory requirements in U.S. History and American Institutions.) Four units.

2001. Introduction to European History

A general introduction to European History from Ancient Mediterranean times to the Renaissance. Four units.

2002. Introduction to European History

A general introduction to European History from the Renaissance to the Present. Four units.

II. Upper Division**Ancient and Medieval****3100. Ancient History**

Greece and Rome from the ancient city-states and monarchies to the decline of the Roman Empire. Four units.

3115. Europe in the Early Middle Ages

Political, social, intellectual, and economic evolution of Europe from the decline of the Roman Empire to about 1050. Four units.

3116. Europe in the Later Middle Ages

A continuation of Hist. 3115. Europe from the 11th century to the 15th century. Four units.

Modern Europe**4125. The European Renaissance**

The culture of Italy, France, Spain, Germany, the Netherlands, and England of the 14th, 15th, and 16th centuries, in the relevant setting of general history. Four units.

4126. The Reformation Era

The Protestant revolt and the Catholic Reformation, studied in the context of the general revolution of European culture and society in the 16th century and against the background of medieval doctrine and heresy. Four units.

4140. Early Modern Europe

Europe from 1600 to 1789. Post-Renaissance western Europe political and cultural development, including the Age of Enlightenment. Four units.

4150. The French Revolution and Napoleon

The French Revolution, 1789-1799, studied as a part of a pattern of democratic revolutions in Europe and America. Four units.

4160. Europe in the 19th Century

From Waterloo to Sarajevo. Development of dominant ideologies. Four units.

4180. Europe in the 20th Century

The transformation of traditional European institutions and values in the century of total war. Four units.

4200. Tudor and Stuart England

History of England from 1485 to 1689. The English Reformation and the growth of parliamentary institutions through the Glorious Revolution of 1688. Four units.

4201. England 1689-1815

English society in the time of the Enlightenment. The rise and growth of the British Empire through the American Revolution. The Napoleonic Wars. Four units.

4202. England Since 1815

England in the era of rapid industrial growth. "Victorianism." Expansion of democratic institutions. The "New Imperialism." The Commonwealth. Problems and prospects of contemporary British society. Four units.

5210. History of Russia

History of Russia from 1800 to the present. The internal problems and international relations emphasizing the importance of Russian history for an understanding of modern Soviet Russia. Four units.

Asia**3300. The Ancient Orient**

Introduction to traditional Oriental civilization from the earliest cities to the coming of the Western empire builders. Four units.

3301. Modern Asia

Oriental civilizations under the impact of the West, with emphasis on the development of China and Japan since the 19th century. Four units.

4310. Traditional China

Political, cultural, social history of China to the 19th century. Four units.

4311. Modern China

Revolutionary changes in 19th and 20th century China brought about by the Western impact. Four units.

4320. History of Japan

Japan from early times to the present, with emphasis on the modern period. Four units.

4330. History of India and Southeast Asia

India and the lands of southeast Asia from early times to the present; European dominion; achievement of independence; problems of national development. Four units.

4340. The Moslem World

History of the Islamic world from the seventh century to the present. Four units.

United States**3400. American History**

Political and social history of the United States from colonial times to the present. A survey of the transformation of an agrarian society into a complex industrial-urban order. (Satisfies statutory requirement in U.S. history.) Four units.

3411. The United States: Colonial Period

The thirteen Colonies: European background, settlement and expansion, and development to the Revolution. Four units.

3412. The United States: American Revolution

The struggle for Independence, 1763-1789. Intensive study of the causes of the American Revolution, Confederation Period and the Constitution. Four units.

3413. The United States: The New Nation

Domestic and foreign problems of the new nation to 1846. Four units.

3414. The United States: Civil War and Reconstruction

Study of the Civil War, its causes and the Reconstruction Period. Four units.

4411. The United States: Emergence of the Modern Nation

The U. S. from 1877 to 1920. The rise of American industrialism, populism, imperialism, progressivism and World War I. Four units.

4412. The United States: The New Deal Era

Republican ascendancy through World War II. Origins of the Depression, Franklin Delano Roosevelt and the New Deal. Four units.

4413. The United States: Recent American History

The U. S. from 1945 to the present. Domestic problems and world leadership during the postwar era. Four units.

4500. The Westward Movement

Westward expansion of the United States from 1763 to 1900; development of western states and effect on the history of the nation. Four units.

4511. Intellectual History of the United States to 1865

American thought from the colonial period to the Civil War. The growth of political, religious, scientific, literary, and educational ideas. Four units.

4512. Intellectual History of the United States Since 1865

American thought from the Civil War to the present. Topics covered will include the growth of political, religious, scientific, literary and educational ideas. Four units.

4530. Diplomatic History of the United States to 1898

The colonial origins of American foreign policy and analysis of the diplomatic history of the United States from the American Revolution to the post-Civil War decline in foreign interest. Four units.

4531. Diplomatic History of the United States Since 1898

Analysis of the foreign policies and diplomatic history of the United States from the Spanish-American War to the present. Four units.

4540. History of California

California history from early Spanish occupation to the present, emphasizing the influence of geography, natural resources, and a growing population. Satisfies requirement in California state and local government. Four units.

Latin America**3600. Latin America: Colonial Period**

Discovery, conquest, and settlement of Spanish and Portuguese America; independence; evolution of society and institutions to 1825. Four units.

3601. Latin America: Since 1825

Political, economic, and social development of the Latin American nations in the 19th and 20th centuries. Four units.

4610. Mexico Since 1821

The development of Mexico since independence; evolution of political, economic, and social institutions. Four units.

4620. The A B C Powers

History of Argentina, Brazil, and Chile since independence. Four units.

General**4000. Contemporary World Problems**

World affairs from 1914 to the present; present foreign policies of the major powers in their historical, political, and economic setting; events leading to World War II; the United Nations; current major issues. Four units.

4030. Introduction to Historiography

A critical study of the writings of the great historians. Four units.

4031. Proseminar in Historical Method

Introduction to the methods of historical research through the preparation of a research paper. Prerequisite: Senior standing. Four units.

4520. International Relations

See Pol. Sci. 4520. Four units.

4711. Development of Western Political and Social Thought

See Pol. Sci. 4711. Four units.

4712. Modern Democratic Thought

See Pol. Sci. 4711. Four units.

4900. Individual Study

One to four units.

4901. Directed Group Study

One to four units.

4990. Honors in History

Intensive research and reading open to selected students only. A tutorial program to be taken for five of the six quarters before the student's graduation. Two to three units per quarter.

PHILOSOPHY**1000. Introduction to Logic**

Introduction to traditional formal logic and to the elementary principles of symbolic logic. Four units. (Does not meet Humanities G.E.)

2000. Introduction to Philosophy

Representative interpretations of man's place in the universe, studied through selections from the writings of the great philosophers. Five units.

2100. Ethics

Major types of ethical theory and their relation to social systems and institutions. Five units.

3001, 3002, 3003. History of Western Philosophy

A survey of Western philosophy from the Pre-Socratics to the nineteenth century. Each course may be taken independently, but the full sequence is recommended.

3001. The Ancient and Early Medieval Periods. Four units.

3002. The later Medieval, Renaissance, and Early Modern Periods. Four units.

3003. The Eighteenth and Nineteenth Centuries. Four units.

3101, 3102, 3103. History of Eastern Philosophy

A survey of the philosophical systems of India and the Far East. Each course may be taken independently, but the full sequence is recommended.

3101. Classical Indian Philosophy. The Upanishads, Bagavadgita, Early Buddhism, Jainism. Four units.

3102. The Six Schools of Later Indian Philosophy. Nayaya-Vaisesika, Sankhya, Vedanta: Absolutistic and Theistic, Philosophy of Evolution. Four units.

3103. Philosophies of China and Japan. Confucius, Lao-Tse, Zen Buddhism and modern movements. Four units.

3150. Aesthetics

Introduction to the major aesthetic theories. Four units.

Philosophy

3300. Philosophy of Religion

Nature and significance of religion and its place in human society and in the life of the self. Four units.

3400. Philosophy of Science

Methods and concepts of science and their philosophical significance. Four units.

3500. Philosophy of Law

Introduction to the main schools of jurisprudence and legal philosophy. Four units.

4055. Contemporary American Philosophy

Selected writings of the major American philosophers of the past century. Prerequisite: one previous course in philosophy (excluding Phil. 1000) or consent of instructor. Four units.

4060. Contemporary European Philosophy

Selected writings of the major European philosophers of the past century. Prerequisite: one previous course in philosophy (excluding Phil. 1000) or consent of instructor. Four units.

4900. Individual Study

One to four units.

4901. Group Study

One to four units.

5000. Philosophy of Education

Examination of philosophical issues in education. Four units.

DIVISION OF SCIENCE AND MATHEMATICS

Professors: P. V. Peterson (head); Burke, De Vries, Grillos, Groody, Guthrie (chairman, Department of Physics), Heath, Lutt, Purdy, Purvis, Resnikoff (chairman, Department of Statistics), Sawrey (acting chairman, Department of Psychology), Smith (chairman, Department of Biological Sciences), Southard (chairman, Department of Mathematics), Woods (chairman, Department of Chemistry); Associate Professors: Amemiya, Cogswell, Fuller, Gross, Hancock, La Force, Levine, Strong, Summers, Tracewell, Weidlich, Whitehead, Whitney (Chairman, Department of Geophysical Science); Assistant Professors: Altman, Armstrong, Babladelis, Blitz, Bozak, Cummings, Fickas, Giles, Goldstein, Hunter, Jessner, Lewis, Lundstrom, Maltz, McGinnis, Mechanic, Minor, Monson, H. Palmer, G. Peterson, Pool, Schusterman, M. Smith, Wheeler, Zhivadovich; Instructors: Burton, Cheng, Haven, Jensen, Schrader, Whitmore, Wong; Assistants: V. Palmer, Stout.

CURRICULA OFFERED

Baccalaureate Degree

Biological science (B.S.)
Chemistry (B.A., B.S.)
Mathematics (B.S.)
Physics (B.A., B.S.)
Physical Science (B.S.)
Psychology (B.A.)

Master's Degree

Mathematics (M.S.)

Minors

(See adviser for requirements)
Biological Science (Biology, Botany or Zoology)
Mathematics
Physical Science (Chemistry, Physics or Physical Science)
Psychology
Statistics

PURPOSES

To offer liberal arts, applied and preprofessional programs, to prepare teachers for the elementary and secondary schools and to offer general education and service courses.

INDIVIDUAL STUDY AND DIRECTED GROUP STUDY

Students with special interests not covered in the courses listed below may arrange from one to five units work on an individual study basis by registering for Individual Study. Specific requirements for each individual study program must be worked out with the appropriate faculty member, and approved forms must be filed with the registrar and division office prior to registration. Directed Group Studies, carrying from one to six units of credit, are available at all levels in the several disciplines represented in the division. They will be offered as special circumstances warrant.

HIGH SCHOOL MATHEMATICS PREPARATION

Four years of college preparatory mathematics is strongly recommended for students expecting to major or minor in mathematics or sciences. In any case, such students should have completed at least two years of algebra and one year of geometry, or one and one-half years of algebra, trigonometry and one year of geometry. A student not having this minimum preparation should consult his adviser.

BIOLOGICAL SCIENCE MAJOR

- I. Complete the 76-unit requirement in general education which is required for all majors. Students completing this major will have satisfied the 19-unit general education requirement in science and mathematics. Study of one or more modern foreign languages is highly recommended.

- II. Complete the following requirements in the major:

	Units		
	F	W	S
<i>Lower Division</i>			
Principles of Biology	5		
General Chemistry	15		
Organic Chemistry	5-15		
General Botany	8		
Genetics	5		
College mathematics including Basic Analysis	5-10		
General Physics	12		
General Zoology	8		
<i>Upper Division</i>			
Cellular Physiology or Anatomy and Physiology	4-8		
Senior Seminar	3		
General Ecology	3		
Approved Biological Science Electives (may include Biochemistry or Paleontology)	19-38		
	110		

- III. Pre-secondary teaching candidates must complete (a) the requirements for admission to teacher education; (b) the professional courses in teacher education which are required; (c) the requirements for a minor, 6 units of which may be taken in the graduate year; (d) Sci. Ed. 5100, 3 units.

Recommended Program for the Biological Science Major

	Units		
	F	W	S
<i>First Year</i>			
Principles of Biology, Biol. 1000	5		
General Chemistry, Chem. 1101	5		
Math or General Education	6-7		
General Botany, Bot. 1001		4	
General Chemistry, Chem. 1102		5	
Math or General Education		7-8	
General Botany, Bot. 1102			3
General Chemistry, Chem. 1103			5
General Education			8-9

Second Year

	Units		
	F	W	S
General Physics, Phys. 2001	4		
Organic Chemistry, Chem. 3301	5		
General Education	3		
Organic Chemistry and/or General Education		9-10	
General Physics, Phys. 2002		4	
General Zoology, Zool. 1001		4	
Organic Chemistry and/or General Education			9-10
General Zoology, Zool. 1002			4
General Physics, Phys. 2003			4
Genetics, Biol. 2500	5		

Third Year

Applicable Science Elective	3-6		
General Education and/or Elective	8-11		
Cell Physiology, 4100 or Anatomy and Physiology AP 4100 or AP 3301, 3302		4-8	
Applicable Science Elective		3-6	
General Education and/or Elective		6-9	
Applicable Science Elective			3-6
General Education and/or Elective			10-12

Fourth Year

Senior Seminar, Biol. 4801	1		
Applicable Science Elective	5-8		
General Education and/or Elective		4-7	
Senior Seminar, Biol. 4802		1	
Applicable Science Elective		5-8	
General Education and/or Elective		4-7	
Senior Seminar, Biol. 4803			1
Applicable Science Elective			6-9
General Education and/or Elective			6-9

CHEMISTRY MAJOR

- I. Complete the 76-unit requirement in general education which is required for all majors. Students completing this major will have satisfied 14 of the 19-unit general education requirement in science and mathematics.

- II. Complete the following requirements in the major:

	Units	
	B.S.	B.A.
<i>Lower Division</i>		
General Chemistry	15	15
Quantitative Analysis	6	6
Mathematics		
Basic Analysis *	5	5
Analytic Geometry-Calculus	20	12
Geology	-	4
Physics	20	16
Physical Science electives	-	11-15
General Education	33	23-27
<i>Upper Division</i>		
Organic Chemistry	15	10
Physical Chemistry	15	5
Advanced Inorganic	5	-

* May be waived by examination. The candidate who is qualified to waive this requirement will be expected to take an equivalent number of units in upper-division major or minor electives.

Chemistry

Upper Division—Continued	B.S.	B.A.
Instrumental Analysis	3	—
Advanced Chemistry Electives	9-23	—
Minor Electives	0-14	—
Physical Science or Free † Electives	—	43-37
Foreign Language **	18	—
General Education (other than for. lang.)	20	35-39
Total	198	193

Illustrative Program for the Chemistry Major—B.S.

	Units		
	F	W	S
First Year			
General Chemistry, 1101	5		
Basic Analysis, 1301	5		
General Education	7		
General Chemistry, 1102		5	
Anal. Geom.-Calculus, 1302		4	
Physics, 1011		4	
General Education		4	
General Chemistry, 1103			5
Anal. Geom.-Calculus, 1303			4
Physics, 1012			4
General Education			4
Second Year			
Quant. Analysis, 2201	3		
Anal. Geom.-Calculus, 2301	4		
Physics, 2011	4		
General Education	5		
Anal. Geom.-Calculus, 2302		4	
Quant. Analysis, 2202		3	
Physics, 2012		4	
General Education		5	
Anal. Geom.-Calculus, 2303			4
Physics, 2013			4
General Education			8
Third Year			
Organic Chemistry, 3301	5		
Physical Chemistry, 4501	5		
German	4		
Other General Education	3		
Organic Chemistry, 3302		5	
Physical Chemistry, 4502		5	
German		4	
Other General Education		3	
Organic Chemistry, 3303			5
Physical Chemistry, 4503			5
German			4
Other General Education			3

** Reading knowledge of scientific German is required for the B.S. degree. Credit requirement may be waived on demonstration of this ability. French is recommended as a second language.

† Maximum of 25 free electives units.

Chemistry

Fourth Year

	Units		
	F	W	S
Instrumental Analysis, 4240	3		
Adv. Chem. Electives	6		
German	3		
General Education	4		
Adv. Inorganic Chem., 4151		5	
Adv. Chem. Electives		5	
German		3	
General Education		3	
Adv. Chem. Electives			12
General Education			4

MATHEMATICS MAJOR

I. Complete the 76-unit requirement in general education which is required for all majors. Students completing this major will have satisfied the general education requirement in mathematics. Chemistry and physics taken as preparation for the major will apply toward the general education requirement in natural science. Study of one or more modern foreign languages is highly recommended.

II. Complete the following requirements in the major:

	Units
Lower Division	
Recommended preparation for the major:	
College chemistry and physics	15-25
Math. 1302-3 and Math. 2301-3 or equivalent	20
Upper Division	
Upper Division Core	
Math. 3101, 3111	8
Math. 3201	4
	12

Liberal Arts Option

Math. 3320 or equivalent	5
Math. 4331, 4332	10
Electives selected with aid of adviser	13
	28

Teaching Option

Math. 4040	4
A second course in geometry	4
Math. 3600	4
Electives selected with aid of adviser	16
	28

Total upper division mathematics 40

III. Pre-secondary teaching candidates must also complete (a) the requirements for admission to teacher education; (b) the requirements for a teaching minor, 6 units of which may be taken in the graduate year; (c) Math. Ed. 5040, 3 units.

THE MASTER OF SCIENCE DEGREE IN MATHEMATICS

The College offers the degree of Master of Science in Mathematics. Eligible students may choose one of the following three options:

1. Teaching Option

Mathematics

2. Applied Mathematics Option
3. Pure Mathematics Option

In general, the programs are open to graduates of accredited institutions who have completed at least twenty quarter units of approved upper division mathematics courses, although persons who select the second or the third of the above options will be expected to have completed units in excess of twenty. The interested student should contact the Mathematics Department, where he can consult with a member of the staff and obtain literature which describes the detailed requirements of the various options. A description of courses offered by the Mathematics Department may be found elsewhere in this Bulletin.

Requirements for the Degree

A. Admission to the Program

The program is open to graduates of accredited institutions who have completed at least 20 quarter units of approved upper division mathematics courses, including, in general, courses in linear algebra and differential equations, and who meet the requirements for admission specified in the California Administrative Code, Title V. Students who pursue either Option 2 (applied mathematics) or Option 3 (pure mathematics) will be expected, in general, to have completed at least 36 quarter hours of upper division mathematics as part of their undergraduate training.

B. Advancement to Candidacy

Before a formal "contract" program for the degree is approved and the person advanced to candidacy, he must:

- (1) Complete at least 15 quarter units of work beyond the baccalaureate degree, with average grades of B or better, including at least two courses in mathematics, (one of them at 6000 level); and
- (2) Pass a departmental examination designed to test his mastery of the fundamental concepts in elementary mathematics through the calculus.

C. Length of Curriculum

In accordance with Code requirements, the program for the degree consists of at least 45 quarter units, of which at least 18 are purely graduate (6000 level) courses. Mathematics courses are integral parts of several teaching credential programs and of several science and related majors. Thus, a mathematics major may shift goals in the early stages of his work without a significant loss of time.

D. Details of Curricular Requirements for All Options

- (1) At least 45 quarter units of B-average work must be completed in approved upper division and graduate courses.
- (2) At least 30 quarter units of the above must be in approved upper division and graduate mathematics courses.
- (3) At least 18 quarter units of 6000 level course work must be taken (at least 12 of this in mathematics).
- (4) All programs must include, either as part of the undergraduate prerequisite or as part of the above 45 units.
 - (a) A course in modern higher algebra or a more advanced course, e.g. Math 4120 Introduction to Modern Higher Algebra or Math 6120—Algebraic Structures or equivalent.
 - (b) A course in advanced calculus or a higher level analysis course (this does NOT include vector analysis or differential equations), e.g. Math 4331 Advanced Calculus or Math 6350 Advanced Real Analysis or equivalent.

Physical Science

- (c) A course in Modern Higher Geometry (non-Euclidean Geometry, Projective Geometry, or the Foundations of Geometry), e.g. Math 3202 Non-Euclidean Geometry or Math 3203 Synthetic and Analytic Projective Geometry or equivalent.

PHYSICAL SCIENCE MAJOR

- I. Complete the 76-unit requirement in general education which is required of all majors. Students completing this major will have satisfied the 19-unit general education requirement in science and mathematics. Study of one or more modern foreign languages is highly recommended.

- II. Complete the following requirements in the major:

	Units
<i>Lower Division</i>	
Mathematics	20-25
General Chemistry	15
Quantitative Analysis	6-9
General Physics	20
Biology	5-10
Physical Science Electives	5-10
<i>Upper Division</i>	
Approved Physical Science Electives	21-39

Total 110

- III. Secondary teaching candidates must complete (a) the requirements for admission to teacher education; (b) the professional courses in teacher education which are required; (c) the requirements for a minor, 6 units of which may be taken in the graduate year; (d) the course Sci. Ed. 5100, 3 units.

