

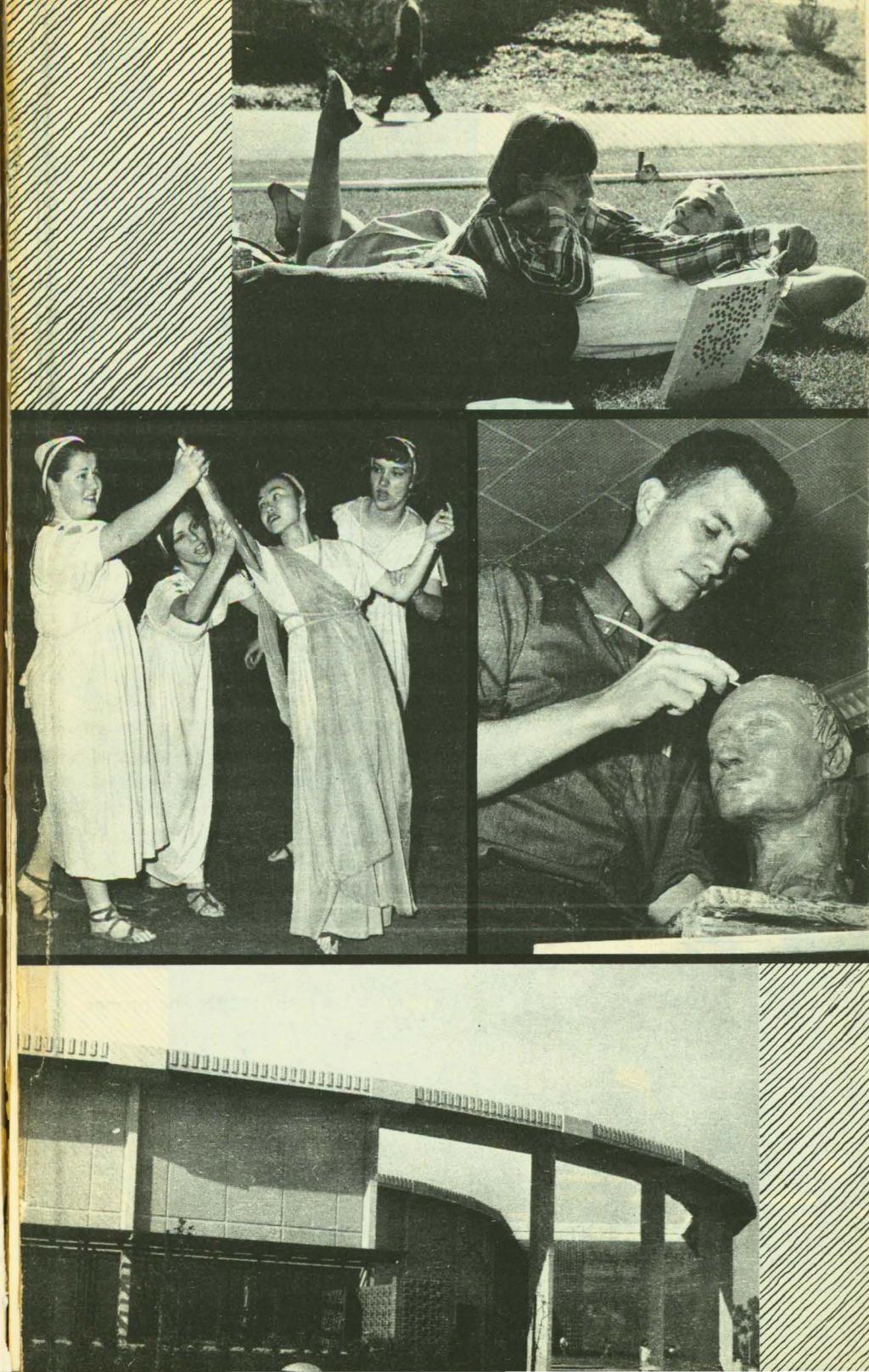
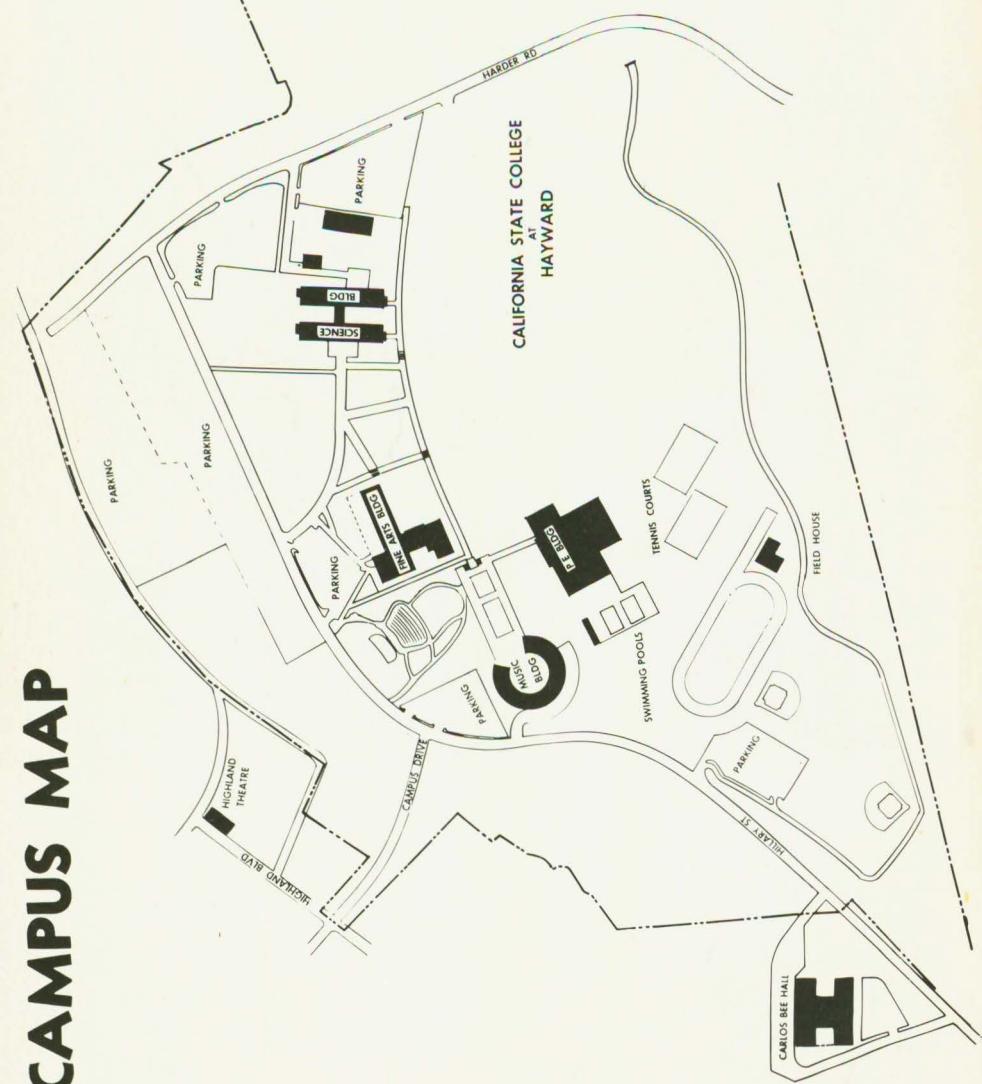
CALIFORNIA STATE COLLEGE AT HAYWARD
CATALOG 1966 - 1967