Illustrative Program for the Physical Science Major

	Units		
	F	W	S
<i>First Year</i>			
Math Anal. or G.E.	5-6		
Gen. Chemistry, 1101	5		
Phys. Geol. or G.E.	5		
Anal. Geom. and Calc., 1302		4	
Gen. Chem., 1102		5	
Gen. Physics, 1011		4	
G.E.		3-4	
Anal. Geom. and Calc., 1303			4
Gen. Chem., 1103			5
Gen. Physics, 1012			4
G.E.			3-4

Second Year

Anal. Geom. and Calc., 2301	4		
Quant. Anal., 2201	3		
General Physics, 2011	4		
Biology, 1000	5		
Anal. Geom. and Calc., 2302		4	
Quant. Analysis, 2202		3	
General Physics, 2012		4	
Science Electives		0-5	
G.E.		0-5	
Anal. Geom. and Calc., 2303			4

Physics

	Units		
	F	W	S
Second Year—Continued			
Quant. Anal., 2203 or G.E.			3
General Physics, 2013			4
Science Electives			0-5
G.E.			0-5
Third Year			
Phys. Sci. Electives	4-6		
G.E. and/or Electives	10-12		
Phys. Sci. Electives		3-6	
G.E. and/or Electives		10-13	
Phys. Sci. Electives			3-6
G.E. and/or Elect.			10-13
Fourth Year			
Phys. Sci. Electives	4-7		
G.E. and/or Electives	9-12		
Phys. Sci. Electives		3-7	
G.E. and/or Electives		9-12	
Phys. Sci. Electives			4-7
G.E. and/or Electives			9-12

PHYSICS MAJOR

I. Complete the 76-unit requirement in general education which is required of all majors. Students completing this major will have satisfied 14 of the 19-unit general education requirement in science and mathematics. Study of one or more modern foreign languages is highly recommended.

II. Complete the following requirements in the major:

	B.S.	B.A.
Lower Division		
General Physics	20	20
General Chemistry	15	15
Mathematics	20	20
Analytic Geometry and Calculus		
Upper Division		
Analytic Mechanics	9	9
Electricity and Magnetism	9	9
Thermodynamics and Kinetic Theory	4	
Electronics	6	
Intermediate Physics Laboratory	5	5
Quantum Mechanics	4	4
Atomic Structure	4	4
Radioactivity and Nuclear Structure	4	
Differential Equations	5	5
Advanced Calculus	5	5
Complex Variables		5
Physics Electives	8	12
General Education	62	62
Free Electives *	15	11
Total	195	186

* Includes 9 units of foreign language.

Psychology

Illustrative Program for the Physics Major

	Units		
	F	W	S
First Year			
Mathematics 1301, 1302, 1303	5	4	4
Chemistry 1101, 1102, 1103	5	5	5
Physics 1011, 1012		4	4
Electives—G.E.	6	3	3
Second Year			
Mathematics 2301, 2302, 2303	4	4	4
Physics 2011, 2012, 2013	4	4	4
Biology 1000	5		
Electives—G.E.	3	8	8
Third Year			
Physics 3311, 3312, 3313	3	3	3
Physics 3331, 3332, 3333	3	3	3
Physics 3320	4		
Physics 3511			3
Mathematics 3320, 4331	5	5	
Physics 4181			1
Electives—G.E.		4	5
Fourth Year			
Physics 4420	4		
Physics 4150		4	
Physics 4160			4
Physics 4210			4
Physics 4182, 4183, 4184	1	2	1
Mathematics 4340	5		
Electives—G.E.	2	9	6
Physics 3512	3		

PSYCHOLOGY MAJOR

Requirements

I. Complete the 76-unit requirement in general education required for all degrees.

II. **The Major:**

The major consists of not less than 38 nor more than 56 units of *upper-division* psychology courses. All major students will choose a special area from among the following: experimental psychology; personality and social; tests and measurement. The following departmental requirements are in addition to the college's basic requirements for the B.A. degree.

Required courses:

1. a. Psy. 2000 *, 2010, 3100 and 4390.
- b. Two courses from the following: Psy. 4801, 4802, 4803, 4804.
- c. Two courses from the following: Psy. 4200, 4210, 4300.
- d. One course from the following: Psy. 4220, 4310, 4320, 4340, 4350.
- e. One course from the following: Psy. 3500, 4403, 4410, 4610.
- f. Two courses from the following: Psy. 4401, 4402, 4730, 4700, 4790, Statistics 4000.
2. Stat. 2001 *, 2002; Biol. 1000 * or equivalent.

* May be used to discharge general education requirement.

Biology

3. An additional course from one of the following options depending upon the student's special area:
 - (i) A course from either 1-1-c or 1-1-d (experimental psychology).
 - or (ii) A course from 1-1-e (personality and social).
 - or (iii) A course from 1-1-f (tests and measurement).
 4. One approved course in physiology*; or two approved courses in anthropology* and/or sociology*; or one approved course in mathematics. The choice under this requirement will be determined by the student's special area.
 5. Three approved courses from other departments, depending upon the student's special area.
- The completion of the major program for graduation requires at least a C average in the courses included in the major.

ASTRONOMY

1000. Descriptive Astronomy

A nonmathematical course with emphasis on aspects of interest to the prospective or in-service teacher. 5 hrs. lect. Five units.

BIOLOGY

(See Also Botany, Entomology, Microbiology, Zoology)

1000. Principles of Biology

Fundamental structures and functions of living organisms, including cellular organization, nutrition, respiration and photosynthesis, control mechanisms, reproduction, heredity, and evolution. Not open to students having credit for a college course in general biology, botany or zoology. 4 hrs. lect., 3 hrs. lab. Five units.

2500. Genetics

The basic mechanisms of gene transmission, fundamental structure of genes and chromosomes, gene action in relationship to genetically coded information. Prerequisite: General biology, or botany and zoology. 5 hrs. lect. Five units.

3500. Evolution

Historical development of theories on the origin of species, the impact of 20th Century genetics on evolutionary theory; with consideration of the course of evolution. Prerequisite: Genetics. 3 hrs. lect. Three units.

4100. Microtechnique

Theory and practice in the preparation of living and fixed organisms and tissues for microscopic study, with emphasis on histochemistry. Prerequisites: General biology, or botany and zoology, general chemistry, and one other course in the biological sciences. 2 hrs. lect., 6 hrs. lab. Four units.

4220. Marine Biology

A study of local marine organisms with emphasis on structural and functional adaptations to the sea as a specialized environment. Prerequisite: General biology, or zoology and botany. 2 hrs. lect., 3 hrs. lab., field trips. Three units.

4270. Limnology

Principles of fresh-water biology; techniques and practice in the study of fresh-water organisms and their habitats; field work in local streams and ponds. Prerequisites: General biology, or botany and zoology, and general chemistry, 2 hrs. lect., 6 hrs. lab. Four units.

4450. Biogeography

Origin, development, and the distribution of the major plant and animal units of the world, with emphasis on the Western United States. Prerequisite: General biology or botany and zoology. 3 hrs. lect. Three units.

* May be used to discharge general education requirement.

Botany

4461, 4462. General Ecology

Study of the relationship of plants and animals to each other and their environment. Prerequisite: General botany and zoology or equivalent; chemistry and physics recommended; 4461 prerequisite to 4462. 4461, 3 hrs. lect.; 4462, 1 hr. lect., 6 hrs. lab. and/or field trips. Three units each.

4600. Cellular Physiology

Living activities of cells and tissues including nutrition, response, growth and reproduction; unique problems in different groups of organisms. Prerequisites: General biology or zoology and botany; general chemistry; organic chemistry is required. 2 hrs. lect., 6 hrs. lab. Five units.

4800. Development of Biological Concepts

The development of the major concepts in biology using original writings of key figures from the Greeks to contemporary biologists. Prerequisite: Senior or graduate standing as a biology major, or consent of the instructor. 2 hrs. lect., 2 hrs. discussion. Three units.

4801, 4802, 4803. Senior Seminar

Major areas of current biological research will be considered with emphasis on theoretical and practical research as carried on in university, industrial and governmental Bay Area laboratories. Prerequisite: Senior standing as a biology major, or permission of instructor. 1 hr. Lecture-discussion and/or field trips. One unit each.

4900. Individual Study

One-four units.

BOTANY

(See also Biology, Entomology, Microbiology, Zoology)

1001. General Botany

An introduction to the fundamental principles of plant life, with major emphasis on the structure, development, and function of seed plants. Prerequisites: Biol. 1000 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

1002. General Botany

A survey of the plant kingdom, including the fundamentals of classification, structure, development, function, and reproduction. Prerequisite: Bot. 1001 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

3000. Survey of the Plant Kingdom

General biology of the major plant groups, other than bacteria, stressing the fundamentals of classification, morphology, physiology and reproduction. Prerequisite: Biol. 1000 or equivalent. Not open to majors in biology. 2 hrs. lect., 3 hrs. lab. Three units.

3101. Morphology of the Non-vascular Plants

A comparative study of the structure, development and phylogeny of the algae, fungi, lichens and bryophytes. Prerequisite: General botany or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

3102. Morphology of the Vascular Plants

A comparative study of the structure, development, and phylogeny of the club mosses, horsetails, ferns and seed plants. Prerequisites: General botany or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

4300. Plant Taxonomy

Study of the principles of plant taxonomy. Field and laboratory studies of native seed plants. Prerequisite: General botany or equivalent. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4400. Principles of Plant Physiology

The life processes of the higher plants: soil and water relations, photosynthesis, metabolic activities, growth regulators, development and reproduction. Prerequisite:

sites: General botany and a year course in general chemistry. Organic chemistry is required. 3 hrs. lect., 6 hrs. lab. Five units.

4600. Economic Plants

A study of the significance of plants in the development of human culture. 5 hrs. lect. Five units.

4900. Individual Study

One-four units.

5100. Plant Ecology

The relationships of plants to climate, soil, and other organisms. Prerequisites: General botany and general ecology. Plant physiology is strongly recommended. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

5200. Plant Anatomy

A microscopic study of the structure and development of plant tissues, with major emphasis upon the anatomy of the seed plants. Prerequisites: General botany and Bot. 3102 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

5310. Mycology

The identification, ecology, and study of representative groups of fungi. Prerequisites: General botany or equivalent and Bot. 3101. 3 hrs. lect., 3 hrs. lab., field trips. Four units.

CHEMISTRY

1100. Introductory Chemistry

An elementary course covering the fundamental principles of general chemistry. Primarily a general education course for non-science majors. Does not apply as subject credit for majors and minors in the Division of Science and Mathematics. Prerequisite: satisfactory score on math fundamentals test. 3 hrs. lect., 6 hrs. lab., discussion. Five units.

1101, 1102, 1103. General Chemistry and Qualitative Analysis

Fundamental principles of chemistry with emphasis on inorganic compounds. Qualitative analysis is begun during the second quarter. Prerequisites: Satisfactory performance in H.S. chem., two years of H.S. math.; H.S. physics recommended. Placement examination covering H.S. chem. and algebra to determine eligibility; (Chem. 1101 is prerequisite to Chem. 1102; Chem. 1102 is prerequisite to Chem. 1103.) 3 hrs. lect., 6 hrs. lab., problem session. Five units each.

2201, 2202, 2203. Quantitative Analysis

Principles and practice of elementary gravimetric and volumetric chemical analysis; emphasis on instrumental and physical methods of analysis during the third quarter. Prerequisite: Chem. 1103. (Chem. 2201 is prerequisite to Chem. 2202, and Chem. 2202 is prerequisite to Chem. 2203.) 1 hr. lect., 6 hrs. lab. Three units each.

3301, 3302, 3303. Organic Chemistry

An introduction to general theory of organic chemistry and the chemistry of aliphatic, aromatic and heterocyclic compounds. Emphasis on basic principles and laboratory experience in basic techniques and synthesis. Prerequisite: Chemistry 1103. (Chem. 3301 is prerequisite to Chem. 3302, and Chem. 3302 is prerequisite to Chem. 3303. Students with previous credit in an introductory survey course receive only 3 units of credit for Chem. 3301.) 3 hrs. lect., 6 hrs. lab. Five units each.

4151, 4152. Advanced Inorganic Chemistry

A study of atomic structure, valence and bonding with laboratory experience in the preparation and properties of selected inorganic compounds. Prerequisite: Physical chemistry 4501 or permission of instructor; (Chem. 4151 is prerequisite to Chem. 4152.) Chem. 4151, 4 hrs. lect., 3 hrs. lab.; 4152, 3 hrs. lect., 6 hrs. lab. Five units each.

4240. Instrumental Methods of Analysis

Theory and application of instrumental methods in chemical analysis. Laboratory experiments in physical and instrumental methods of analysis of inorganic and organic substances. Prerequisites: Quantitative analysis, organic chemistry. 1 hr. lect., 6 hrs. lab. Three units.

4311, 4312. Qualitative Organic Analysis

Identification of unknown organic compounds with emphasis on the use of microtechniques; discussion of modern quantitative and instrumental methods, with special regard to the identification of natural products. Prerequisite: Chem. 3303 or equivalent. (Chem 4311 is prerequisite to Chem. 4312.) 1 hr. lect., 6 hrs. lab. Three units each.

4321. Advanced Organic Chemistry (I)

Theoretical aspects of organic chemistry based on modern concepts; chemical and physical properties of organic compounds, mechanisms of organic reactions. Prerequisite: Chem. 3303 or equivalent; Chem. 4501 or consent of instructor. 3 hrs. lect. Three units.

4322. Advanced Organic Chemistry (II)

Applications of current knowledge of reaction mechanisms to synthetic studies; emphasis on the Grignard reaction and the chemistry of carbonyl compounds. Prerequisite: Chem. 3303 or equivalent; Chem. 4501 or consent of instructor. 3 hrs. lect. Three units.

4323. Advanced Organic Chemistry (III)

The chemistry of polycyclic and heterocyclic compounds with emphasis on those of biological interest or of natural origin. Prerequisite: Chem. 4322, or consent of the instructor. 3 hrs. lect. Three units.

4401, 4402, 4403. Biochemistry

Consideration of the chemical and physical factors in life processes. Chemistry and metabolism in animals, plants and micro-organisms of the carbohydrates, proteins and enzymes, lipids, vitamins, hormones and minerals. Laboratory practice with the more important constituents of living matter. Prerequisite; Chem. 3303, Quantitative Analysis and a course in biology (may be taken concurrently); or consent of instructor. Chem. 4501 or 4500 is recommended. (Chem. 4401 is prerequisite to 4402, and Chem. 4402 is prerequisite to Chem. 4403.) 3 hrs. lect., 6 hrs. lab. Five units each.

4500. Introductory Physical Chemistry

An introductory study of the principles of physical chemistry. The fundamental physical laws, theoretical principles and mathematical relations in chemistry. Prerequisites: Quantitative analysis, Chem. 3301, general physics, college algebra or consent of instructor. 4 hrs. lect., 2 hrs. discussion. Five units.

4501, 4502, 4503. Physical Chemistry

A lecture and laboratory course dealing with the elements of physical chemistry, including the physical properties of substances, elementary thermodynamics, electrochemistry, chemical kinetics, atomic structures, with beginning laboratory experience in basic application of physical techniques to chemical investigation. Prerequisites: General chemistry, calculus, introductory physics. (Chem. 4501 is prerequisite to Chem. 4502; Chem. 4502 is prerequisite to Chem. 4503.) Course 4501, 5 hrs. lect.; Chem. 4502, 3 hrs. lect., 6 hrs. lab.; Chem. 4503 same as Chem. 4502. Five units each.

4521, 4522. Elements of Chemical Thermodynamics

A lecture presentation of selected topics in classical and statistical thermodynamics with emphasis on thermochemical calculations. Prerequisite: Chem. 4503 (Chem. 4521 is prerequisite to Chem. 4522). 3 hrs. lect. Three units each.

4610. Industrial Chemistry

Fundamental principles and applications of important chemical processes. Prerequisites: Chem. 3303, Quantitative Analysis. 3-4 hrs. lect., 4-6 hrs. field trips. Five units.

4900. Individual Study

One-five units.

4910. Special Problems in Chemistry

Independent study of a problem acceptable to the instructor. Prerequisite: Consent of an instructor to act as sponsor; ability to assume responsibility for independent work and to prepare written and oral research reports. Two to five units.

CONSERVATION

4380. Conservation of Natural Resources

Interrelationships of soils, water, minerals, forests, grasslands, and wildlife; applied ecology in the wise use of natural resources. Prerequisite: A basic course in biology and in physical science. 5 hrs. lect. Five units.

ENTOMOLOGY

(See also Biology, Botany, Microbiology, Zoology)

4100. Insects and Man

Beneficial and harmful insects and related arthropods as important factors in human welfare. Field trips to selected entomological activities and industries in the Bay Area. 2 hrs. lect., 3 hrs. lab. Three units.

4210. General Entomology

Introduction to the anatomy, biology, ecology and identification of western insects; emphasis on local forms. Techniques of collecting, rearing and preserving insects. Prerequisite: A course in the biological sciences. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4230. Insect Identification

Collection and preparation of specimens, classification of insects, principles of taxonomy, and entomological literature. Prerequisite: A course in the biological sciences. 2 hrs. lect., 6 hrs. lab, field trips. Four units.

4310. Medical Entomology

Insects and related arthropods as transmitters of disease, public health problems arising from insects not transmitting disease. Prerequisites: A course in entomology or permission of the instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4410. Agricultural Entomology

The biology, ecology, identification, distribution and control of insects attacking agricultural crops and stored products. Prerequisites: A course in entomology or permission of the instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

GEOLOGY

1101. Physical Geology

An elementary study of the earth, including materials, structure, internal conditions, physical and chemical processes, rocks, minerals, topographic and geologic maps. 4 hrs. lect. and 3 hrs. of laboratory and/or field trip(s). Five units.

3201. Historical Geology

Principles of interpretation of earth history. Evolution of continents, oceans, mountain systems and other earth features; development of animals and plants. Prerequisite: Geol. 1101 or equivalent. 4 hrs. lect., 3 hrs. laboratory and/or field trips. Five units.

3300. Principles of Geology

An introductory survey of current knowledge in physical geology, historical geology, geophysics, geochemistry, geomorphology and oceanography. The appropriate physical and biological principles are introduced and developed as they apply to the above topics. Prerequisites: lower division physical science. Not open to students who have had Geol. 1101 or equivalent. Four units.

3510. Paleontology

History and classification of fossil animals with emphasis on marine invertebrates. Methods of interpretation of fossils. Prerequisite: Permission of instructor. 3 hrs. lect., 6 hrs. lab. Five units.

3610. Mineralogy and Crystallography

Recognition of minerals by their physical properties and crystal form; morphology and classification of crystal structure; introduction to x-ray techniques. Prerequisite: Geol. 1101 or equivalent. 2 hrs. lect., 9 hrs. lab. Five units.

3710. Petrology

Origin, occurrence and classification of common rocks; emphasis on hand lens identification. Prerequisite: Permission of instructor. 2 hrs. lect., 9 hrs. lab. Five units.

3810. Structural Geology

Structural features of sedimentary, metamorphic rocks; deformation of the earth's crust; applied practice in laboratory methods. Prerequisite: Permission of instructor. 3 hrs. lect., 6 hrs. lab. Five units.

4100. Principles of Geomorphology

Analysis of land forms; effects of processes of diastrophism, weathering, mass-wasting, erosion and deposition in shaping the earth's surface, with emphasis upon the western United States, laboratory interpretation of maps and aerial photographs; two or more field trips required. Prerequisite: Geol. 1101, 4 hrs. lect., 3 hrs. lab. Five units.

4310. Geology of California

An overview of the geologic history and development of the physical features of California. Prerequisite: Geol. 1101 or equivalent. 2 hrs. lect., 3 hrs. lab. Three units.

4410. Economic Geology

A study of the mineral resources of economic importance. Prerequisite: Geol. 1101 or equivalent. 3 hrs. lect., 6 hrs. lab. Five units.

4810. Field Geology

Introduction to geologic field methods and instruments. Preparation of geologic maps of local area, writing of geologic reports. Prerequisite: Permission of instructor. 1 hr. lect., 6 hrs. lab. Three units.

4900. Individual Study

One-five units.

MATHEMATICS

1060. Mathematics of Finance

Simple and compound interest; discount, depreciation and amortization; study of annuities and other mathematical aspects of financial transactions. Prerequisite: Intermediate algebra or equivalent. Four units.

1110. Elements of Mathematical Logic

The concept of set. Operations on sets. Relations and functions. The mathematics of declarative sentences. The nature of proof. Will meet general education requirement in mathematics. Four units.

1301. Basic Analysis

A modern freshman mathematics course combining elements of college algebra and analytic trigonometry with an axiomatic development of the complex number

system. Designed to prepare students for standard analytic geometry and calculus sequence. Prerequisite: Intermediate algebra and trigonometry or acceptable score on department placement test. Five units.

1302, 1303; 2301, 2302, 2303. Analytic Geometry and Calculus

Analytic geometry, differential and integral calculus, with applications. Each course has its predecessor(s) as prerequisite(s). Four units each. Prerequisite for 1302: Math. 1301 or intermediate algebra, trigonometry and acceptable score on department placement test.

2100. Finite Mathematics

Consideration of finite mathematics with applications to the behavioral, life and management sciences. Combinatorial problems, elementary aspects of probability, vectors and matrices. Compound statements and sets. Prerequisite: Intermediate algebra. Five units.

2300. Review of Calculus

Comprehensive review of calculus for students who need a refresher course before proceeding to more advanced courses in mathematics. Prerequisite: Math. 2303 or equivalent. Three units. (Credit cannot be granted toward a mathematics major or a bachelor's degree.)