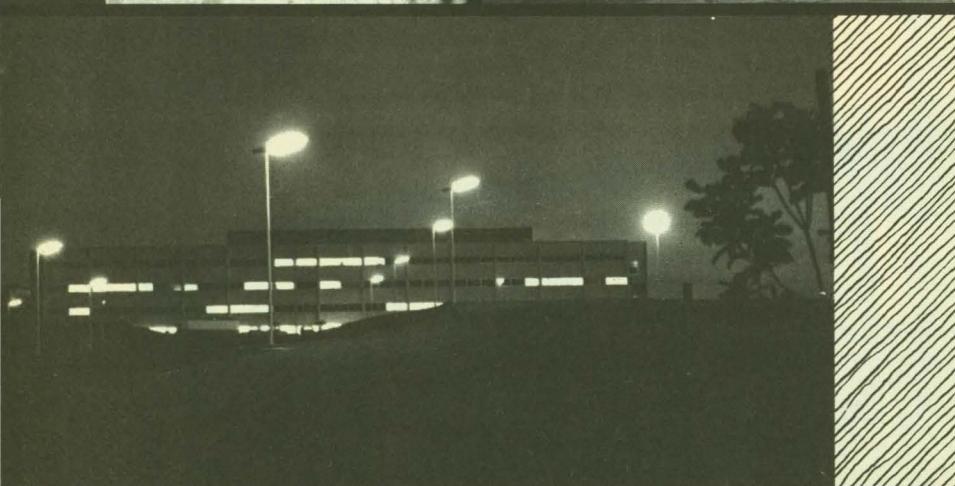
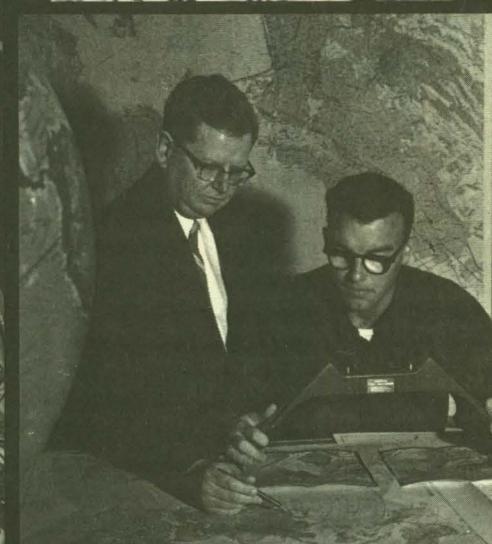
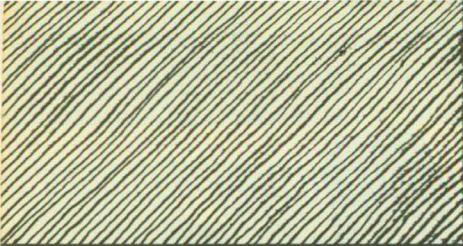


CALIFORNIA STATE COLLEGE AT HAYWARD

CATALOG 1966 - 1967

CAMPUS MAP





Catalog

1966-1967

CALIFORNIA STATE COLLEGE at HAYWARD

25800 Hillary Street, Hayward, California

CONTENTS

Academic Calendar	Page 6
-------------------	--------

STATEWIDE AND COLLEGE ADMINISTRATION

	Page		
Board of Trustees	9	College Advisory Board	13
Office of the Chancellor	10	College Administration	13
List of State Colleges	11	Cal-State-Hayward	15
The State College System	12		

ADMISSION

Plan of Admission	19	Admission with Graduate Standing	23
Admission Deadlines	20	Special Types of Admission	23
Admission as a Freshman	20	Admission Policies and Procedures	24
Admission as a Transfer Student	22	Evaluation of Transfer Credits	27

REGISTRATION

General Policies	31	Schedule of Fees	34
Changes in Registration	32		

STUDENT SERVICES

Counseling	39	Foreign Students	40
Health Services	39	Student Activities	40
Student Insurance	39	Intercollegiate Athletics	41
Scholarships	40	Placement and Employment	41
Loans	40	Alumni Association	42
Housing	40		

COLLEGE REGULATIONS

General

Catalog Requirements	45	Selective Service Requirements	45
Student Conduct	45	Veterans' Information	45

Academic

Classification of Students	46	Probation and Disqualification	51
Planning a Program	46	Special Programs	53
Examinations	48	Requirements for Graduation	54
Grading Procedures	49		

CURRICULA AND DEGREES

Degrees Offered	59	General Education Requirements	60
Credential Programs	59	Professional Preparation	61
Library and Audiovisual Services	59	International Programs	63
Center for Independent Study	60	Interdivisional Programs	67
Instructional Computation Center	60		