2301, 2302, 2303. See Math. 1302

3000. Concepts of Mathematics

For students planning not to specialize in mathematics or related sciences. Elementary concepts from topics such as set theory, algebra, geometric structures, symbolic logic, computer mathematics. Designed to satisfy general education requirement in mathematics for non-majors. Five units.

3101, 3111. Foundations of Mathematics

The nature of mathematics; mathematical logic; axiomatic bases for numbers and number systems; bases of geometries. Prerequisite to each: Calculus. Four units each.

3110. Theory of Polynomial Equations

Nature, limits, location, and approximation of roots. Theorem of Sturm, elements and applications of determinants and matrices, symmetric functions, transformations of equations. Prerequisite: Calculus. Three units.

3120. Linear Algebra and Matrices

Linear transformations and matrices. Algebra of matrices and vectors. Determinants and systems of linear algebraic equations. Applications to geometry, physics, etc. Prerequisites: Two courses in calculus or consent of instructor. Five units.

3130. Set Theory

Sets, relations, functions. Quotient sets and product sets. The choice axiom and its equivalent forms. Ordinal and cardinal arithmetic. Prerequisite: Two years of college mathematics. 5 units.

3201, 3202, 3203. Higher Geometry

3201 emphasizes advanced aspects of plane and solid Euclidean geometry, including foundations, 3202 Non-Euclidean geometry, 3203 synthetic and analytic projective geometry. Prerequisite: Calculus, Math. 3201, 3201. Four units each.

3300. Differential Equations

A beginning course in ordinary differential equations. Prerequisite: Math. 2303 or equivalent. Five units.

3331. Differential Equations I

First order differential equations and a beginning study of linear differential equations with applications. Prerequisite: Math. 2303. (Not open for credit to students having credit for Math. 3320 or equivalent.) Three units.

3332. Differential Equations II

Solutions of n th order linear differential equations with variable coefficients, series solutions, classification and treatment of singular points, systems of linear differential equations in two or more dependent variables, special topics. Prerequisite: Math. 3331. (Not open for credit to students having credit for 3320 or equivalent.) Three units.

3400. Selected Topics From Applied Mathematics for Engineers

Some aspects of hyperbolic functions, elliptic integrals, infinite series, Fourier series, Gamma and Bessel functions with applications to engineering and physical problems. Attention given to formulation of such problems in mathematical language. Prerequisite: Math. 3320 or consent of instructor. Three units.

3401, 3402. Operations Research I, II

The application of techniques, mainly mathematical, to the problems of decision-making and the analysis of complex systems in industry and government. Topics include inventory control, replacement policy, waiting lines, competitive strategy, allocation sequencing and dynamic programming. Prerequisites: Math. 2303 or equivalent and some knowledge of probability or statistics; Math. 3401. Three units each.

3450. Linear Programming

Elementary principles and mathematical structure of linear programming. Simplex and alternative methods for solving systems of linear inequalities. Applications to problems in business, industry, transportation, military logistics and other fields. Prerequisite: Calculus within the past three years or consent of instructor. Three units.

3501. Introduction to Probability Theory

(See Statistics 3401 for course description.) Four units.

3502, 3503. Statistical Inference I, II

(See Statistics 3502, 3503 for course descriptions.) Four units each.

3600. Number Theory

Euclid's algorithm, prime numbers, congruences, theorems of Fermat and Euler, quadratic residues. Prerequisite: Calculus. Four units.

3700. Introduction to Digital Computer Programming

Study of the process of coding of problems for an automatic digital computer with some emphasis on the logical aspects. Prerequisite: One year of college mathematics or consent of instructor. Four units.

3750. Basic Numerical Analysis

Computation with approximate numbers; accuracy, checking and error considerations; choice and use of tables; applications involving polynomial approximations; interpolation, finite differences, numerical differentiation and integration; numerical solution of algebraic, transcendental equations and systems of equations. Prerequisite: Math. 3320 or consent of instructor. Five units.

4021. Structures of Arithmetic, Algebra and Geometry

Definitions, properties, and applications of the various subsets of the set of real numbers; numeration systems; properties of and operations on sets; modular arithmetic; mathematical sentences. Prerequisite: Satisfaction of general education requirement in mathematics and a knowledge of high school algebra and geometry. Four units.

4022. Structures of Arithmetic, Algebra and Geometry

Measure and measurement; approximation; informal geometry of the plane and 3-space; the nature of proof; mathematical problem solving. Prerequisite: Math. 4021 or consent of instructor. Four units.

Mathematics

4040. History of Mathematics

The historical development of mathematical ideas and techniques. Prerequisite: Calculus or consent of instructor. Four units.

4100. Mathematical Logic

The propositional calculus and its completeness. Boolean algebras. Functional calculi of various orders. Theorems of Godel and Henkin. Prerequisite: Senior standing in mathematics or consent of instructor. 5 units.

4120. Introduction to Modern Higher Algebra

An introduction to abstract algebraic structures, including number systems, groups, rings, fields, integral domains and the algebra of classes. Prerequisite: Math. 3120. Five units.

4200. Elementary Metric Differential Geometry

Topics in classical differential geometry of curves and surfaces. Prerequisite: Math. 2303 or equivalent. 5 units.

4320. Vector Analysis

Vector algebra, differentiation, and integration; gradient, divergence, curl; curvilinear coordinates. Prerequisite: Math. 3320. Five units.

4331, 4332. Advanced Calculus

Limits and convergence, improper integrals, functions of several variables, partial derivatives, Jacobians and the linear approximation theorem, multiple integrals and Fubini's theorem, line and surface integrals, Stokes' theorem, special functions. Prerequisite: Math. 2303, 4331. Five units each.

4501, 4502. Linear Methods in Statistics I, II

(See Statistics 4501, 4502 for course descriptions.) Four units each.

4510. Introduction to Stochastic Processes

(See Statistics 4410 for course description.) Four units.

4730. Numerical Methods in Ordinary Differential Equations

Selected numerical methods of solution of one-point and two-point boundary value problems involving linear and nonlinear ordinary differential equations and systems. Prerequisite: Math. 3332, 3700, and 3750 or consent of instructor. Five units.

4750. Numerical Methods of Approximation

Study of polynomial and rational methods of approximation of functions of one or more variables in senses such as least squares and least maximum deviation. Prerequisite: Math. 3700 and 3750 or consent of instructor. Four units.

4760. Numerical Matrix Inversion and Decomposition

Numerical methods for inverting and decomposing matrices and solving systems of linear algebraic equations and inequalities. Methods for obtaining eigenvalues and eigenvectors of matrices. Prerequisite: Math. 3120 and 3700 or consent of instructor. Five units.

4900. Independent Study

One-five units.

5020. Content of Elementary School Mathematics

Mathematical background to arithmetic; meanings, history, applications. Designed to help potential elementary school teachers understand mathematics. Three units.

5101. Numbers and Number Systems

Study of postulates for, properties of, and operations with the natural and whole numbers, integers, rational and real numbers, with an introduction to complex numbers; the nature of proof. 3 units.

5103. Introduction to Sets and Symbolic Logic

Basic elements of symbolic logic and sets, simple connectives, compound statements, syllogism, interrelationships between sets and logic; the nature of proof. 3 units.

5105. Introduction to Algebraic Concepts

Beginning development of algebraic principles and processes from properties of the real numbers, the "why's" of elementary algebra; the nature of proof. 3 units.

5107. Introduction to Geometric Concepts

A "modern" introduction to the informal geometry of points, lines, planes and space from non-metric, metric, and analytic standpoints; the necessity of undefined terms, postulates, axioms, and pre-accepted "reasons"; the avoidance of circular definitions and "proofs"; the development of selected theorems from clearly specified minimum sets of assumptions; the nature of proof. 3 units.

5109. Elements of Matrix Algebra

Introduction to matrices and linear algebra; elementary properties, inverses, the algebra of vectors. 3 units.

6120. Algebraic Structures

Internal and external laws of composition. Homomorphisms. Groups. Rings and ideals. Structure theorems. Modules. Fields and field extensions. Introductory homological algebra. Prerequisite: Consent of instructor. 5 units.

6260. Algebraic Topology

Index theory. The Jordan curve theorem. Introduction to homological algebra. Polyhedra and abstract simplicial complexes. Simplicial homology and cohomology. Invariance theorems. The Lefschetz fixed-point theorem. Dimension. Introduction to homotopy theory. Prerequisite: Consent of instructor. Five units.

6331. Theory of Ordinary Differential Equations

Introductory course limited to real domain. General theory of linear differential equations, algebraic theory of linear differential systems, existence theorems, nature of solutions of ordinary differential equations, solutions by definite integrals and in infinite form. Prerequisite: Math. 3332 and Math. 4332. Five units.

6340. Introduction to Advanced Complex Analysis

Theory of analytic functions of one complex variable, Cauchy's integral formula, analytic continuation, calculus of residues, multiple-valued functions. Prerequisite: Math. 4340. Five units.

6350. Introduction to Advanced Real Analysis

The real number system; point sets; fundamentals of limits, continuous functions and derivatives; Riemann integration; elements of the theory of sets and transfinite numbers. Prerequisite: Math. 4332. Five units.

6360. Topological Foundations of Analysis

The choice axiom and its equivalent forms. Topological spaces. The separation axioms. Connectedness and compactness. Continuous functions and homeomorphisms. Metric spaces and the theorems of Baire and Urysohn. Product and quotient spaces. Introduction to linear topological spaces. Prerequisite: Consent of Instructor. 5 units.

6370. General Theory of Measure and Integration

Set functions and measure spaces. Borel, Lebesgue and Radon measure. Measurable functions and integral. The Lebesgue dominated convergence theorem. The theorems of Fatou, Radon-Nikodym and Fubini. The Lebesgue spaces. Prerequisite: Consent of instructor. Five units.

6510. Queueing Theory

(See Statistics 6410 for course description.) Four units.

6900. Independent Study

One to five units.

MATHEMATICS EDUCATION

4020. Teaching Mathematics in Elementary Schools

A study of the curriculum, teaching methods and content in elementary school mathematics. Prerequisite: Math. 3000 or Math. 5020 or equivalent, Math 4021. Three units.

Microbiology

5040. Teaching Mathematics in Secondary Schools

Curriculum and instruction in mathematics for grades 7 through 14. Open to seniors and graduate students with mathematics major or minor or consent of instructor. Three units.

METEOROLOGY

1400. Weather and Climate

Introduction to the atmosphere, physics of the atmosphere, physical causes of climate; structure and circulation, weather and weather forecasting; emphasis on aspects of interest to the prospective or in-service teacher. Prerequisite: Phys. Sci. 1340 or equivalent. 4 hrs. lect. Four units.

MICROBIOLOGY

(See also Biology, Botany, Entomology, Zoology)

3000. Microbiology

The general biology of major groups of microorganisms including their morphology, metabolism, reproduction, genetics, and ecology. Prerequisites: General biology or botany and zoology, general chemistry; organic chemistry required. 4 hrs. lect., 6 hrs. lab. Six units.

3200. Bacterial Physiology

Growth, nutrition, metabolism and genetics of bacteria. Emphasis in the laboratory on basic principles and techniques for studying physiological problems. Prerequisite: microbiology, organic chemistry. 3 hrs. lect., 6 hrs. lab. Five units.

3400. Hematology

Morphology, function and composition of mammalian blood fluids and cells, both normal and diseased. Prerequisites: General biology or botany and zoology, general chemistry; physiology and organic chemistry are recommended. 2 hrs. lect., 3 hrs. lab. Three units.

4201, 4202. Medical Microbiology

The pathogenesis and mechanisms of infection of bacterial and mycotic diseases of man; isolation and identification of selected groups of microorganisms. Prerequisites: Microbiology 3000; 4201 is a prerequisite to 4202. 3 hrs. lect., 6 hrs. lab. Five units.

4400. Immunology and Serology

Specific and nonspecific reactions in immunity; manifestations of antigenantibody reactions, hypersensitivity and transplantation immunity. Prerequisites: microbiology and 1 year of organic chemistry. 3 hrs. lect., 6 hrs. lab. Five units.

NATURE STUDY

3391. Nature Study

Natural history in the field and laboratory with topics from trees, weeds, fall insects, water birds, reptiles, amphibians and conservation. Offered in Fall quarter. Prerequisite: Basic course in biology. 2 hrs. lect., 6 hrs. lab. and/or field trips. Four units.

3392. Nature Study

Natural history in the field and laboratory with topics from rocks and minerals, physiographic land forms, fossils, map reading, meteorology, astronomy, early Spring plants and animals. Offered in Winter quarter. Prerequisite: Basic course in physical science. 2 hrs. lect., 6 hrs. lab. and/or field trips. Four units.

3393. Nature Study

Natural history in the field and laboratory with topics from land birds, mammals, spring insects and flowers, shrubs and nature activities. Offered in Spring quarter. Prerequisite: Basic course in biology. 2 hrs. lect., 6 hrs. lab. and/or field trips. Four units.

Physics

PHOTOGRAPHY

4500. Introductory Photography

Elementary course in fundamentals of photography, basic theory and practice of photography through picture taking, development and print making; emphasis on use of photography as an adjunct to teaching and other professions. 2 hrs. lect., 3 hrs. lab. Three units.

4900. Individual Study

Two-four units.

PHYSICAL SCIENCE

1340. Principles of Physical Science

Fundamental principles of physics and chemistry with applications to astronomy, meteorology and geology. Not open to students having credit for lower-division courses in chemistry or physics. Prerequisite: High school algebra. 4 hrs. lect., 3 hrs. lab. and problem session. Five units.

4900. Individual Study

One-four units.

5000. Analysis of Physical Science Concepts

The development of physical science using original writings of key figures from the Greeks to contemporary physicists. Prerequisite: upper-division standing, with major or minor in a physical science. 3 hrs. lect. Three units.

PHYSICS

1000. Elements of Physics

An introductory survey course in classical and modern physics designed primarily for liberal arts students. Prerequisites: high school algebra and plane geometry. 4 hrs. lect. Four units.

1011, 1012, 2011, 2012, 2013. General Physics

1011. Mechanics

Uniform and accelerated motion, force, work, momentum and energy. Prerequisite: Math. 1302. (Concurrent enrollment)

1012. Heat and Sound

Temperature, introduction to kinetic theory of matter, wave motion. Prerequisites: Phys. 1011, Math. 1303. (Concurrent enrollment)

2011. Electricity and Magnetism

Electric charges and currents, magnetism, induced currents, electric oscillations; atomic origin of electromagnetic phenomena. Prerequisite: Phys. 1012, Math. 2301. (Concurrent enrollment)

2012. Light

Reflection and refraction of light, Huyghen's principle, lens and mirror systems, interference and diffraction. Prerequisites: Phys. 2011, Math. 2302. (Concurrent enrollment)

2013. Modern Physics

Experimental basis of quantum theory; atoms, nuclei, x-rays, atomic structure, radioactivity. Prerequisites: Phys. 2012, Math. 2303. (Concurrent enrollment)
3 hrs. lect., 3 hrs. lab. each. Four units each.

2001, 2002, 2003. Introduction to Physics

2001. Mechanics, Heat and Sound

Uniform and accelerated motion, force, work, momentum and energy. Temperature, kinetic theory of matter, wave motion. Prerequisite: Math. 1301 or equivalent.

2002. Electricity and Magnetism

Electric charges and currents, magnetism, induced currents, electric oscillations. Prerequisite: Physics 2001.

2003. Light and Modern Physics

Reflection and refraction of light, Huyghen's principle, lens and mirror systems, interference and diffraction, atoms, nuclei, X-rays, atomic structure, radioactivity. Prerequisite: Physics 2002. 3 hrs. lect., 3 hrs. lab each. Four units each.

3311, 3312, 3313. Analytic Mechanics

Fundamentals of statics, kinematics, dynamics of rigid bodies, introduction to Lagrange's and Hamilton's equations. Prerequisites: Physics 2013, Math 3320, or consent of instructor. Phys. 3311 is prerequisite to Phys. 3312; Phys. 3312 is prerequisite to Phys. 3313. 3 hrs. lect. Three units each.

3320. Thermodynamics and Kinetic Theory

The equations of state and thermodynamic functions, including the first and second laws. Basic laws governing the behavior of gas molecules, including the Maxwell-Boltzmann distribution. Prerequisite: Phys. 2013 or equivalent. 4 hrs. lect. Four units.

3331, 3332, 3333. Electricity and Magnetism

Theory of electrostatics, magnetostatics, magnetism, steady and varying currents, electron theory and electromagnetic waves. Prerequisite: Phys. 2013, Math 3320 or consent of instructor. 3331 is prerequisite to 3332; 3332 is prerequisite to 3333. 3 hrs. lect. Three units each.

3511, 3512. Electronics

Primary emphasis is on physics instrumentation. Some topics covered are: circuit analysis, properties of electron tubes, power supplies, amplifiers, feed-back, multi-vibrators. Prerequisite: Phys. 2013. 3 hrs. lect. Three units each.

3530. Physical Electronics

Theory and design of vacuum tubes, electron optics, electrostatic and magnetic fields, space charge effects, nuclear particle accelerators. Prerequisite: Phys. 3511 or consent of instructor. 4 hrs. lect. Four units.

4150. Introduction to Atomic Structure

An introduction to atomic physics, treating cathode rays, the electron, black body radiation, photoelectric effect, structure of the atom and spectra. Prerequisite: Phys. 4420, or equivalent. 4 hrs. lect. Four units.

4160. Radioactivity and Nuclear Structure

Discovery of radioactivity, nature of radioactivity, alpha, beta, and gamma rays, theory of transformation, artificial transmutations, nuclear structure, nuclear reactors. Prerequisites: Phys. 4150 or consent of instructor. 4 hrs. lect. Four units.

4170. Nuclear Physics

Natural and artificial radioactivity, nuclear transformations, nuclear structure, magnetic moments, nuclear radiations, mesons, high energy physics. Prerequisite: Phys. 4160, or consent of instructor. 3 hrs. lect. Three units.

4181, 4182, 4183. Intermediate Physics Laboratory

The use and calibration of precision electrical instruments and electronic devices. Selected experiments in atomic structure, nuclear physics, solid state physics and optics. Individual research projects. Prerequisite: consent of instructor. One to three units each.

4210. Physical Optics

The phenomena of diffraction, interference and polarization of light and their applications. Prerequisite: Physics 3333 or consent of instructor. 4 hrs. lect. Four units.

4410. Introduction to Solid State Physics

Crystal structures, dielectric, thermal and mechanical properties, metals and semi-conductors, superconductivity, mechanical properties. Prerequisites: Phys. 4150, or equivalent. 4 hrs. lect. Four units.

4420. Introduction to Quantum Mechanics

Physical ideas and mathematical formulation of quantum mechanics, with applications to atomic and molecular systems. Prerequisites: Phys. 3333, or equivalent. 4 hrs. lect. Four units.

4610. Mathematical Techniques in Physics

Mathematical techniques in physics. Solutions and methods of solution for the differential equations encountered most frequently in mathematical physics. The higher transcendental functions, numerical techniques (as appropriate). Prerequisites: Math 3332 or equivalent. 4 hrs., lect. Four units.

4900. Independent Study

Two-four units.

PSYCHOLOGY

2000. General Psychology I

An introduction to the scientific study of basic processes underlying human and animal behavior: sensation and perception, learning and thinking, motivation and emotion. Four units.

2010. General Psychology II

A survey of method, content, and theory in the scientific study of behavior. Selected problems of psychology will be viewed in terms of the experiments by which they have been investigated. Prerequisite: Psy. 2000. Four units.

3100. Experimental Psychology I

A laboratory course on the development, design, and execution of psychological experiments and the analysis of data. Problems of psychophysics, sensory and perceptual function, learning, transfer, and forgetting will be dealt with in terms of experimental methodology. Prerequisites: Psy. 2010, Stat. 2001. Five units.

3500. Social Psychology

A study of current theory and research on the individual in society, small groups, and interpersonal interaction. Such topics as socialization, social structure, attitude formation, and group structure will be considered. Prerequisite: Psy. 2010. Four units.

3510. Attitude and Opinion Surveys

Methods in the study of social attitudes and opinions; design of research and critical analysis of data. Results of attitude studies, opinion surveys, and content analyses as related to differences between individuals, groups, roles and statuses. Prerequisite: Psy. 3500. Four units.

3520. The Psychology of Small Groups

Group development; leadership roles; interpersonal interaction in a group setting; types of group atmosphere; research designs and critiques of small group behavior; sociodrama. Prerequisite: Psy. 3500. Four units.

3710. Personnel Selection

Techniques, tests, administration and evaluation of programs for the selection and placement of personnel. Prerequisite: College algebra and elementary statistics or consent of instructor. Four units.

4200. Conditioning and Learning

Basic principles and results of conditioning and learning experimentation. Prerequisite: Psy. 3100. Four units.

4210. Theories of Learning

A survey of theories of learning with emphasis upon the experimental work arising from alternative conceptual systems. These systems will be discussed in terms of their underlying assumptions and their methodological approaches to research problems. Prerequisite: Psy. 4200. Psy. 4300 is recommended. Four units.

4220. Thinking and Problem Solving

Psychological processes involved in problem solution. Survey of experimental research and theories dealing with concept formation and thought processes. Prerequisite: Psy. 3100. Four units.

4300. Motivation

Nature of primary and secondary drives. Critical analysis of the concept of motivation in relation to behavior, learning and performance. Prerequisite: Psy. 3100 or consent of instructor. Four units.

4310. Comparative Psychology

Basic psychological processes in relation to animal behavior. Prerequisite: Psy. 3100. Four units.

4320. Physiological Psychology I

The biological foundations of human and animal behavior, including physiological processes related to sensory and motor activity, perception, learning, thinking, motivation and emotion. Effects of drugs, internal secretions, and brain lesions and stimulation on behavior. Prerequisite: Psy. 2010 and Physiology 3300. Four units.

4330. Physiological Psychology II

Continuation of Psychology 4320. Prerequisite: Psy. 4320. Four units.

4340. Perception

A systematic review of experiments: studies in perceiving the physical world. Perception of size, shape, distance, color and other characteristics of objects. Theories of perception. Prerequisite: Psy. 3100. Four units.

4350. Heredity and Behavior

A consideration of genetic and environmental determinants of behavior and psychological characteristics of animals and humans. Prerequisites: Psy. 2010, 3100 and an elementary statistics course. Four units.

4390. History and Systems of Psychology

Survey of historical developments in the emergence of modern scientific psychology. Contemporary theoretical systems will be discussed with emphasis on how they approach the recurring problems of psychology. Prerequisites: 12 units of upper-division psychology and senior standing. Four units.

4401. Math Methods in Behavioral Science I

Psychophysics and choice. Application of elementary probability theory and finite-state models to psychophysical behavior and the psychology of choice. Prerequisite: consent of instructor. Four units.

4402. Math Methods in Behavioral Science II

Learning and motivation. Application of linear-recursive models and Markov process models to problems in learning. Prerequisite: consent of instructor. Four units.

4403. Math Methods in Behavioral Science III

Selected topics. Discussion of current developments in the application of mathematical methods to topics of interest in the social and behavioral sciences. Prerequisite: consent of instructor. Four units.

4410. Behavior Pathology

The concepts of normality, abnormality, and psychopathology. Symptom syndromes of neurosis, psychosis and other behavioral abnormalities. Methodological problems in the investigation of mental illness and psychotherapy. Prerequisite: Psy. 2010. Four units.

4451. Scientific Method in Psychology I

Logic of measurement. Definition of scientific events; analysis of variables, semantic relations, and measurement scales in behavioral studies. Prerequisite: consent of instructor. Four units.

4452. Scientific Method in Psychology II

Role of Theory. Study of logical and semantic criteria for construction or evaluation of theories of behavior. Prerequisite: consent of instructor. Four units.

4453. Scientific Method in Psychology III

Interplay of theory and experimentation. Study of the influence of theory on the selection and design of experiments as well as the refinement and revision of theories on the basis of experimental findings. Prerequisite: consent of instructor. Four units.

4460. Psychology of Personality

Critical review of method, theory and content in the study of personality. Historical development of the field with attention to recent applications of scientific method to problems of personality. Prerequisite: Psy. 4410 or equivalent. Four units.

4700. Psychological Testing

Techniques of administration of individual and group tests: manipulation, perception, coordination, comprehension, aptitude tests. Emphasis on the use and interpretation of test results. Prerequisite: 16 hours of Psychology or permission of instructor. Four units.

4730. Tests and Measurement

Emphasis on the theories underlying the development, analysis, and evaluation of standardized and non-standardized tests. Consideration of principles of measurement. Prerequisite: College algebra and elementary statistics or consent of instructor. Four units.

4790. Psychology of Individual Differences

Critical consideration of representative ideas about ability and other traits. Historical development of measurement of individual differences; relation of measurement of individual differences to psychological theory. Prerequisite: Psy. 2010 and Stat. 2001 or equivalent. Four units.

4801. Learning and Motivation Laboratory

Selected experiments in conditioning, learning and motivation. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psy 3100 and consent of instructor. One-two unit. 3-6 hr. lab.

4802. Response Processes and Psychophysical Methods Laboratory

Selected experiments from psychophysics, perception, vision, audition and olfaction. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psy. 3100 and consent of instructor. One-two unit. 3-6 hr. lab.

4803. Physiological Psychology Laboratory

Selected experiments in physiological processes related sensory and motor activity. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psy. 3100 and consent of instructor. One-two unit. 3-6 hr. lab.

4804. Social Psychology Laboratory

Selected experiments ranging from two person interaction to field studies and surveys. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psy. 3100 and consent of instructor. One-two unit. 3-6 hr. lab.

4900. Independent Study in Psychology (Honors)

Work by arrangement for honors students in psychology. Four units.

6700. Advanced Educational Psychology

Systematic analysis of general principles of motivation and learning as applied to educational processes. Four units.

6720. Individual Mental Tests

Analyzes the concept of intelligence and its use in mental testing. Presents major types of tests, their uses and interpretation. Prerequisite: Psy. 5700 or equivalent. Four units.

SCIENCE EDUCATION

4020. Science in the Elementary School

Discussions, techniques, projects appropriate to the teaching of science in the elementary schools. Prerequisite: Completion of general education requirement in science. 2 hrs. lect., 3 hrs. lab. Three units.

5050. Advanced Science Education

Practice in preparing and presenting science lessons. Prerequisite: previous instruction in science education or consent of the instructor. Three units.

5100. Science in the Secondary School

Curriculum, materials, A-V techniques, content, and methods for secondary school science. Prerequisite: Consent of instructor. 2 hrs. lect., 3 hrs. lab. Three units.

STATISTICS

1000. Elements of Probability and Statistics

Descriptive statistics; measures of central tendency, variation, correlation. Elementary discrete probability, sampling and sampling distributions. Tests of statistical hypotheses. Role of statistics in scientific research. Prerequisite: One and one-half years of high school algebra. Five units.

2001. Statistical Analysis I

Descriptive statistics and probability. Prerequisite: College algebra or equivalent. Four units.

2002. Statistical Analysis II

Sampling, distributions, test of significance and correlational methods. Prerequisite: Stat. 2001 or equivalent. Four units.

3401. Introduction to Probability Theory

The modern theory of probability with applications to science and engineering. Topics include the notion of sample space, random variables, expectation, joint distributions, combinatorial analysis and special distributions such as the binomial, the Poisson, the normal, etc. Prerequisite: Math 2303 or equivalent. Four units.

3502. Statistical Inference I

An introduction to mathematical statistics and its applications. Topics include a review of those probability topics needed, maximum likelihood and Bayes estimation and testing of hypotheses. Prerequisite: Math. 2303 or equivalent. Four units.

3503. Statistical Inference II

Continuation of Stat. 3502. Regression and general linear hypothesis, experimental design models, sequential analysis and non-parametric methods. Prerequisite: Stat. 3502 or equivalent. Four units.

4000. Statistical Analysis III

Introduction to analysis of variance. Prerequisite: Stat. 2002 or equivalent. Four units.

4410. Introduction to Stochastic Processes

The theory and application of Stochastic models to empirical phenomena, with emphasis on stationary and counting processes and on Poisson, Markov and Gaussian processes. Prerequisite: an upper division probability course. Four units.

4501. Linear Methods in Statistics I

An introduction to General Linear Hypothesis and its applications. The multivariate normal, regression models and correlation. Prerequisite: Statistics 3502 and Mathematics 3120 or equivalent. Four units.

4502. Linear Methods in Statistics II

Continuation of Statistics 4501. Further development of the general linear hypothesis. Analysis of variance models, randomization, balanced incomplete blocks, design of experiments. Prerequisites: Statistics 4501 or equivalent. Four units.

4900. Independent Study

Two-four units.

6410. Queueing Theory

Structure and basic theory of queues. Poisson queues, non-Poisson queues, renewal theory and applications. Prerequisite: advanced calculus and a probability course or consent of instructor. Four units.

ZOOLOGY

(See also Biology, Botany, Entomology, Microbiology)

1001. General Zoology

The comparative anatomy, physiology and behavior of representative invertebrate types adapting them for life in the major environments. Prerequisite: Biol. 1000 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

1002. General Zoology

An introduction to vertebrate zoology emphasizing structural and functional adaptations to diverse environments. Prerequisite: Biol. 1000 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

3000. Survey of the Animal Kingdom

Introduction to the anatomy, physiology, classification, and evolution of the major animal phyla. Prerequisite: Biol. 1000 or equivalent. Not open to majors in biology. 2 hrs. lect., 3 hrs. lab. Three units.

3101. Vertebrate Zoology: Coldbloods

The natural history of fishes, amphibians and reptiles including biology, morphology, classification, identification and techniques of collecting and preserving specimens with emphasis on western forms. Prerequisite: General zoology or equivalent. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

3102. Vertebrate Zoology: Warmbloods

The natural history of birds and mammals including biology, morphology, classification, identification and techniques of field study with emphasis on western forms. Prerequisite: General zoology or equivalent. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

3300. Invertebrate Zoology

The advanced study of the anatomy, physiology, systematic relationships and probable evolution of invertebrate groups, excluding insects. Prerequisites: General biology or general zoology. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

3600. General Embryology

Anatomy and physiology of development, principally as exemplified by the vertebrates, including fertilization, morphogenetic movements, differentiation and organogenesis. Prerequisite: General biology or general zoology or consent of instructor. 3 hrs. lect., 6 hrs. lab. Five units.

3601, 3602. Anatomy and Physiology

Introduction to structure and function of human systems. Prerequisites: General biology or zoology. Organic chemistry recommended; 3301 prerequisite to 3302. 3 hrs. lect., 3 hrs. lab. Four units each.

3610. Vertebrate Anatomy

Gross and microscopic structure of representative vertebrates, emphasizing the evolutionary history of the major organ systems. Prerequisite: General embryology or consent of instructor. 3 hrs. lect., 6 hrs. lab. Five units.

Zoology

4141. Reptiles and Amphibians

The biology, ecology, distribution and identification of reptiles and amphibians with emphasis on western forms. Prerequisite: Principles of Biology or consent of instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4142. Mammals

The anatomy, classification, ecology and distribution of mammals, with emphasis on western species. Prerequisite: Principles of Biology or consent of instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4143. Birds

The biology, ecology, distribution and identification of birds with emphasis on western forms. Prerequisite: Principles of Biology or consent of instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4144. Fishes

The biology, ecology, distribution and identification of fishes, with emphasis on western forms. Prerequisite: Principles of Biology or consent of instructor. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4320. General Parasitology

An introduction to parasitism; emphasis on the structure, physiology, life histories and pathology of parasitic animals other than arthropods. Prerequisites: General biology or zoology. 2 hrs. lect., 6 hrs. lab. Four units.

4600. Comparative Animal Physiology

Operation of response, nutritional and reproductive systems in animals. Comparison of unique adaptations to specialized environments. Prerequisites: Cellular physiology, organic chemistry, general zoology. 3 hrs. lect., 3 hrs. lab. Four units.

4900. Independent Study

One-four units.

5400. Animal Behavior

Activity patterns of animals of contrasting habitats and evolutionary levels, both as individuals and in groups; consideration of genetic, developmental and environmental influences on behavior. Prerequisite: Biology 1000, Zoology 1001, 1002 or equivalent. General Ecology and Psychology recommended. 4 hrs. lect., 3 hrs. lab. or field trips. Five units.

DIVISION OF SOCIAL AND BEHAVIORAL SCIENCE

Anthropology, Geography, Journalism, Political Science, Social Science, Sociology

Professors: Merrifield (head), Freitag (chairman, Department of Political Science), Fry, Geiser (chairman, Department of Sociology), Jackman, Lawton, Shaudys, Thomas (chairman, Department of Geography-Anthropology); Associate Professors: Anderson, Bauer, Blawie, Gothberg, Kariel, C. Smith, J. Smith; Assistant Professors: Baskin, Batten, Carter, Clarke, Crowell, Duhnke, Ellsworth, Forbes, Gray, Hartman, E. Jay, Michelson, Nayar, Pagenhart, Pringsheim, Segal, Takagi, Trindell, Winslow, Wright; Instructor: Rooney; Lecturers in Communications: B. Peterson, Detweiler.

CURRICULA OFFERED

Baccalaureate Degree

Social Science (B.A.) (An interdivisional major; see also Humanities and Business and Economics Divisions.)

Anthropology (B.A.)

Geography (B.A.)

Language Arts (B.A.) (An interdivisional major; see Humanities for details.)

Political Science (B.A.)

Sociology (B.A.)

Minors (See advisers for requirements)

Anthropology

Economics (See Business and Economics Division for details.)

English-Journalism (See Humanities for details.)

Geography

History (See Humanities for details.)

Journalism (Communications)

Language Arts (See Humanities for details.)

Political Science

Sociology

PURPOSES

The division offers instruction in anthropology, geography, journalism, political science, sociology and social science, leading to the baccalaureate degree in anthropology, geography, sociology and social science; and for purposes of general education.

In addition to upper and lower division courses for general education purposes in the above fields, the division cooperates with other divisions in the History of Western Culture, 1001, 1002, 1003; in Comparative Studies in Asian Cultures, 2001, 2003, 2005; and in the Junior and Senior Symposia, 3801-4801. Majors in this division are referred to these courses listed under Interdivisional programs.

SOCIAL SCIENCE AREA MAJOR

The social science area major provides a flexible pattern of study of a liberal arts character for such professionally-oriented fields as: teaching, pre-law, government service, pre-business, journalism, foreign service, social services, as well as graduate work in selected fields.

Social Science

Requirements:

- I. Complete the 76-unit requirement in general education which is required for all degrees.
- II. Complete the following:
 - A. A concentration of 28-quarter units of upper-division work in *one* of the following eight fields: anthropology, economics,* geography, history,** journalism-communications, political science, psychology or sociology.
 - B. Three other supporting fields of 7-9 quarter hours each in the social sciences, history, economics, or psychology.
 - C. The remaining courses (normally 4-8 quarter hours) to be distributed among one or two of the above named fields, or social science.
 - D. It is recommended that a course in statistics be included in the program.
 - E. It is recommended that a senior seminar (Social Science 4000) be included in the program.
 - F. It is recommended that appropriate course work leading to a functional reading knowledge of a modern foreign language be attached to the major program.
- III. The total program of not less than 60-quarter hours, of which not less than 48 units must be at the upper-division levels, should display careful planning, scholarly balance among related fields, and internal coherence leading toward the student's educational purposes. The pattern of studies may be formalized only with the consent of the designated academic adviser. Course work used to retire general education requirements may not be used to satisfy major requirements.
- IV. Teaching Credentials: When the baccalaureate major in Social Science is used in preparation for the Standard Teaching Credential (at either secondary or elementary levels), coordination between the student's major program, minor program and the Division of Education is essential. Secondary credential candidates select either history or political science as the field of concentration (28 upper division units) for the teaching major. Elementary credential candidates select one of the eight fields (see II.,A. above) for the field of concentration for the teaching major. Graduate students using the Area Major for credential purposes will be held, under advisement, to an appropriate balance of subject fields necessary to teaching. For single-subject teaching minors, see appropriate departmental adviser.

All teaching credential candidates must also complete the requirements for admission to teacher education, and the requirements in professional education, including a course in the teaching of social science (Soc. Sci. 5000).

Illustrative Program for the Social Science Area Major

(Core concentration—Journalism-Communications)

	Units		
	F	W	S
First Year			
HWC 1001-2-3—History of Western Culture.....	5	5	5
Biol 1000—Principles of Biology.....			5
Pol Sci 1201-2—American Political Institutions.....	4	4	
Eng 1002/Sp 1002—Expos. and Rhetoric/Oral and Written Expression	3		

* See adviser for applicable courses in Division of Business and Economics.
 ** See adviser for applicable courses in Division of Humanities.

Social Science

	Units		
	F	W	S
First Year—Continued			
PE 1101—Health and Physical Activity.....			3
Art 1110—Introduction to Art		3	
PE 1010, 1011—Physical Education Activity.....	½		½
Cr Arts 2210—Mass Media of Communication.....	4		
Journ 2401—News Reporting and Writing.....		3	3
	16½	15	16½
Second Year			
Journ 2403—News Reporting and Writing.....	3		
Asia 2001-3-5—Comparative Studies in Asian Cultures	4	4	4
PE 2010-11—Physical Education Activity.....	½		½
Stat 1500—Elements of Probability and Statistics.....	4		
Journ 3211—College Newspaper Lab.....		3	3
Phys Sci 1340—Principles of Physical Science.....		5	
Psych 2000—General Psychology		4	
Engl 2700-01—World Literature I, II.....	4		4
Journ 3700—Hist. and Development of the Mass Media.....			4
	15½	16½	15½
Third Year			
Engl 4040—Modern English Grammar.....	4		
Anthro 3000—Anthropology in the Modern World.....	4		
Econ 2301—Principles of Economics.....		4	
Journ 3400—Advanced Journ. Writing.....	4		
Journ 4400—Law of Mass Communications.....		4	
Pol Sci 3210—Comparative Government.....		4	
Soc Sci 3001—Social Science I.....	4		
Econ 3303—Controversial Economic Issues.....			4
Elective			4
Journ 3212—Pictorial Journalism.....		3	
Pol Sci 4241-42—Governments of Asia.....			4
Symp 3801—Junior Symposium.....			3
	16	15	15
Fourth Year			
Journ 4500—Editing	4		
Journ 4650—Publications Internship		5	
Anthro 4330—Problems of Culture Change.....	4		
Econ 4100—International Economics.....			4
Electives	4	4	7
Soc Sci 4000—Senior Seminar.....			4
Conserv 4380—Conservation of Natural Resources.....		5	
Symp 4801—Senior Symposium.....	3		
	15	14	15

DEPARTMENT OF GEOGRAPHY-ANTHROPOLOGY

PURPOSES

Instruction is offered in two subject fields: anthropology and geography. Anthropology is the study of man as the product of both biological and cultural evolution, with emphasis upon analyses and explanatory descriptions of human variations in the full range of societies around the world. Geography is the study of spatial distributions and space relations on the earth's surface considered as the environment of man. The Department's attention is focussed upon the points of contact between the two fields: (1) the development of man as the dominant species and agent for change on the earth's surface, and (2) the effects of man's changes in his physical, biotic, and cultural habitat in determining the course of human development. The result of such a focus in a combined department of anthropology and geography is that emphasis is placed upon the viewpoint of cultural ecology—the articulation of technology and physical-biotic environment within the scope of sociocultural systems.

Programs are offered for baccalaureate degrees in Anthropology (B.A.) and in Geography (B.A.), as well as in two core fields in the Social Science Area major: anthropology and geography, with variations in recommended electives for students: (1) desiring a general liberal arts education; (2) preparing for a teaching credential; or (3) intending to pursue additional professional training in a graduate school. Study of anthropology prepares for positions in overseas business, government, cultural attaché, technical assistance programs, peace corps, teaching, and research. Study of geography prepares for positions in regional planning, resource management, map design, business, government, peace corps, teaching, and research. Courses are offered for the teaching minor.

ANTHROPOLOGY MAJOR

Requirements

- I. Complete the 76-unit requirement in general education which is required for all degrees.

Recommended Courses: History of Western Culture (HWC 1001-1002-1003) or Comparative Studies in Asian Cultures (ASIA 2001-2003-2005);

Required Courses: Biology 1000; Statistics 1500 or 2001; Geology 1101-1102; English 4060; Foreign Language 1001-1002-1003 or demonstrated reading competence.

II. The Major

The major consists of not less than 49 nor more than 64 units of *upper-division* anthropology courses. All major students will choose a two-course (8 unit) regional option and a three-course (13 unit) systematic option, as approved by adviser. The following departmental requirements are in addition to the College's general education requirements (I, above):

Required Courses:

1. Anth. 2100 and 2300 (Anth. 1000 or 3000 may be substituted for 2300).
2. Anth. 3100, 3200, 3400, 4410, and 4600.
3. One course from the following: Anth. 3300, 3330.
4. One course from the following: Anth. 4720, 4730.
5. Two courses from one of the following two groups (Regional Option):
 - a. *New World* regional courses: Anth. 3500, 3505, 3510.
 - b. *Old World* regional courses: Anth. 3550, 3560, 3570, 3575, 3590.
6. Three courses from one of the following two groups (Systematic Option):
 - a. *Archeology and Prehistory*: Anth. 3210, 3220, 3240.

- b. *Socio-Cultural Anthropology*: Anth. 4310 and two of 3430, 3460, and 4450.

Recommended Courses in Supporting Fields:

1. *General Electives*
Biology 2500; Biology 3500.
2. *Archeology and Prehistory Option*
History 3100 or 3300; History 4030; Geology 3201-3202; Geography 2100; Geography 2300; Photography 4500.
3. *Socio-Cultural Anthropology Option*
One upper division history course (regional); one upper division course in philosophy or literature; Psychology 3500; two upper division courses in geography, political science, sociology, or social science.

ANTHROPOLOGY CORE IN SOCIAL SCIENCE AREA MAJOR

The considerable breadth across the physical and biological sciences, and the social sciences is to be noted.

Requirements

- I. Complete the 76-unit requirement in general education, which is required for all degrees.

Recommended Courses:

Lower Division

History of Western Culture (HWC 1001-1003) or
Comparative Studies in Asian Cultures (ASIA 2001-2003-2005)
Biology 1000, 2500; Geology 1101-1102
Statistics 1500 or 2001; Psychology 2000, 2010
Foreign Language 1001-1002-1003 or demonstrated reading competence
Geography 2100, 2300; Sociology 2000

Upper Division

Biology 3500, Geology 3201-3202
History 4030 and/or regional courses on U.S., Asia, or Latin America
Philosophy 3300, 3400
English 4060

- II. Complete the following Social Science Area major:

Required Courses:

Lower Division Prerequisites (2 courses, totalling 8 units)

Anthropology 2100 and 2300 (Anth. 1000 or 3000 may be substituted for Anth. 2300)

Upper Division Core (7 courses, totalling 28 units in anthropology)

Anthropology 3100 and 3400
One course from the following: 3200, 3210, 3220, 3240
One course from the following: 3300, 3330, 4330
One course from the following: 3430, 3460, 4450
One course from the following: 3500, 3505, 3510, 3550, 3560, 3570, 3575
One course from the following: 4720, 4730

Upper Division Supporting Fields (8 courses, totalling 32 units; NOTE: up to 12 units of Lower Division courses may be applied toward this requirement, provided that these same courses have not been used to satisfy general education requirements [I, above]).

Two courses in *each of three* subject fields, selected from economics, geography, history, journalism-communications, political science, psychology, and sociology.

Anthropology

Two additional courses to be distributed among one or two of the above-named subject fields, or Social Science.

ANTHROPOLOGY TEACHING MINOR

Requirement: Thirty (30) quarter-units, hence 8 courses

Recommended Courses: Anthropology 2100, 2300 (1000 or 3000 may be substituted), 3100, 3200, 3300, 3400, 3500, 3505.

GENERAL EDUCATION COURSES IN ANTHROPOLOGY

Lower Division (One of "two of four" in Social Sciences): Anth. 1000

Upper Division (Upper Division Social Science Course): Anth. 3000

Illustrative Program for the Anthropology Major

	Units		
	F	W	S
First Year			
HWC 1001-2-3—History of Western Culture	5	5	5
Pol. Sci. 1201-1202—American Political Institutions.....	4	4	
Foreign Language 1001-1002-1003—French or German.....	4	4	4
P.E. 1010-1011—Physical Education Activity	½	½	
P.E. 1101—Health and Physical Activity		3	
Biol. 1000—Principles of Biology			5
Engl. 1002/Sp. Dr. 1002—Expos. & Rhetoric/Oral & Writ. Exp.			3
Total	13½	16½	17
Second Year			
Asia 2001-2003-2005—Comparative Studies in Asian Cultures.....	4	4	4
Anth. 2100—Principles of Biological Anthropology	4		
Geol. 1101-1102—Physical Geology, with laboratory	5		
Psych. 2000—General Psychology I	4		
P.E. 2010-2011—Physical Education Activity		½	½
Anth. 2300—Principles of Cultural Anthropology		4	
Biol. 2500—Genetics		5	
Geog. 2300—Principles of Cultural Geography		4	
Soc. 2000—Introduction to Sociology			4
Engl. 4060—Introduction to Linguistics			4
Stat. 1500 or 2001—Elements of Probability and Statistics/.....			5
Stat. Analysis I			or 4
Total	17	17½	17½ or 16½
Third Year			
Anth. 3100—Human Evolution	4		
Anth. 3200—Human Prehistory	4		
Anth. 3300 series (one of three choices)		4	
Anth. 3400—Social Anthropology		4	
Anth. 3500 series—Regional option			4
Anth. 3210 or 4310—Field Course (Systematic option).....			5
Recommended Courses in Supporting Fields for Option	4	4	4
Elective (or Teaching Minor)	4	4	
Symp. 3801—Junior Symposium			3
Total	16	16	16

Anthropology

Fourth Year

	Units		
	F	W	S
Anth. 3500 series—Regional option	4		
Anth.—Systematic option	4	4	
Anth. 4410—Language in Culture.....		4	
Anth. 4600—Growth of Anthropological Thought			4
Anth. 4700 series (one of two choices)			4
Recommended Courses in Supporting Fields for Option (incl. upper division G.E.)	4	4	
Symp. 4801—Senior Symposium			3
Electives (or Teaching Minor)	4	4	4
Total	16	16	15

DESCRIPTION OF COURSES

ANTHROPOLOGY

Introductory

1000. Introduction to Anthropology

The holistic study of man: concepts of human evolution, prehistory, culture; comparison in human variation; structure and function in social organization; synthesis of biological, cultural, and social factors. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

2100. Principles of Biological Anthropology

Synthesis of present evidence about human evolution, primates, fossil man, race, and racial differences; the interconnections between biological and cultural aspects in human adaptation and development. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

2300. Principles of Cultural Anthropology

Prehistory and cultural growth; structure and dynamics of culture; cultural invention and diffusion; social organization; status and role; value-systems; an introduction to range of diversity in human ways of life. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

3000. Anthropology in the Modern World

The relevance of anthropology to contemporary world problems and the great issues of mankind. An advanced level introduction to cultural anthropology; not open for credit to students who have taken 1000 or 2300 or equivalents. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

Intermediate—Biological Anthropology

3100. Human Evolution

Consideration of the primate-human evolutionary record (fossils, comparative anatomy, physiology) in the light of modern synthetic theory based upon genetics, paleontology, systematics. Prerequisite: Anth. 2100. Four units.

Intermediate—Archeology and Prehistory

3200. Human Prehistory

Theories of culture origin, growth, and evolution; problems of invention, acceptance, and diffusion; meaning of archeological findings for human history; relationship of environment, technology, population size, and cultural complexity. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

Anthropology

3210. Field Course in Archeological Methods

Techniques of prospecting and scientific excavation, with emphasis upon recording and collection of specimens under carefully controlled field conditions. Enrollment limited to 18 students, admitted by consent of instructor. Prerequisite or concurrent: Anth. 3200. 1 hour lecture, week-end excavations. Five units.

3220. Prehistory of the Old World

Origin, development, and distribution in space and time of the prehistoric cultures of Africa, Eurasia, and Australia, with emphasis upon cultural efflorescence: ancient civilizations of southwestern Asia and the eastern Mediterranean. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

3240. Archeology of North America

Prehistory of the Indians of present-day Canada and the United States. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

Intermediate—Ethnology

3300. World Ethnography

Review of selected diversified cultures from various areas of the world; provides a broad general appreciation, for comparative purposes, of the manifold ways in which man responds to and builds upon his differing environments. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

3330. Peasant Societies

Comparative review of selected sedentary farming groups, including discussion of ancient and contemporary populations of Europe, Africa, Asia, the Pacific, and Latin America; the concept of peasantry. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

Intermediate—Socio-Cultural Anthropology

3400. Social Anthropology

Structural-functional approach to the comparative study of human institutions, with emphasis upon kinship and family types throughout the world and their place within the total social structure. Prerequisite: Anth. 1000 or 2300 or 3000, or Sociology 2000. 3 hours lecture, 1 hour discussion. Four units.

3430. Cross-cultural Study of Religion

Origins, forms, elements, and symbolism of religion; the relative roles of magic, religion, and science in selected societies. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

3460. Culture and Personality

The interplay of personality and cultural factors in human development; personality in various cultural settings; the "national character" concept. Prerequisite: Anth. 2300 or Sociology 3500 or Psychology 3500. Four units.

Intermediate—Regional Anthropology

3500. North American Indians

Native peoples and cultures of present-day Canada and the United States. Prerequisite: Anth. 1000 or 2300 or 3000; *or* course in history or geography of North America. Four units.

3505. Indians of California

Habitat, economy, society, arts, and beliefs of the native populations of California; of particular interest and value to prospective elementary teachers. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

3510. Peoples of Latin America

An analysis of past and present Indian and peasant cultures in Mexico, Central America, and South America. Prerequisite: Anth. 1000 or 2300 or 3000; *or* history

Anthropology

or geography course on region; *or* residence in region and consent of instructor. Four units.

3550. Peoples of Mainland Southeast Asia

Study of the culturally dominant peoples and ethnic minorities in the countries of Burma, Thailand, Cambodia, Laos, and Viet Nam. Prerequisite: Anth. 1000 or 2300 or 3000; *or* history or geography course in Southeast Asia; *or* residence in region and consent of instructor. Four units.

3560. Peoples of India

Development of Indian cultural traditions, with emphasis upon social organization and its relation to the social problems of the peoples inhabiting the India sub-continent. Prerequisite: Anth. 1000 or 2300 or 3000; *or* history or geography course on South Asia; *or* residence in region and consent of instructor. Four units.

3570. Peoples of Southwest Asia and North Africa

Study of the nomadic and sedentary people of Islamic traditions, from Afghanistan to Morocco, with special consideration to problems of national development in selected countries (Iran, Egypt, Turkey, Saudi Arabia), and of Pan-Arabic movements. Prerequisite: Anth. 1000 or 2300 or 3000; *or* History 4340 or Geography course on Southwest Asia; *or* residence in region and consent of instructor. Four units.

3575. Peoples of Africa South of Sahara

A cultural survey of African peoples and cultures, with emphasis upon the tribal divisions, arts, industry, beliefs, and contemporary problems. Prerequisite: Anth. 1000 or 2300 or 3000; *or* history or geography course on Africa; *or* residence in region and consent of instructor. Four units.

Advanced—Socio-Cultural Anthropology

4330. Problems of Culture Change

Tradition versus the dynamics of change; socio-cultural and psychological barriers to change; stimulants for change; innovation and its acceptance; the ethics of planned change; technical aid and social science. Prerequisite: one 3000-level course in anthropology. Four units.

4450. Cultural Ecology

The articulation of technology and physical-biotic environment within the scope of socio-cultural systems; balance or harmony in man-land relations; growth of ecological thought to include human activity. Prerequisite: Anth. 2300 *and* Geog. 2300 or equivalents. Cross-listed with Geog. 4450. Four units.

Advanced—Special Interest

4720. Anthropology and Medicine

The ecology of health, magical beliefs, and medicine; public health and medical problems as affected by cultural differences; the effects of acculturation upon mental and physical health. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

4730. Anthropology and International Technical Aid Programs

The use of anthropological theory, techniques, and data in programs of planned change involving contact of distinct ethnic groups at differing levels of technological skills and land utilization. Prerequisite: Anth. 1000 or 2300 or 3000. Four units.

Advanced—Special Programs

4900. Individual Study

Directed reading and/or field research. One to four units.

4901. Directed Group Study

One to four units.

Geography

GEOGRAPHY MAJOR

Requirements

- I. Complete the 76-unit requirement in general education which is required for all degrees.

Recommended Courses: History of Western Culture (HWC 1001-1002-1003) or Comparative Studies in Asian Cultures (ASIA 2001-2003-2005);

Required Courses: Biology 1000 and 4450; Geology 1101-1102; Meteorology 1400; Statistics 1500 and Foreign Language 1001-1002-1003 or demonstrated reading competence (with approval of adviser, Mathematics 1301-2100 and Statistics 2001-2002 may be substituted for Stat. 1500 and Foreign Language 1001-1003).

II. The Major

The major consists of not less than 53 nor more than 66 units of *upper-division* geography courses. All major students will choose a two-course (8 unit) regional option and a three-course (12 to 14 unit) systematic option, as approved by adviser. The following departmental requirements are in addition to the College's general education requirements (I, above):

Required Courses:

- Geog. 2100 and 2300 (Geog. 1000 or 3000 may be substituted for 2300).
- Geog. 3100, 3300, 3400, 3410, 3420, 3600, 4600, 4910.
- Two-courses from the following (Regional Option): Geog. 3500, 3505, 3510, 3515, 3530, 3550, 3560, 3575.
- Three-courses from one of the following four groups (Systematic Option):
 - Physical-Biotic Geography:* Geog. 4100, 4130, 4210.
 - Cultural-Geography:* Geog. 3320, 3340, 4300.
 - Historical-Theoretical Geography:* Geog. 4450, 4500, 4510, 4610.
 - Cartographical Geography:* Geog. 3610, 3620, 4400, 4610.

Recommended Courses in Supporting Fields:

- Physical-Biotic Geography Option:*
Physics 1101-1102; Math 1301-1303; Geology 3201-3202; Geology 3810; Geology 4310; Biology 3500; Botany 3000; Botany 4600; Zoology 3000; Zoology 4142; Biology 4461-4462.
- Cultural Geography and Historical-Theoretical Geography Options:*
Upper division courses in at least three (3) of the following subject fields: Anthropology, Economics, History, Political Science, Sociology, Social Science, in an integrated program approved by the department.
- Cartographical Geography Option:*
Art 1110, 2141, 4611, 4630; Statistics 2001-2002 and Mathematics 1301-2100; Photography 4500; and one or more upper division courses in European history.

GEOGRAPHY CORE IN SOCIAL SCIENCE AREA MAJOR

The considerable breadth across the physical and biological sciences, and the social sciences is to be noted. A recommended major for prospective elementary school teachers.

Requirements

- I. Complete the 76-unit requirement in general education, which is required for all degrees.

Recommended Courses:

Lower Division

History of Western Culture (HWC 1001-1002-1003) or Comparative Studies in Asian Cultures (ASIA 2001-2003-2005);

Biology 1000; Geology 1101-1102;
Mathematics 3000; Psychology 2000
Foreign Language 1001-1002-1003 or demonstrated reading competence
Anthropology 1000; Sociology 2000

Upper Division

Geology 3201-3202

Electives in Music, Art, Speech, Education

- II. Complete the following Social Science Area major:

Required Courses

Lower Division Prerequisites (2 courses, totalling 8 units)

Geography 2100 and 2300 (Geog. 1000 may be substituted for Geog. 2300)

Upper Division Core (7 courses, totalling 28 units in geography)

Geography 3000, 3300, and 4300

One course from the following: 3400, 3410, 3600

One course from the following: 3500, 3505

One course from the following: 3510, 3515, 3530, 3550, 3560, 3575

One course from the following: 3320, 3340, 4450, 4500, 4600

Upper Division Supporting Fields (8 courses, totalling 32 units)

(Note: up to 12 units of Lower Division courses may be applied toward this requirement, provided that these same courses have not been used to satisfy general education requirements (I, above).)

Two courses in *each of three* subject fields, selected from anthropology, economics, history, journalism-communications, political science, psychology, and sociology.

Two additional courses to be distributed among one or two of the above named subject fields, or social science.

GEOGRAPHY TEACHING MINOR

Requirement: Thirty (30) quarter-units, hence 8 courses

Recommended Courses: Geography 2100, 2300 (1000 may be substituted), 3000, 3100, 3300 or 4300, 3410, 3500 or 3505, 4910.

GENERAL EDUCATION COURSES IN GEOGRAPHY

Lower Division (One of "two of four" in Social Sciences): Geog. 1000.

Upper Division (Upper Division Social Science Course): Geog. 3000.

Illustrative Program for the Geography Major

	Units		
	F	W	S
<i>First Year</i>			
HWC 1001-2-3—History of Western Culture.....	5	5	5
Pol. Sci. 1201-1202—American Political Institutions.....	4	4	
Foreign Language 1001-1002-1003—French or German.....	4	4	4
P.E. 1010-1011—Physical Education Activity.....	½	½	
P.E. 1101—Health and Physical Activity.....		3	
Biol. 1000—Principles of Biology.....			5
Engl. 1002/Sp. Dr. 1002—Expos. & Rhetoric/Oral & Writ. Exp.....			3
Total.....	13½	16½	17

	Units		
	F	W	S
Second Year			
ASIA 2001-2003-2005—Comparative Studies in Asian Cultures	4	4	4
Geog. 2100—Principles of Physical Geography	4		
Geol. 1101-1102—Physical Geology, with laboratory	5		
Psych. 2000—General Psychology	4		
P.E. 2010-2011—Physical Education Activity		½	½
Geog. 2300—Principles of Cultural Geography		4	
Met. 1400—Weather and Climate		5	
Anth. 2300—Principles of Cultural Anthropology			4
Stat. 1500—Elements of Probability and Statistics			5
Electives		4	4
Total	17	17½	17½
Third Year			
Geog. 3400—Field Instruments and Graphic Methods	5		
Geog. 3410—Map and Aerial Photo Reading and Interpretation		4	
Geog. 3420—Field Observation and Report Writing			5
Geog. 3600—Cartographic Instruments and Graphic Methods	3		
Geog. 3100—Descriptive and Regional Climatology	4		
Geog. 3300—Historical Cultural Geography		4	
Biol. 4450—Biography		4	
Recommended Courses in Supporting Fields for Option	4		4
Electives (or Teaching Minor)		4	4
Symp. 3801—Junior Symposium			3
Total	16	16	16
Fourth Year			
Geog. 3500 series—Regional Option	4	4	
Geog.—Systematic Option	4	4	5
Geog. 4600—Growth of Geographic Thought			4
Geog. 4910—Proseminar in Geography			4
Recommended Courses in Supporting Fields for Option (incl. upper division G.E.)	4		
Symp. 4801—Senior Symposium		3	
Electives (or Teaching Minor)	4	4	
Total	16	15	13

DESCRIPTION OF COURSES

GEOGRAPHY

Introductory

1000. Introduction to Geography

The five co-traditions of modern geography: exploration and discovery, earth science, man-land interrelations, regionalism, spatial analysis and space relations, as exemplified in western North America. One half-day field trip required. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

2100. Principles of Physical Geography

Analysis of the major components of the physical environment, including land-forms, climate, vegetation, water resources, and soils. Required of Geography

majors, geography core in Social Science Area major, and for teaching minor. One all-day Saturday field trip required. 3 hours lecture, 2 hours activity. Four units. Offered each quarter.

2300. Principles of Cultural Geography

Introduction to varying cultural interpretations of man-environment relationships; spatial analysis of the distribution and diffusion of man and his works. Required for Geography majors, geography core in Social Science Area major, and for geography teaching minor. One all-day Saturday field trip required. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

3000. World Land Problems

Effects of man's intentional and unintentional modification of his physical environment; the importance of his changing attitudes toward natural resources and landscape; relation of these attitudes to soil, water, and air modification and deterioration. 3 hours lecture, 1 hour discussion. Four units. Offered each quarter.

Intermediate—Physical-Biotic Geography

3100. Descriptive and Regional Climatology

Climates of the continents; comparisons and contrasts among climatic types; the relations between atmospheric processes and phenomena and the problems of climatic classification; Köppen and Thornthwaite systems; microclimatology and applied climatology. Prerequisite: Geog. 2100 and Meteorology 1400. Four units.

Intermediate—Cultural Geography

3300. Historical Cultural Geography

Origin, form and substance, and distribution of the works of man on the earth's surface; relative roles of invention, diffusion, and location in man's gaining cultural control of the land. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

3320. Agricultural Land Utilization

Geography of world agriculture: The areal variation of agricultural methods and products; problems of land tenure, soil fertility, improvement of techniques, quantity and quality; the changing patterns of agricultural regions and frontiers. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

3340. Population and Settlement Geography

Changing distributions and numbers of people in space and time on the earth's surface; kinds of habitation, house-types, residence patterns, and settlement forms, and their functions; comparative study of settlement patterns. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

Intermediate—Basic Geographic Skills

3400. Field Instruments and Graphic Methods

Tools and methods of field observation and recording; pace and compass, alidade and plane-table, transit, leveling, contouring, analysis of data and organization in graphic form; camera, sketch board, and recorder as research instruments. Prerequisite: Geog. 1000 or 2100 or 3000. 1 hour lecture, one day field work. Five units.

3410. Map and Aerial Photo Reading and Interpretation

Principles of recognition, classification, and interpretation of aerial photographs as sources of information and their use in map intelligence; map appreciation, evaluation, and uses; art of map-making and its significance, past and present. 2 hours lecture, 2 two-hour activity sections. Four units.

3420. Field Observation and Report Writing

Problems in the selection, compilation, and ordering of field observations; the preparation of field reports (writing, sketches, maps, photographs, graphs and charts); principles of generic and genetic classifications. Prerequisite: Geog. 3400 and 3410. 1 hour lecture; one day field work. Five units.

Intermediate—Regional Geography

3500. Geography of North America

Spatial analysis and space relations of Canada and the United States; the character or personality of their distinctive human-use regions; problems of population growth and resource development. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

3505. Geography of California

Regional variations within the State of California; factors contributing to landscape change; exploration, settlement, economic development, and urban-industrial-transportation patterns on the land. Of particular interest and value to prospective elementary teachers. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

3510. Geography of Middle America

Study of Mexico, Central America, and the Caribbean Islands. Prerequisite: Geog. 1000 or 2300 or 3000; *or* a previous course in history or anthropology on the region; *or* residence in region and consent of instructor. Four units.

3515. Geography of South America

Distinguishing characteristics among the Andean countries of Spanish heritage, the Guianas, and the largest country—Brazil. Prerequisite: Geog. 1000 or 2300 or 3000; *or* a previous course in history or anthropology on the region; *or* residence in region and consent of instructor. Four units.

3530. Geography of Australia and New Zealand

Discovery, exploration, and European settlement of the Southern Continent; coastal urban patterns, and problems of development in the arid interior and tropical north; comparison with Tasmania and New Zealand. Prerequisite: Geog. 1000 or 2300 or 3000; *or* residence in region and consent of instructor. Four units.

3550. Geography of Southeast Asia

Study of the Philippines, Indonesia, Malaysia, and the mainland countries of Viet Nam, Laos, Cambodia, Thailand, and Burma. Prerequisite: Geog. 1000 or 2300 or 3000; *or* a previous course in history or anthropology on the region; *or* residence in region and consent of instructor. Four units.

3560. Geography of South Asia

Study of Pakistan, India, Nepal, Sikkim, Bhutan, and Ceylon. Prerequisite: Geog. 1000 or 2300 or 3000; *or* a previous course in history or anthropology on the region; *or* residence in region and consent of instructor. Four units.

3575. Geography of Africa South of Sahara

Study of the landforms, climate, vegetation, and cultural geography of Africa, with emphasis upon the derivation and problems of emerging Negro nations and the lands of European settlement. Prerequisite: Geog. 1000 or 2300 or 3000; *or* history or anthropology course on region; *or* residence in region and consent of instructor. Four units.

Intermediate—Cartographic Geography

3600. Cartographic Instruments and Graphic Methods

Introduction to the tools, materials, processes, and principles used in the design, compilation, drafting and scribing, and reproduction of maps. Two field trips required to government and commercial map-reproduction organizations. Prerequisite: Geog. 1000 or 2100 or 3000; concurrent enrollment in Geog. 3400 recommended. 1 hour lecture, 2 three-hour labs. Three units.

3610. Map Design, Compilation, and Construction

Problems in map design: qualities of map projections, evaluation of source materials, accuracy of data, choice of scales, selection of symbols and typography, techniques of color separation. Prerequisite or concurrent: Geog. 3410 and 3600. 2 hours lecture, 2 three-hour labs. Four units.

3620. Statistical and Experimental Cartography

Map projections: their uses, computation, and construction; calculation and compilation of graphs and special-purpose maps; individual and/or group projects in advanced cartography. Prerequisite: Geog. 3610. 1 hour lecture, 3 three-hour laboratories. Four units.

Advanced—Physical-Biotic Geography

4100. Principles of Geomorphology

Analysis of landforms; effects of processes of diastrophism, weathering, mass-wasting, erosion, and deposition in shaping the earth's surface, with emphasis upon the western United States. Laboratory interpretation of maps and aerial photographs; two or more field trips required. Prerequisite: Geology 1101. 4 hrs. lect., 3 hrs. lab. Cross-listed with Geology 4100. Five units.

4130. Hydrogeography

Nature of the water cycle with emphasis upon meteorological, surface water, and ground water phenomena; the drainage basin as a natural system; the nature and control of floods and water supplies. Prerequisite: Geog. 3100. Four units.

4210. Field Course in Biotic Geography

Problems and methods in analyzing and mapping vegetation associations, soil types, animal habitats; interrelations among processes determining the distribution of biotic elements in past and present landscapes. Prerequisite: Biology 4450. 1 hour lecture; one day field work. Five units.

Advanced—Cultural Geography

4300. Political Geography

Relations of politically-organized units on the earth's surface (nation states, dependent territories, minor civil divisions, special-purpose regions) to their physical and cultural morphology and functions. Prerequisite: Geog. 1000 or 2300 or 3000; *or* major or minor in history or political science. Four units.

Advanced—Historical-Theoretical Geography

4450. Cultural Ecology

The articulation of technology and physical-biotic environment within the scope of socio-cultural systems; balance or harmony in man-land relations; growth of ecological thought to include human activity. Prerequisite: Anth. 2300 and Geog. 2300 or equivalents. Cross-listed with Anth. 4450. Four units.

4500. Historical Geography of Anglo-America

Study of exploration, migration, and settlement, with emphasis upon origins of particular cultural features; changing patterns of population and human activity which have characterized different areas during the past four centuries. Prerequisite: Geog. 1000 or 2300 or 3000. Four units.

4600. Growth of Geographic Thought

History and philosophy of geography; its place among the sciences and the humanities; study of works of major contributors to the development of modern scientific geography. Prerequisite: Senior standing; completion of three upper-division geography courses. Four units.

Advanced—Special Programs

4900. Individual Study

Directed reading and/or field research. One to four units.

4901. Directed Group Study

One to four units.

4910. Proseminar in Geography

Seminar in geographical literature, research aids, and source materials. Four units.

JOURNALISM

The Social Science Area Major with a core-concentration in Journalism offers students pre-professional preparation for such fields as the press, industrial publications, public relations and teaching. The program affords opportunities for an organized approach to the role, functions and responsibilities of some of the mass media in the free society.

For purposes of program planning, see the illustrative program in Social Science with a core in Journalism-Communication (see Social Science Area Major).

2401, 2402, 2403. News Reporting and Writing

Introduction to the basic essentials of gathering and analyzing information for accurate, and precise presentation; preparing features, news articles and editorials; interviewing; coverage of speeches and public meetings. Units: 3-3-3.

2210. Mass Media of Communication

(See Creative Arts Division for description.)

3211. College Newspaper Laboratory

A laboratory experience with instruction. Class members constitute the staff of the college newspaper. Prerequisite: Journalism 2401, 2, 3 or equivalent or consent of instructor. 2 to 6 hrs. lab. One to three units. May be repeated for total of nine units.

3400. Advanced Journalistic Writing

Coverage of various news beats, feature, news and editorial writing; staff work on the college newspaper. Prerequisite: A lower-division course in news writing. Four units.

3700. History and Development of the Mass Media

A study of the historical development of journalism, particularly in the U.S., with special attention to radio and other mass media which have entered the news and information field; their relation to the development of society. No prerequisite. Four units.

4220. Newspaper and Advertising Layout

Instruction and practice in preparing pictures, copy, and layouts for newspapers and newspaper advertising; use of mat service. Prerequisite: Consent of instructor. Five units.

4400. Law of Mass Communication

Basic laws affecting the mass media; laws concerning libel, copyright, sedition and postal regulations. Special laws affecting broadcasting. Legal aspects of freedom of information. Four units.

4500. Editing

Editing theory and practice; standards employed for editing copy for newspapers, trade journals, industrial publications and magazines. 3 hrs. lect., 2 hrs. lab. Prerequisite: A lower division course in news writing. Four units.

4600. Press Management

Analysis of newspaper organization, economics, and business operation. Circulation, advertising, promotion, and production problems. Field trips to observe community newspaper operations. Prerequisite: Jour. 4220. Three units.

4650. Publications Internship

On-the-job experiences with newspapers, industrial publications and other commercial organs in the area. 20 hrs. weekly. Prerequisite: Department approval. Five units.

4700. Public Opinion and the Mass Media

Critical study of the influence of the mass media upon public opinion; propaganda techniques and their uses; mechanics of polling; examination of editorial policies of representative publications. Four units.

4900. Individual Study

Two-four units.

5200. Advising School Publications

Methods and curricula for prospective elementary and secondary school teachers in supervising school newspaper and yearbook staffs. Study of problems of organization, finance, personnel, instruction, and promotion of school publications. Prerequisite: Consent of instructor. 3 hrs. lect., 2 hrs. lab. Four units.

DEPARTMENT OF POLITICAL SCIENCE

PURPOSES

The major in Political Science leads to the Bachelor of Arts Degree. The objective of this program is to educate at the baccalaureate degree level those students seeking a liberal education with a concentration in political science. The political science curriculum affords the student the opportunity to acquire an organized body of knowledge about political and social affairs, to obtain an understanding of the relationship of political science to other major areas of study, to develop the ability of critical and coherent thinking, and to be qualified to enter various fields of employment, such as government service, teaching and private agencies.

Requirements

- I. Complete the 76-unit requirement in general education which is required for the B. A. Degree.
- II. Complete the following requirements in the major:
 - A. The completion of 40 quarter units in political science, including: Political Science 2010, *Introduction to Government*; Political Science 2020, *National Government in the United States for those students who have not completed Political Science 1201-2, American Political Institutions*; and, Political Science 5910, *Political Science Seminar*.
 - B. Courses in at least four of the following fields: American government and politics; comparative government; international relations; political theory; public law; or public administration, as approved by adviser.
 - C. A minimum of 28 upper division units in political science.
 - D. The completion of 20 quarter units of appropriate upper division courses in anthropology, economics, geography, history, journalism, philosophy, psychology, social science, sociology and statistics selected with the approval of the student's adviser. A proficiency in a modern language will be required, if appropriate for the student's professional objective; if the student's professional objective is in the field of international relations, a modern language will be required.

Graduation Requirement for American Institutions

The graduation requirement in American institutions, to include competency in U. S. History, U. S. Constitution, and California Government, may be met by satisfactory completion of appropriate tests or courses listed in one of the following groups:

1. Political Science 1201-1202. May not apply toward the major.
2. History 1101-1102. May not apply toward the major.
3. Political Science 3100 or Political Science 3110 and Political Science 4120 plus approved tests or courses on U. S. History, institutions and ideals. Political Science 3100 may not apply toward the major.

American Government and Politics

1201, 1202. American Political Institutions

Development of political institutions and ideals in the U. S. from the Puritan community to date. The development of such ideals as freedom, equality and

democracy; development of branches of government, political parties and the changing role of government. Meets code requirement of American ideals, U. S. Constitution and California government. Prerequisite to 1202 is 1201. Four units each, total eight units.

2020. National Government in the United States

An analysis of the operation and function of the branches and agencies of American national government; rights and duties of the individual; political parties and the electoral system; fiscal policy; functions; and foreign policy. Meets requirement in the U. S. Constitution. Four units.

3100. American National, State and Local Government

Studies of relationships of various governments in the United States; the organization, processes and problems of national, state and local government. Meets requirement in the U. S. Constitution, and in California state and local government. Four units.

3111. The American Executive

An analysis of the position of the executive in national, state and local governments: The powers and duties of the executive; leadership role of the executive in government, political parties and public opinion. Prerequisite: Pol. Sci. 1201-1202 or 2010 or consent of instructor. Four units.

3112. American Legislatures and Legislation

Organization and functioning of Congress, state legislatures, local councils and boards with particular attention to California; pressure groups; committee systems; executive-legislative-judicial relations; selected reform proposals. Prerequisite: Pol. Sci. 1201-1202 or 2010 or consent of instructor. Four units.

4120. State and Local Government and Politics

State constitutions; legislative, judicial, administrative and electoral systems; contemporary problems and issues, with special reference to California and San Francisco Bay Area government organization and problems. This course satisfies the California State and Local Government requirement. Four units.

4130. Urban Governments

Organizations and functions of metropolitan areas; the web of governments and growth of authorities and boards; problems of finance, crime, planning, welfare and others; emphasis on Bay Area planning and problems. Four units.

4310. Political Parties and Pressure Groups

An analysis of political parties and pressure groups: History; organization and operation; influence in nominations and elections and upon executive legislative branches of national, California state and local governments. Four units.

Comparative Government

3210. Comparative Government

Analysis of comparative political systems: Dictatorships and democracies; presidential and parliamentary systems; federal and unitary: multi-party, two-party and single-party systems; individual rights and duties in varying systems. Four units.

4220. Government and Politics of Western Europe

An analysis of the political ideas and institutions of the major Western European nations: England, France, Germany, Italy. Prerequisite: A course in European history or consent of instructor. Four units.

4222. Government and Politics of the USSR

An analysis of the political ideas and institutions of the USSR: Philosophical foundations; role of Communist Party; organization and functions of government; place of the individual in Soviet Society. Prerequisite: Pol. Sci. 4720 or consent of instructor. Four units.

4241. Governments of Asia: India and Pakistan

Analysis of the political ideas and institutions of these countries. Attention is given to the cultural contexts from which their political systems developed with emphasis upon contemporary governmental structure, functions and political processes. Four units.

4242. Governments of Asia: China and Japan

Analysis of the political ideas and institutions of these countries. Attention is given to the cultural contexts from which their political systems developed with emphasis upon contemporary governmental structure, functions and political processes. Four units.

Public Law

3410. Law and Society

Organization, jurisdiction and functions of national, state and inferior courts with particular attention to California: Judicial decision making and group dynamics; place of law in the American society; analysis of selected reform proposals. Four units.

4441. American Constitutional Law

United States Constitution as interpreted by the courts in the areas of the federal system; taxation, commerce and implied powers; inter-governmental relations; separation of powers; emphasis upon the social, economic and political factors. Four units.

4442. American Constitutional Law

United States Constitution as interpreted by the courts in the areas of freedom of speech, press, religion, assembly; self incrimination; desegregation; due process; criminal procedures and safeguards. Emphasis upon social, economic and political factors affecting court decisions. Four units.

5450. Administrative Law

An analysis of administrative function in the American national and state systems: Foundation of administrative power; judicial supervision of administration; status of regulatory and quasi-judicial agencies; delegation of legislative and executive powers. Prerequisite: Pol. Sci. 4800. Four units.

International Relations

3520. International Relations

Analytical introduction to international relations; nationalism; imperialism; racial, population, and economic factors; war; settlement of international disputes by methods other than war; foreign policies of the major powers. Four units.

4000. Contemporary World Problems

(See History for description.) Four units.

4505. American Foreign Policy

An analysis of current American foreign policies toward other nations as related to the Good Neighbor Policy, security, containment, and liberation; the problem of foreign policy in American democracy. Four units.

4530. Diplomatic History of the United States

(See History for description.) Four units.

4540. Principles of International Law

Analysis of sources, function, evolution and principles of international law; the law-making and adjudicatory agencies; the delegation of legislative and executive powers. Prerequisite: Pol. Sci. 3520 or consent of instructor. Four units.

4550. International Organization

Historical survey and evaluation of international organizations; emphasis on the League of Nations and the United Nations with its specialized agencies; role of

Political Science

the U. S. in those organizations. Appraisal of factors tending to strengthen and weaken the UN; major problems confronting international organizations. Prerequisite: Pol. Sci. 3520 or consent of instructor. Four units.

Political Theory

4711. Western Political and Social Thought

Development of political and social ideas in western thought from the Greek city-state to the 20th century; emphasis on the development of democratic concepts. Prerequisite: Phil. 2000 or History of Western Culture or Pol. Sci. 2010 or consent of instructor. Five units.

4712. Modern Democratic Thought

Analysis of political and social ideas in western thought since 1800; emphasis on development of democratic political philosophy. Five units.

4720. Totalitarian Ideologies

Analysis of doctrines of Communism, Nazism, Fascism and related "isms" and their impact on the practices of totalitarian states. Four units.

4730. American Political Thought

Analysis of the dominant political theories in the development of American political thought, within the framework of American history and social institutions. Impact of these ideas upon contemporary America. Four units.

Public Administration

4800. Public Administration

Role of public administration in modern society; development of public service in national, state and local government; principles of administrative organization; functions and services; politics and personnel of administration. Four units.

4810. Public Personnel Administration

Personnel administration in large scale public organizations; recruitment, position classification, training, promotion, human relations and morale; labor unions in the public service; political activity for public servants. Prerequisite: Pol. Sci. 4800 or consent of instructor. Four units.

4820. Public Financial Administration

Sources of revenue of various levels of government. Role of the budgetary process in the determination of policy, in control of government operations, in intergovernmental relations. Prerequisite: Pol. Sci. 4800 or consent of instructor. Four units.

General

2010. Introduction to Government

Analysis of political society—legitimacy and social control; relationship of individual to individual and individual to government; concept of state and the nature of government; basic ideas of competing political systems; forms of government; regional and international organizations and relations among states. Four units.

5900. Independent Study

Two-four units.

5910. Political Science Seminar

Contributions of natural and social science theories, methods, results for political science; scope and method of political science; individual research on selected topics. Two-four units.

Political Science

Illustrative Program for the Political Science Major

	Units		
	F	W	S
First Year			
Pol.Sci. 1201—American Political Institutions	4		
HWC 1101—The Ancient and Medieval World	5		
P.E. 1100—Health and Physical Act.	3		
Music 2111—Music Listening	3		
Pol.Sci. 1202—Amer. Political Institutions		4	
HWC 1102—The Renaissance and Early Mod. Times		5	
P.E. 1010—Fund. of Physical Activity		½	
Biology 1000—Principles of Biology		5	
HWC 1103—The Modern Western World			5
Phy.Sci. 1340—Intro. to Phys. Science			5
P.E. 1011—Fund. of Physical Education			½
GE elective			4
	15	14½	14½
Second Year			
Pol.Sci. 2010—Introduction to Government	4		
Phil. 1000—Symbolic Logic	4		
P.E. 1020—Fundamentals of Phys. Educ.	½		
Asia 2001—Patterns of Asian Cultures	4		
Psych. 2000—General Psychology	4		
Pol.Sci. 2010—Nat'l Government in U.S.		4	
Eng. 2700—Introduction to World Literature		4	
P.E. 1012—Fund. of Physical Education		½	
Asia 2003—Development of Traditional Asian Cultures		4	
Econ. 2301—Principles of Economics		4	
Pol.Sci. 3210—Comparative Government			4
Eng. 2704—Intro. to World Literature			4
Asia 2005—Asian Societies in the Modern World			4
Eng. 1202—Expository Writing			4
	16½	16½	16
Third Year			
Pol.Sci. 3410—Law and Society	4		
Pol.Sci. 3520—International Relations	4		
Jr. Symp. 3801—Junior Symposium	3		
Soc. 2010—Social Problems	4		
Pol.Sci. 4130—Urban Governments		4	
Soc. 4450—Urban Sociology		4	
Hist. 4530—Diplomatic History of US to 1898		4	
Elective		4	
GE elective—Phys. Sci-Math (GE)			4
Pol. Sci. 4240—Gov. and Pol. of Asia			4
Elective			3
Conser. 4380—Conservation of Natural Resources			5
	15	16	16

Fourth Year	Units		
	F	W	S
Sr. Symp. 4901—Sr. Symposium.....	3		
Pol.Sci. 4711—History of Pol. and Social Thought.....	5		
Econ. 4100—Internat. Economics.....	4		
Elective	4		
Pol.Sci. 4730—American Political Thought.....		4	
Elective		12	
Pol.Sci. 5910—Seminar.....			4
Elective			12
	16	16	16

DEPARTMENT OF SOCIOLOGY

PURPOSES

The major in Sociology leads to the Bachelor of Arts degree. The objectives of the curriculum are: (1) to provide undergraduate preparation for continuing study at the graduate level in sociology or in social work; and (2) to offer a program of study for students who as a part of their liberal arts education have a special interest in the field of social group structures and processes.

SOCIOLOGY MAJOR

Requirements

I. Complete the 76 unit requirement in general education which is required for the B.A. degree.

II. *The Major*

The major consists of a minimum of from 61 to 63 units of course work depending upon the area of concentration, including at least 12 units of upper-division course work selected under advisement from related fields. The following departmental requirements are in addition to the college's basic requirements for the B.A. degree.

III. *Requirements*

1. *Lower Division* (All concentrations)—13 units

Statistics 1500—Elements of Probability and Statistics
Sociology 2000—Introduction to Sociology
Sociology 2400—Introduction to Social Organization

2. *Upper Division* (All concentrations)—16 units

Sociology 3300—History of Social Thought
Sociology 3310—Current Sociological Theory
Sociology 4100—Social Research Methods
Statistics: An approved upper-division course

3. Area of Concentration (subject to approval of academic advisor)

(a) *Social Organization and Social Psychology*

1) From the following—12 units

Sociology 3500—Social Psychology
Sociology 3510—Social Change
Sociology 3540—Religion and Social Conduct
Sociology 4510—Dynamics of Collective Behavior
Sociology 4530—Introduction to Political Sociology

2) From upper-division sociology courses—under advisement—8 units

(b) *Population and Demography*

1) From the following—12 units

Sociology 3400—Introduction to Population and Demography

Sociology 3430—Social Stratification
Sociology 4440—Industrial Sociology
Sociology 4450—Urban Sociology
Sociology 4460—Occupations and Professions
Business 3850—Data Processing or Mathematics 3700
Introduction to Digital Computer Programming

2) From upper-division sociology courses—under advisement—8 units

(c) *Social Services*

1) From the following—18 units

Sociology 3700—Introduction to Social Services
Sociology 3710—Social Legislation and Public Policy
Sociology 4711, 4712—Pro-seminar in Social Processes
Sociology 4111, 4112—Field Investigation

2) From upper-division sociology courses—under advisement—8 units

4. Collateral requirements

(a) *Courses in related fields:* * Each student in the major must successfully complete at least 12 units (8 units in one field) in upper-division courses approved by the adviser from the following fields: (a) anthropology; (b) economics; (c) geography; (d) history; (e) philosophy; (f) political science; (g) psychology; (h) social science.

(b) *Foreign Language:* Each student in the major as a condition of graduation must give satisfactory evidence of a reading ability in at least one modern foreign language.

Illustrative Program for the Sociology Major

(Concentration in the Social Services)

First Year	Units		
	F	W	S
HWC 1001-2-3—History of Western Culture.....	5	5	5
Biol. 1000—Principles of Biology.....			5
P.E. 1010—Physical Education Activity.....	½		½
Pol. Sci. 1201-1202—American Political Institutions.....	4	4	
Phys. Sci. 1340—Principles of Physical Science.....		5	
Eng. 1002/Sp. 1002—Expos. & Rhetoric/Oral & Written Expression		3	
P.E. 1101—Health & Physical Activity.....		3	
Soc. 2000—Introduction to Sociology.....			4
	15	14	14½
Second Year			
Asia 2001-3-5—Comparative Studies of Asian Cultures.....	4	4	4
Soc. 2400—Introduction to Social Organization.....	4		
P.E. 2010, 2011—Physical Education Activity.....	½		½
Engl. 3650—Contemporary American Literature.....	4		
Art 1110—Introduction to Art.....	3		
Phil. 1000—Symbolic Logic.....		4	
Anth. 2000—Principles of Anthropology.....		4	
Psych. 2000-2010—General Psychology.....		4	4
Stat. 1500—Elements of Probability and Statistics.....			5
Speech 1003—Fundamentals of Speech.....			3
	15½	16	16½

* May not be used to satisfy general education requirements.

Third Year

	Units		
	F	W	S
Soc. 3300—History of Social Thought.....	4		
Soc. 3700—Introduction to Social Services.....	4		
Jr. Symp. 3801—Junior Symposium.....	3		
Soc. 3500/Psych. 3500—Social Psychology.....	4		
Soc. 3310—Current Social Theory.....		4	
Soc. 3710—Social Legislation and Public Policy.....		4	
Anth. 3010—Social Anthropology.....		4	
Soc. Sci. 3001—Social Science I.....		4	
Psych. 4410—Behavior Pathology.....			4
Pol. Sci. 4130—Urban Government.....			4
Soc. Sci. 3002—Social Science II.....			4
Engl. 3252—Shakespeare's Tragedies.....			4
	15	16	16

Fourth Year

Stat. 4001—Statistical Analysis I.....	4		
Soc. 4111—Field Investigation.....	3		
Soc. 4711—Pro-seminar in Social Processes.....	2		
Soc. 4460—Occupations and Professions.....	4		
Soc. 4112—Field Investigation.....		3	
Soc. 4112—Pro-seminar in Social Processes.....		2	
Soc. 4100—Social Research Methods.....		4	
French 1001—Elementary French.....		4	
Sr. Symp. 4801—Senior Symposium.....		3	
Phil. 3400—Philosophy of Science.....			4
French 1002—Elementary French.....			4
Cons. 4380—Conservation of Natural Resources.....			5
Hist. 4000—Contemporary World Problems.....			4
	13	16	17

DESCRIPTION OF COURSES

SOCIOLOGY

2000. Introduction to Sociology

The development of culture and personality with emphasis on the impact of groups and institutions on man's social behavior. Four units.

2010. Social Problems

Study of social problems in such areas as family life, intergroup and intercultural relations, mental and physical health, crime, economy, government, conservation of natural resources and education. Prerequisite: Soc. 2000 or equivalent. Four units.

2400. Introduction to Social Organization

Systematic descriptive analysis of the principal institutions of society; family systems in relation to governmental, military, religious, economic, educational and ameliorative institutions and voluntary organizations. Field projects in particular institutions. Prerequisite: Soc. 2000 or equivalent. Four units.

3300. History of Social Thought

Development of thought concerning human society from earliest times until the middle of 19th century. Prerequisite: Soc. 2000; 2400. Four units.

3310. Current Sociological Theory

Study and critical analysis of the works of leading sociological theoreticians from the middle of the 19th century to the present. Prerequisites: Soc. 2000; 2400. Four units.

3400. Introduction to Population and Demography

Social causes of population trends, changing population structures, and geographical distribution of population. National population policies affecting relationships of population to resources and levels of living. Prerequisite: Soc. 2000; 2400 or equivalent. Four units.

3410. Sociology of the Family

Study of the family as a social institution with emphasis on marriage and family problems peculiar to modern American urban society. Prerequisite: Soc. 2000; 2400 or equivalent. Four units.

3430. Social Stratification

Theory of social class, survey of American social classes. Changing indices of social differentiation, prestige, status and role. Prerequisite: Soc. 2000; 2400 or equivalent. Four units.

3500. Social Psychology

A study of current theory and research on the individual in society, small groups, complex organizations and interpersonal interaction. Such topics as socialization, social structure, attitude formation, and group structure will be considered. Prerequisites: Soc. 2000; 2400. Four units.

3510. Social Change

Descriptive analysis of social change in technology, social institutions and systems of symbolism; social movements; field projects related to social change. Prerequisite: Soc. 2000; 2400. Four units.

3520. Minority Groups

Racial and cultural minority groups in the United States; problems of education, social adjustment, family life, relations in industry, race consciousness, race and cultural prejudice, tension areas, assimilation; race problems in international relations. Prerequisite: Soc. 2000 or equivalent. Four units.

3540. Religion and Social Conduct

The organizational structure of religion with special emphasis on the study of religious authority and leadership. Relationships between religion and other social institutions. Prerequisite: Soc. 2000 or equivalent. Four units.

3700. Introduction to Social Services

A survey of social welfare and the functions of social work. The development of modern social work and the techniques of social work. Prerequisite: Soc. 2000; 2400. Four units.

3710. Social Legislation and Public Policy

The study of the social philosophy of democratic processes as related to legislation affecting social services. The impact of changing cultural values on public policy. Prerequisite: Soc. 2000; 2400. Four units.

3730. Juvenile Delinquency

A systematic analysis of theories seeking to explain juvenile delinquency together with the research data that test them. Various practices and procedures are discussed which deal with problems of treatment and rehabilitation of youthful offenders. Prerequisite: Soc. 2000, or equivalent. Four units.

4100. Social Research Methods

Basic theory of research as applied to social phenomena. Prerequisites: Soc. 2000; 2400, Stat. 1500. Four units.

Sociology

4111. Field Investigation

Placement of students with suitable community agencies for supervised instruction. Prerequisites: Senior standing; Soc. 2000; 2400, 3700; consent of instructor. To be taken concurrently with Soc. 4711. Three units.

4112. Field Investigation

As a continuation of Fieldwork I, placement of students with suitable community agencies at a more advanced level for the purpose of supervised instruction. Prerequisites: Soc. 4111. To be taken concurrently with Soc. 4712. Three units.

4440. Industrial Sociology

Historical and descriptive analysis of various principal forms of business organizations, trade associations and labor organizations; as social organizations; influences of industrialization on family and other social organizations. Prerequisites: Soc. 2000; 2400. Four units.

4450. Urban Sociology

Nature, causes, and results of urbanization in American culture. Emphasis on social problems arising from the growth and structure of metropolitan areas. Prerequisite: Soc. 2000; 2400. Four units.

4460. Sociology of Occupations and Professions

A comparative study of certain occupational and professional groups with emphasis on social significance of occupational choice and sociological factors related to choice. Prerequisite: Soc. 2000; 2400.

4510. Dynamics of Collective Behavior

Systematic analysis of the phenomena of crowds, masses and public, social movements and the processes by which nascent institutions are formed within old institutions and under conditions of institutional demoralization. Prerequisites: Soc. 2000; 2400. Four units.

4530. Introduction to Political Sociology

Analysis of political organization as an important environmental factor in the individual's life; human aspects of bureaucracy; responses to authority and control in typical systems; participation and exclusion from communication and decision-making; morale and efficiency; research methods. Prerequisite: Soc. 2000; 2400; or equivalent. Four units.

4711. Pro Seminar in Social Processes

A seminar utilizing theoretical and conceptual material in the sociological literature in order to compare and contrast it with the accompanying field experiences undergone by students. Prerequisites: Senior standing; Soc. 2000; 2400; consent of instructor. To be taken concurrently with Soc. 4111. Two units.

4712. Pro Seminar in Social Processes

A seminar utilizing theoretical and conceptual material of an advanced nature in the sociological literature for the purpose of comparing and contrasting it with the accompanying field experiences undergone by the student. Prerequisites: Soc. 4111, 4711 and consent of the instructor. To be taken concurrently with Soc. 4112. Two units.

4740. Basic Criminology

A survey of causes of juvenile and adult crime, methods of prevention; current practices in correctional treatment of offenders on parole or probation and in institutions. Prerequisite: Soc. 2000; 2400. Four units.

4900. Individual Study

Two-four units.

SOCIAL SCIENCE

3001. Social Science I

Introduction to the broad field of social and behavioral science: The subject fields; their common concerns and relationships; problems of method involved; culture, and change; basic sources in social analysis. Four units.

3002. Social Science II

Selected case studies in social analysis; the character of social problems, relevance, nature of proof, the meaning of causality; ways in which social theory and practice develop and extend each other. Prerequisite: Soc. Sci. 3001. Four units.

4000. Social Science Seminar

Review of major concepts in social science as tools in developing alternative social policies; directed research in current issues employing relevant data and methods of the several social science fields. Prerequisite: Approval of instructor. Four units.

5000. Teaching Social Science in the Secondary School

Curriculum, methods, audio-visual techniques, and content in social sciences, grades 7 through junior college. Prerequisite: consent of instructor. Three units.

FACULTY

- HARCLEROAD, FRED F. (1959)..... President
B.A., 1939, M.A., 1942, Colorado State College; Ph.D., 1948, Stanford University
- AKEY, WAYNE W. (1965)..... Assistant Professor of Sociology
A.B., 1937, Ed.D., 1952, University of California (Part Time)
- ALLISON, HARRY E. (1964)..... Chairman, Department of Marketing;
Professor of Business Administration
B.S., 1949, M.S., 1950, Pennsylvania State University; Ph.D., 1955, Harvard University
- ALTMAN, ROBERT LEON (1962)..... Assistant Professor of Chemistry
B.A., 1952, New York University; Ph.D., 1959, University of Southern California
- AMEMIYA, FRANCES CAMPBELL (1964)..... Associate Professor of Mathematics
A.B., 1935, A.M., 1936, University of California at Los Angeles; Ph.D., 1945, University of Michigan
- ANDERSON, BARBARA GALLATIN (1964)..... Associate Professor of Anthropology
B.A., 1942, San Francisco College for Women; Ph.D., 1959, University of Paris (Sorbonne)
- ARMSTRONG, LEE R. (1964)..... Assistant Professor of Biological Science
B.S., 1946, University of Washington; M.S., 1962, San Francisco State College (Part Time)
- ASHLEY, JOHN W. (1965)..... Chairman, Department of Economics;
Professor of Economics
B.A., 1943, M.B.A., 1947, Stanford University; Ph.D., 1958, University of California at Los Angeles
- BABLADELIS, GEORGIA (1963)..... Assistant Professor of Psychology
B.A., 1953, University of Michigan; M.A., 1957, University of California; Ph.D., 1960, University of Colorado (Part Time)
- BARCLAY, JAMES R. (1964)..... Associate Professor of Education
A.B., 1949, Sacred Heart College; M.A., 1956, Ph.D., 1959, University of Michigan
- BARRETT, G. HAROLD (1963)..... Assistant Professor of Speech and Drama
A.B., 1949, M.A., 1952, University of the Pacific; Ph.D., 1962, University of Oregon
- BASKIN, DARRYL B. (1964)..... Assistant Professor of Political Science
A.B., 1958, M.A., 1961, University of California (Part Time)
- BATES, ROBERT E. (1963)..... Director of Institutional Research; Professor of Geology
A.B., A.M., 1932, Indiana University; Ph.D., 1939, Columbia University
- BATTEN, THELMA F. (1965)..... Assistant Professor of Sociology
A.B., 1951, A.M., 1953, Ph.D., 1956, University of Michigan
- BAUER, FRANCIS H. (1965)..... Associate Professor of Geography
B.A., 1949, M.A., 1952, University of California; Ph.D., 1960, Australian National University
- BECK, FRANCES O. (1964)..... Assistant Professor of Foreign Languages
B.A., 1956, M.A., 1958, University of Colorado.
- BECKETT, PAUL E. (1965)..... Assistant Professor of Physical Science
B.Ed., 1948, University of Alberta; M.Sc., 1960, Kansas State University; M.A.T., 1962, Stanford University (Part Time)
- BIELLA, ARNOLD P. (1960)..... Head, Division of Humanities; Professor of English
B.A., 1939, University of Colorado; M.A., 1940, State University of Iowa; Ph.D., 1954, Stanford University
- BIRGE, ANN CHAMBERLAIN (1965)..... Associate Professor of Physics
A.M., 1946, Vassar College; A.M., 1947, Ph.D., 1951, Radcliffe College, Harvard (Part Time)
- BLACK, JAMES M. (1962)..... Associate Professor of Art
B.S., 1951, M.S., 1952, University of Wisconsin; M.F.A., 1953, Cranbrook Academy of Fine Arts
- BLAWIE, MARILYN-JUNE (Mrs.) (1959)..... Associate Professor of Political Science
B.A., 1952, University of Connecticut; J.D., 1955, University of Chicago Law School
- BLITZ, RUTH R. (1964)..... Assistant Professor of Biological Sciences
B.A., 1957, Brandeis University; M.A., 1959, University of California (Part Time)
- BLOOMBERG, MAX ARTHUR (1963)..... Librarian
B.A., 1960, Texas Christian University; M.A., 1961, Denver University
- BOZAK, RICHARD E. (1964)..... Assistant Professor of Chemistry
B.S., 1956, University of Washington; Ph.D., 1959, University of California
- BROCK, PHYLLIS J. (1963)..... Assistant Professor of Physical Education
A.B., 1951, Chico State College; A.B., 1956, San Jose State College; M.A., 1963, University of California
- BROOKS, ELWOOD R. (1964)..... Assistant Professor of Geology
B.S., 1956, Michigan College of Mining and Technology; M.S., 1958, University of California; Ph.D., 1965, University of Wisconsin
- BROOKS, ROBIN (1964)..... Assistant Professor of History
B.A., 1957, Brooklyn College; Ph.D., 1964, University of Rochester
- BROWN, CLARK (1964)..... Assistant Professor of Psychology
B.A., 1947, University of New Hampshire; M.A., 1950, Ed.D., 1961, Teachers College, Columbia University (Part Time)

- BROWN, DONALD J. (1963)..... Director of Testing Services; Assistant Professor of Education
A.B., 1953, University of California at Los Angeles; M.A., 1955, Chico State College; Ph.D., 1960, Ohio State University
- BROWN, JEROME F. (1964)..... Assistant Professor of History
B.A., 1955, University of California, Los Angeles
- BROWNELL, WILLIAM (1964)..... Professor of Education
A.B., 1917, Allegheny College; A.M., 1923, Ph.D., 1926, University of Chicago; LL.D., 1942, Allegheny College (Part Time)
- BRYANT, JERRY H. (1963)..... Associate Professor of English
B.A., 1951, M.A., 1955, Ph.D., 1959, University of California at Los Angeles
- BURKE, CLETUS J. (1963)..... Professor of Psychology and Statistics
A.B., 1939, University of Southern California; M.A., 1943, University of California Scripps Institute; Ph.D., 1948, State University of Iowa
- BURNETT, LEWIE W. (1962)..... Head, Division of Education, Chairman, Department of Educational Administration and Supervision; Professor of Education
B.S., 1937, Central Washington State College; Ed.D., 1948, Stanford University
- BURTON, DAVID (1964)..... Instructor of Mathematics
A.A., 1961, Oakland City College; B.S., 1963, California State College at Hayward (Part Time)
- CAMBUS, JOHN (1963)..... Associate Professor of Speech and Drama
B.A., 1952, M.A., 1953, Ph.D., 1959, Wayne State University
- CARLSON, RUTH K. (Mrs.) (1959)..... Professor of Education
A.B., 1932, M.A., 1944, Ed.D., 1959, University of California
- CARTER, ERNEST J. (1963)..... Assistant Professor of English
B.A., 1955, University of Exeter, England; M.A., 1957, University of California at Los Angeles
- CARTER, ROBERT M. (1961)..... Assistant Professor of Sociology
B.A., 1950, William and Mary; M.Crim., 1953, M.A., 1958, University of California (Part Time)
- CHAN, DAVID B. (1963)..... Associate Professor of History
B.A., 1947, University of California; M.A., 1948, Columbia University; Ph.D., 1957, University of California
- CHANG, FLORENCE (1964)..... Librarian
B.A., 1960, National Taiwan University; M.L.S., 1963, School of Librarianship, University of California
- CHENEY, GAY E. (1964)..... Assistant Professor of Physical Education and Drama
B.S., 1955, Bouve School of Tufts University; M.S., 1964, University of Wisconsin
- CHENG, AMY C. (1965)..... Instructor of Biological Science
A.B., 1961, Bryan Mawr College; M.A., 1964, University of California (Part Time)
- CLARK, EUGENE W. (1964)..... Alumni Coordinator; Director of Placement Services;
Professor of Biology
B.A., 1949, Macalester College; M.S., 1951, University of Illinois; Ph.D., 1963, University of Denver
- CLARKE, WILLIAM C. (1962)..... Assistant Professor of Geography
B.A., 1952, M.A., 1959, University of California
- CLAY, EDWARD M. (1965)..... Assistant Professor of English
B.A., 1954, M.A., 1958, University of Minnesota
- COGSWELL, HOWARD L. (1964)..... Associate Professor of Biological Science
B.A., 1948, Whittier College; M.A., 1951, Ph.D., 1962, University of California
- COLEY, NEIL R. (1965)..... Assistant Professor of Physical Science
B.A., 1960, M.A., 1963, San Jose State College (Part Time)
- COLLIER, L. ARLEN (1964)..... Assistant Professor of English and Education
B.A., 1960, M.A., 1961, University of California, Santa Barbara
- COMER, JAMES L. (1963)..... Coordinator of Intramural and Intercollegiate Athletics;
Professor of Physical Education
B.A., B.S., 1947, Kansas State College; M.S., 1955, Central Missouri State College; E.D.S., 1960, New Mexico State University; Ed.D., 1963, University of Utah
- CONNER, JACK E. (1962)..... Acting Chairman, Department of English;
Professor of English
B.A., 1939, B.S., 1942, Texas College of Arts and Industries; Ph.D., 1952, Stanford University
- COOPER, RICHARD K. (1965)..... Assistant Professor of Physics
B.S., 1958, M.S., 1959, California Institute of Technology; M.S., 1962, Ph.D., 1964, University of Arizona
- COVELIS, JAMES F. (1965)..... Assistant Professor of Social Science
A.A., 1950, Bakersfield Junior College; A.B., 1954, M.A., 1956, University of California (Part Time)
- CORY, NORMAN R. (1963)..... Associate Professor of Music
B.S., 1938, B.M., 1939, Miami University; M.F.A., 1941, University of Oregon
- COSTY, JAMES O. (1964)..... Assistant Professor of Speech and Drama
B.A., 1945, Santa Barbara College; M.A., 1946, University of Washington; Ph.D., 1954, University of Denver
- CRANSTON, PHILIP E. (1965)..... Assistant Professor of Foreign Languages
B.A., 1951, University of Arizona; M.A., 1958, University of California, Berkeley

Faculty

- CROWELL, JACKSON H. (1963).....Assistant Professor of Political Science
A.B., Bowdoin, 1947; M.A., 1949, Ph.D., 1959, Fletcher School of Law and Diplomacy
- CUMMINGS, JON C. (1964).....Assistant Professor of Geology
B.S., 1952, M.S., 1956, Ph.D., 1960, Stanford University
- CUMMINS, LEJEUNE (1963).....Assistant Professor of History
A.B., 1950, M.A., 1951, Ph.D., 1964, University of California
- CUOMO, GEORGE M. (1965).....Professor of English
B.A., 1952, Tufts University; M.A., 1955, Indiana University
- DAVIDSON, MORRIE (1963).....Assistant Professor of Recreation
A.B., 1950, M.A., 1958, San Francisco State College (Part Time)
- DAVIES, GORDON F. (1960).....Coordinator of Field Experience, Department of Teacher Education; Associate Professor of Education
B.Ed., 1948, University of Alberta; M.Ed., 1949, University of Oregon; Ed.D., 1960, Stanford University
- DAVIS, JOHN K. (1961).....Assistant Professor of Art
B.A., 1948, M.A., 1950, Central Washington State College
- DEMPSTER, STUART R. (1963).....Assistant Professor of Music
B.A., 1958, San Francisco State College (Part Time)
- DENKE, FRANK R. (1961).....Assistant Professor of Music
Chicago Musical College (Roosevelt University), 1950, Teachers Certificate (Part Time)
- DESCOUZIS, PAUL M. (1964).....Associate Professor of Foreign Languages
M.A., 1951, Boston University; Ph.D., 1959, University of Maryland
- DEVRIES, JOHN E. (1964).....Professor of Chemistry
A.B., Hope College, 1941; Ph.D., University of Illinois, 1944
- DODSON, LEO C. (1964).....Assistant Professor of English
A.B., 1948, M.A., 1961, University of California (Part Time)
- DU FORT, MARY R. (1964).....Associate Professor of Foreign Languages
B.A., 1949, University of California at Los Angeles; M.A., 1955, San Jose State College; Ed.D., 1962, University of California (Part Time)
- DUHNKE, HORST G. (1964).....Assistant Professor of Political Science
B.A., 1950, M.A., 1952, Ph.D., 1964, University of California
- EBOCH, SYDNEY C. (1962).....Associate Professor of Education
B.A., 1946, Pennsylvania State University; M.S., 1954, Ed.D., 1962, University of Southern California
- EDMISON, LYLE D. (1959).....Dean of Students; Professor of Psychology
A.B., 1950, M.A., 1951, Ph.D., 1955, University of Nebraska
- ELLIOT, H. ROY (1962).....Assistant Professor of Business Administration and Economics
B.A., 1950, Harvard University; M.A., 1953, Ph.D., 1964, University of Chicago
- ELLSWORTH, JOHN W. (1964).....Assistant Professor of Political Science
B.A., 1958, Sacramento State College; M.A., 1960, Ph.D., 1963, Claremont Graduate School
- ENOS, V. RODNEY (1964).....Assistant Professor of Physical Education
A.B., 1950, Baker University; M.S., 1958, Kansas State University; Ed.D., 1964, Washington State University
- ERICKSON, FLOYD R. (1959).....Head, Division of Libraries and College Archivist
B.E., 1940, State Teachers College, Superior, Wisconsin; B.S.L.S., 1946, University of Minnesota; M.A., 1958, Long Beach State College
- ERNST, KARL D. (1959).....Head, Division of Creative Arts; Chairman, Department of Music; Professor of Music
B.M., 1932, M.M., 1936, University of Washington; Ed.D., 1955, University of Oregon
- EVANS, G. EDWARD (1963).....Librarian
B.A., 1959, M.A., 1961, M.A., 1963, University of Minnesota
- EVERETT, MILES C. (1965).....Instructor of History
B.A., 1959, University of California, Davis; M.A., 1960, University of California, Berkeley (Part Time)
- EWER, GERHARD W. (1964).....Assistant Professor of Foreign Languages
B.A., 1944, Acadia University, Canada; M.A., 1947, University of Toronto, Canada (Part Time)
- FEE, JAMES A. (1965).....Associate Professor of Education
B.S., 1946, Northeastern State College; M.A., 1949, Stanford University; Ed.D., 1957, University of Oklahoma (Part Time)
- FICKAS, ERNEST T. (1964).....Assistant Professor of Mathematics
A.B., 1959, M.A., 1961, Ph.D., 1964, University of California
- FISHER, FRED D. (1964).....Medical Officer
A.B., 1931, M.D., 1935, University of California (Part Time)
- FISHER, WILLIAM D. (1964).....Assistant in Physics
B.A., 1960, San Francisco State College (Part Time)
- FORBES, ROBERT L. (1960).....Assistant Professor of Social Science and Education
B.S., 1949, New York University; A.M.I., 1950, Harvard University
- FOX, FREDERICK A. (1964).....Assistant Professor of Music
B.M., 1953, Wayne State University; M.M., 1957, Ph.D., 1959, Indiana University
- FREDERICK, PETER J. (1964).....Instructor of History
B.A., 1959, Harvard College; M.A., 1960, University of Michigan (Part Time)

Faculty

- FREITAG, OTTO F. (1960).....Chairman, Department of Political Science
Professor of Political Science
B.A., 1939, M.A., 1940, University of Denver; Ph.D., 1942, State University of Iowa
- FRY, HILARY GLEN (1960).....Special Assistant to the President; Professor of Social Science
B.S., 1948, University of Illinois; M.A., 1951, Ph.D., 1958, University of Chicago
- FULLER, MILTON E. (1964).....Associate Professor of Chemistry
B.S., 1948, Arizona State University; Ph.D., 1956, Northwestern University
- FURAY, MICHAEL (1964).....Assistant Professor of English
B.A., 1958, Eastern Michigan University; M.A., 1960, University of Chicago (Part Time)
- GANZ, JUDITH (1963).....Instructor of English
B.S., 1956, M.A., 1958, Ohio State College (Part Time)
- GEISER, PETER (1963).....Chairman, Department of Sociology; Professor of Sociology
A.B., 1934, University of Pittsburgh; M.S.W., 1948, Ph.D., 1960, University of Southern California
- GILES, JOHN C. (1964).....Assistant Professor of Physics
B.Sc., 1955, University of Sheffield, England; Ph.D., 1958, University of Exeter, England
- GLASOW, GLENN L. (1961).....Assistant Professor of Music
B.A., 1947, M.A., 1948, Hamline University
- GLAVIN, MARY F. (1965).....Assistant Professor of English
B.A., 1954, Mills College; M.A., 1957, Middlebury College, Sorbonne (Part Time)
- GOBIN, ROBERT J. (1963).....Assistant Professor of Physical Education
B.S., 1949, Ohio Northern University; M.Ed., 1959, Bowling Green University; Ph.D., 1964, Ohio State University
- GOESER, ISABELLE McCLUNG (Mrs.) (1962).....Assistant Professor of Music
B.A., 1943, State University of Iowa; M.A., 1949, Teachers College, Columbia University (Part Time)
- GOLDSTEIN, NORMAN N. (1965).....Assistant Professor of Biological Science
A.B., 1951, M.A., 1952, University of California (Part Time)
- GOTHBURG, JOHN A. (1960).....Associate Professor of Journalism
B.A., 1949, San Jose State College; M.A., 1950, Ed.D., 1963, Stanford University
- GRAHAM, OTIS L., JR. (1965).....Assistant Professor of History
B.A., 1957, Yale University; M.A., 1960, Columbia University
- GRAVES, EUGENE J. (1964).....Assistant Professor of Music
A.B., 1951, M.A., 1952, San Jose State College (Part Time)
- GRAY, DARRELL M. (1964).....Publicist
A. & S., 1957, Everett Junior College; B.A., 1959, University of Washington
- GRAY, GARY E. (1963).....Assistant Professor of Music
Eastman School of Music, Rochester (Part Time)
- GRILLOS, STEVE J. (1961).....Professor of Biological Science
B.S., 1951, University of Denver; M.S., 1952, University of Wyoming; Ph.D., 1956, Oregon State University
- GROODY, TOM C. (1960).....Professor of Biological Science
B.S., 1936, Kansas State University; M.S., 1937, Ph.D., 1952, University of California
- GUTHRIE, ANDREW (1960).....Chairman, Department of Physics; Professor of Physics
B.A., 1934, University of British Columbia; M.S., 1939, Ph.D., 1941, Purdue University
- HALL, JEANNE L. (Mrs.) (1960).....Assistant Professor of Speech and Drama
B.S., 1936, Northwestern University; M.A., 1939, University of Southern California. (Part Time)
- HALL, ROBERT O. (1960).....Head, Division of Learning Resources; Professor of Education
B.S., 1939, M.S., 1941, Ed.D., 1954, University of Southern California
- HAM, EDWARD B. (1963).....Professor of Foreign Languages
B.A., 1922, Bowdoin University; M.A., 1923, Harvard University; Ph.D., 1927, Oxford University
- HANCOCK, JOHN D. (1960).....Coordinator, Independent Study Center; Associate Professor of Mathematics and Education
B.A., 1948, University of Southern California; M.A., 1949, Stanford University; Ed.D., 1961, Stanford University
- HANEY, RONALD R. (1964).....Assistant Professor of Biological Science
A.B., 1962, Fresno State College (Part Time)
- HARRELL, JEAN GABBERT (1964).....Assistant Professor of Philosophy
B.A., 1943, University of California; Ph.D., 1950, Columbia University
- HARTER, B. WAYNE (1963).....Assistant Professor of Business
A.B., 1947, M.B.A., 1949, Stanford University (Part Time)
- HARTMAN, WILLIAM R. (1965).....Assistant Professor of Political Science
B.A., 1961, Kenyon College; M.A., 1962, University of Chicago
- HAVEN, NORINE (1964).....Instructor of Biological Science
B.A., 1950, Northwestern University; M.A., 1964, Stanford University
- HEATH, HARRISON DUANE (1960).....Assistant Dean of Instruction; Professor of Biological Science
A.B., 1944, A.M., 1946, Ph.D., 1951, Stanford University

Faculty

HENDRICKSON, DALE (1960).....Associate Professor of Education
B.S., 1950, M.S., 1954, University of Southern California; Ed.D., 1960, University of California

HERGERT, LORETTA J. (1964).....Assistant Professor of Physical Education
B.S., 1958, M.S., 1963, University of Colorado

HILLS, G. ARTHUR (1964).....Assistant Professor of Music
A.B., 1953, Cascade College; M.A., 1955, University of Portland (Part Time)

HOCKETT, JANE (1964).....Librarian
B.A., 1941, Whittier College

HOFFMAN, RICHARD B. (1965).....Assistant Professor of Business Administration
B.S., 1964, M.B.A., 1965, University of California at Los Angeles

HUNTER, ULYSSES (1964).....Assistant Professor of Mathematics
B.S., 1959, A.M. & N. College, Arkansas; M.S., 1961, Ph.D., 1964, Purdue University

HUPPERT, GEORGE (1962).....Assistant Professor of History
B.A., 1958, University of California; M.A., 1959, University of Wisconsin; Ph.D., 1962, University of California

INBERG, CAROL (1963).....Assistant Professor of Business and Economics
A.B., 1943, C.P.A., 1952, M.B.A., 1960, University of California (Part Time)

JACKMAN, NORMAN (1965).....Professor of Sociology
B.A., 1947, B.L.S., 1950, M.A., 1953, Ph.D., 1955, University of California

JAEGER, DANIEL J. (1960).....Librarian
B.A., 1950, University of Denver; M.A., 1955, University of Minnesota

JAMISON, BERT P. (1964).....Assistant Professor of Business
B.S., 1951, College of Emporia; M.S., 1956, Kansas State Teachers College (Part Time)

JAY, EDWARD J. (1964).....Assistant Professor of Anthropology
B.A., 1952, Queens College; M.A., 1957, Ph.D., 1963, University of Chicago

JAY, RICHARD E. (1964).....Special Assistant to the President; Professor of Economics
A.B., 1946, M.A., 1947, Texas Christian University; Ph.D., 1953, LL.B., 1963, University of California

JAYNE, EDWARD S. (1965).....Assistant Professor of English
A.B., 1958, M.A., 1962, University of California (Part Time)

JENSEN, JANE H. (1963).....Instructor of Mathematics
B.S., 1948, University of California (Part Time)

JESSNER, PETER HANS (1964).....Assistant Professor of Mathematics
A.B., 1949, Harvard College; M.S., 1951, University of New Mexico; Ph.D., 1962, University of North Carolina

JOHNSON, VALDIMAR (1964).....Assistant Professor of Education
B.A., 1951, Pacific Lutheran University (Part Time)

JOHNSON, WARREN C. (1964).....Instructor of English
B.A., 1950, Brigham Young University; M.A., 1961, University of California (Part Time)

JONES, TUDOR (1964).....Associate Dean of Instruction; Dean of Admissions and Records; Assistant Professor of Education
A.B., 1949, San Jose State; M.A., 1951, Stanford University; Ed.D., 1965, University of California

JONES, WILLIAM E. (1963).....Associate Coordinator of Field Experience; Department of Teacher Education; Assistant Professor of Education
A.B., 1957, University of California; M.A., 1961, San Diego State College; Ed.D., 1964, University of California

JOYAL, ARNOLD E. (1964).....Professor of Education
A.B., 1925, M.A., 1926, Ph.D., 1931, University of California

KAM, VERNON T. S. (1964).....Assistant Professor of Business
B.B.A., 1955, University of Hawaii; M.B.A., 1959, University of California

KARIEL, HERBERT G. (1965).....Associate Professor of Geography
B.S., 1949, M.Ed., 1954, University of Oregon; Ph.D., 1962, State University of Iowa

KINGSBURY, ROBERT (1964).....Assistant Professor of Art
B.Des., 1959, University of Michigan (Part Time)

KJELSON, LEE R. (1960).....Professor of Music
B.M.E., 1948, M.M., 1951, University of Nebraska; Ph.D., 1957, University of Iowa

KOWALSKI, THOMAS D. (1964).....Assistant Professor of English
A.B., 1948, M.A., 1949, University of Michigan (Part Time)

KRAFCHICK, MARCELLINE (1964).....Assistant Professor of English
A.B., 1954, Beaver College, Pennsylvania; M.A., 1957, University of North Carolina

LA FORCE, RICHARD C. (1963).....Associate Professor of Physics
A.B., 1956, Ph.D., 1959, University of California

LARSEN, ROBERT E. (1965).....Professor of Philosophy
A.B., 1944, Luther College; M.A., 1952, Ph.D., 1957, University of Minnesota

LARSON, ARTHUR (1964).....Assistant Professor of Education
B.A., 1956, M.A., 1958, University of Colorado (Part Time)

LAWRENCE, PAUL F. (1960).....Professor of Education
B.S., 1935, State Teachers College of New Jersey; M.A., 1946, Ed.D., 1948, Stanford University (Part Time)

Faculty

LAWTON, WILLIAM C. (1963).....Professor of Sociology
B.A., 1933, M.A., 1935, University of Texas; Ph.D., 1955, University of Chicago

LE PELL, CORBAN (1962).....Assistant Professor of Art
B.F.A., 1956, M.F.A., 1959, University of Wichita

LEPORE, ALBERT R. (1959).....Dean of Instruction; Professor of Education
B.A., 1942, San Diego State College; M.A., 1949, Teachers College, Columbia University; Ph.D., 1960, Columbia University

LEVINE, SEYMOUR (1962).....Associate Professor of Psychology
B.A., 1948, University of Denver; Ph.D., 1952, New York University (Part Time)

LEWIS, JAMES S. (1962).....Assistant Professor of Music
B.M., 1948, M.M., 1950, Catholic University of America (Part Time)

LEWIS, MARK F. (1964).....Assistant Professor of Psychology
B.S., 1960, M.A., 1962, Ph.D., 1964, Columbia University

LIEBERSTEIN, SAMUEL (1964).....Instructor of History
B.A., 1957, Brooklyn College; M.A., 1959, University of Washington

LINCOLN, LELAND R. (1962).....Assistant Professor of Music
B.M., 1948, M.M., 1949, Boston University (Part Time)

LUBIN, HAROLD (1964).....Assistant Professor of English
B.S., 1940, City College of New York; M.A., 1953, University of Chicago (Part Time)

LUNDSTROM, DONALD F. (1965).....Assistant Professor of Biological Science
B.S., 1951, M.A., 1955, University of Minnesota (Part Time)

LUTT, CARL J. (1960).....Director of Health Services; Professor of Biological Science
B.S.M., 1942, Creighton University; M.D., 1945, Creighton University School of Medicine

McCANN, CECILE (1964).....Instructor of Art
B.A., 1963, M.A., 1964, San Jose State (Part Time)

McFARLAND, PHILLIP (1964).....Instructor of Speech and Drama
B.A., 1954, Geneva College; M.A., 1958, Stanford University (Part Time)

McGINNIS, SAMUEL E. (1963).....Assistant Professor of Biology
B.S., 1958, University of Wisconsin

McHUGH, WALTER J. (1960).....Professor of Education
B.S., 1953, Lowell State College; Ed.M., 1957, Ed.D., 1960, Boston University

MAHANAY, DAVID W. (1961).....Coordinator of Building Program; Lecturer in Engineering
B.S., 1937, Virginia Polytechnic Institute

MAIERHOFFER, MARIE (1963).....Assistant Professor of Business Administration
B.S., 1953, M.A., 1956, New Mexico State University (Part Time)

MALTZ, STEPHEN I. (1965).....Assistant Professor of Biological Science
R.A., 1956, California State College at Los Angeles; M.S., 1964, University of Utah (Part Time)

MARSH, JACK N. (1962).....Chairman, Department of Teacher Education; Professor of Education
B.A., 1939, San Jose State College; M.A., 1952, Ed.D., 1957, Stanford University

MARSHALL, LYNN L. (1963).....Assistant Professor of History
B.A., 1954, M.A., 1957, Ph.D., 1962, University of California

MARTIN, BETTY (1964).....Assistant Professor of Speech and Drama
A.B., 1939, Indiana University (Part Time)

MARTIN, MARGERY M. (1962).....Associate Professor of Physical Education
B.S., 1954, Valparaiso University; M.S., 1961, University of Wisconsin

MARTIN, ROBERT C. (1962).....Chairman, Department of Speech and Drama; Professor of Speech and Drama
B.S., 1940, M.A., 1943, Ph.D., 1953, Northwestern University

MARTIN, RUTH L. (Mrs.) (1960).....Assistant Professor of Education
A.B., 1926, M.A., 1955, University of California

MATHEWS, ALFRED (1963).....Assistant Professor of Physical Education
A.B., 1954, M.A., 1958, University of California

MAYER, FORREST L. (1960).....Associate Dean of Instruction; Professor of Business Administration
A.B., 1937, Colorado State College; M.S., 1938, University of Denver; Ph.D., 1949, University of Pittsburgh

MAYERS, EUGENE D. (1963).....Chairman, Department of Philosophy; Professor of Philosophy
A.B., 1936, Yale College; LL.B., 1940, Yale School of Law; Ph.D., 1950, Columbia University

MECHANIC, ARNOLD (1961).....Associate Professor of Psychology
B.A., 1954, Queens College; M.A., 1955, Ohio State University; Ph.D., 1960, University of California

MENNET, EARL FRANK (1961).....Assistant Professor of Education
M.A., 1930, M.S.Ed., 1937, University of Idaho (Part Time)

MERRIFIELD, CHARLES WARREN (1960).....Head, Division of Social and Behavioral Science; Professor of Social Science
A.B., 1935, M.A., 1935, University of Chicago; Ph.D., 1952, Claremont Graduate School

MICHELSON, HERBERT A. (1962).....Assistant Professor of Journalism
B.S., 1954, Indiana University (Part Time)

MINOR, DAVID M. (1964).....Assistant Professor of Mathematics
B.A., 1951, San Jose State College; M.A., 1963, San Jose State College (Part Time)

Faculty

- MINSER, J. ROBERT (1964).....Associate Professor of Music
B.M.E., 1950, University of Wichita; M.S.M.E., 1955, University of Illinois (Part Time)
- MONSON, RICHARD S. (1963).....Assistant Professor of Chemistry
B.S., 1959, University of California at Los Angeles; Ph.D., 1964, University of California
- MOREHOUSE, WADE A. (1960).....Associate Professor of Business Administration
R.M.E., 1948, Rensselaer Polytechnic Institute; B.M.A., 1959, Ph.D., 1965, University of California
- MORGENSTERN, OTTO W. (1964).....Associate Professor of Economics
B.A., 1953, San Francisco State; Ph.D., 1958, University of California (Part Time)
- MUIR, DONALD BELDEN (1960).....Associate Professor of Speech and Drama
B.A., 1951, George Washington University; M.A., 1954, Stanford University
- NAYAR, BALDEV RAJ (1963).....Assistant Professor of Political Science
B.A., 1953, M.A., 1956, Panjab University; M.A., 1959, Ph.D., 1963, University of Chicago
- NELSON, MARVIN D. (1962).....Assistant Professor of Music
B.M., 1951, Lewis and Clark College (Part Time)
- NICLAI, RICHARD W. (1964).....Assistant Professor of Physical Education
B.S., 1957, University of North Dakota; M.A., 1962, Chico State College
- NIEPOTH, EDWARD W. (1960).....Chairman, Department of Recreation;
Associate Professor of Recreation
B.A., 1949, M.A., 1950, Chico State College; Ed.D., 1962, Stanford University
- NIKAM, N. A. (1964).....Professor of Philosophy
M.A., Mysore University
- NOMIKOS, EUGENIA V. (1964).....Assistant Professor of History
B.A., 1948, Hood College; M.A., 1950, Columbia University; Ph.D., 1962, Stanford University
- NORDSTROM, EARLE W. (1962).....Business Manager and Lecturer in Business Administration
B.S., 1950, University of California
- O'CONNOR, JAMES J. (1964).....Assistant Professor of Education
B.S., 1956, State University of New York; Ed.M., 1962, University of Rochester (Part Time)
- OSBORNE, DON (1963).....Instructor of English
B.A., 1957, San Jose State College (Part Time)
- OVALLE, JOSEPH F. (1961).....Assistant Professor of Foreign Languages
B.A., 1955, St. Mary's College; M.A., 1963, Stanford University (Part Time)
- OWENS, GEORGIA E. (Mrs.) (1964).....Assistant Professor of English
A.A., 1956, Contra Costa Junior College; B.A., 1959, M.A., 1961, San Francisco State College (Part Time)
- OZAKI, ROBERT SHIGEO (1960).....Associate Professor of Economics
B.A., 1956, Ohio Wesleyan; M.A., 1958, Ph.D., 1960, Harvard University
- PAGENHART, THOMAS H. (1964).....Assistant Professor of Geography
B.A., 1943, San Jose State College
- PALMER, HAROLD O. (1963).....Assistant Professor of Mathematics
B.S., 1938, University of California; M.A., 1958, San Jose State College; M.A.T., 1962, Washington State University (Part Time)
- PALMER, VIRGINIA (1963).....Assistant in Biological Science
B.S., 1964, California State College at Hayward
- PEASE, HOWARD (1964).....Lecturer of English
B.A., 1924, Stanford University (Part Time)
- PEDERSON, CLAIRE (1964).....Professor of Education
A.B., 1946, University of California; Ed.D., 1952, Stanford University
- PETERS, JON S. (1961).....Associate Dean of Instruction; Curriculum; Professor of Education
B.A., 1937, University of Wyoming; M.A., 1942, Colorado State College; Ed.D., 1954, Stanford University
- PETERSEN, PHILLIP B. (1962).....Associate Professor of Foreign Languages
A.B., 1942, M.A., 1947, University of California at Los Angeles; Ph.D., 1955, University of California
- PETERSON, BURDETTE A. (1963).....Lecturer in Communications
B.S., 1950, Utah State University
- PETERSON, DOUGLAS L. (1960).....Professor of English
B.A., 1949, M.A., 1950, Ph.D., 1957, Stanford University
- PETERSON, GEORGE H. (1963).....Assistant Professor of Biological Science
B.S., 1953, Ph.D., 1957, University of California
- PETERSON, P. VICTOR, JR. (1959).....Head, Division of Science and Mathematics;
Professor of Chemistry and Conservation
B.A., 1947, San Jose State College; M.S., 1950, Stanford University; Ph.D., 1952, Cornell University
- PHILLIPS, SHARON (1964).....Librarian
B.A., 1958, M.L.S., 1964, University of California
- POOL, KENNETH B. (1964).....Assistant Professor of Psychology
A.A., 1950, Ventura Junior College; B.A., 1951, University of California, Santa Barbara (Part Time)
- PRICE, MAUD (1965).....Associate Professor of Education
B.A., 1925, University of Iowa; M.A., 1932, University of Michigan (Part Time)

Faculty

- PRINGSHEIM, KLAUS H. (1965).....Assistant Professor of Political Science
B.A., 1956, University of California at Los Angeles; M.A., 1960, Columbia University
- PUGLIESE, JOSEPH A. (1964).....Associate Professor of Art
B.A., 1950, Miami University; M.A., 1955, Ph.D., 1960, Ohio State University
- PURDY, C. RICHARD (1959).....Professor of Mathematics
A.B., 1932, Iowa State Teachers College; M.S., 1939, University of Chicago; Ed.D., 1949, Stanford University
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