CONTENTS—Continued

Division of Biological and Health Sciences

	Page		Page
Curricula and Purposes	69	Biological Sciences	70
Moss Landing Marine Laboratories	69		

Division of Business and Economics

Curricula and Purposes	79	Business Education	81, 85
Business Administration	79, 82	Economics	82, 85

Division of Creative Arts

Curricula and Purposes	87	Music	92
Art	88	Speech-Drama	102

Division of Education

Curricula and Purposes	108	Junior College Education Program	116
Teacher Education Program	109	Counseling and Pupil Personnel	122
Early Childhood Education Program	111	Health and Physical Education	130
Elementary Teacher Education Program	112	Recreation	136
Secondary Teacher Education Program	114	School Administration and Supervision	139

Division of Humanities

Curricula and Purposes	144	History	156
English	145	Philosophy	161
Foreign Languages	149		

Division of Physical Science and Mathematics

Curricula and Purposes	164	Astronomy	174
Chemistry	165, 174	Conservation	176
Mathematics	166, 177	Geology	176
Physical Science	168, 182	Mathematics Education	181
Physics	170, 182	Meteorology	181
Psychology	171, 184	Photography	181
Statistics	172, 187	Science Education	187

Division of Social and Behavioral Science

Curricula and Purposes	189	Journalism—Mass Communications	205
Social Science	190	Political Science	208
Anthropology	191	Sociology	215
Geography	198		

Addenda

Faculty Listing	222	Maps	Inside Covers
Index	234		

1966-67 ACADEMIC CALENDAR

Summer Quarter 1966

June 18	Orientation for new undergraduates
June 20	Registration and payment of fees
June 21	Classes begin
June 21-28	Late registration period
June 24-28	Add-Drop period
June 28	Last day to drop a class without a grade
June 30	Last day for Fall Quarter graduates to request graduation checks
July 4	Independence Day (all college holiday)
July 15	Last day to file application for graduation in Summer Quarter
July 29	Last day to drop a class with a Grade of "W" or "WF"
August 26	Last day of classes
Aug. 29-Sept. 2	Final examinations
Sept. 2	End of quarter, grades due in Records Office
Sept. 3-18	Academic recess

Fall Quarter 1966

Sept. 19-23	Testing, orientation and academic advisement
Sept. 26-27	Registration and payment of fees
Sept. 28	Classes begin
Sept. 28-Oct. 5	Late registration period
Oct. 3-5	Add-Drop period
Oct. 5	Last day to drop a class without a grade
Oct. 7	Last day for Winter Quarter graduates to request graduation checks
Nov. 4	Last day to drop a class with a grade of "W" or "WF"
Nov. 11	Last day to file application for graduation in Fall Quarter
Nov. 24	Thanksgiving Day (all college holiday)
Nov. 24-25	Thanksgiving recess
Dec. 8	Last day of classes
Dec. 9-16	Final examinations
Dec. 16	End of quarter, grades due in Records Office
Dec. 17-Jan. 1	Academic recess

Winter Quarter 1967

Jan. 2	Registration and payment of fees
Jan. 3	Classes begin
Jan. 3-10	Late registration period
Jan. 6-10	Add-Drop period
Jan. 10	Last day to drop a class without a grade
Jan. 16	Last day for Spring Quarter graduates to request graduation checks
Feb. 10	Last day to drop a class with a grade of "W" or "WF"
Feb. 17	Last day to file application for graduation in Winter Quarter
Feb. 22	Washington's Birthday (all college holiday)
March 9	Last day of classes
March 10-17	Final examinations
March 17	End of quarter, grades due in Records Office
March 18-26	Academic recess

Spring Quarter 1967

March 27	Registration and payment of fees
March 28	Classes begin
Mar. 28-April 4	Late registration period
Mar. 31-April 4	Add-Drop period
April 4	Last day to drop a class without a grade
April 10	Last day for Summer Quarter graduates, and Fall Quarter graduates not enrolled Summer Quarter 1967, to request graduation checks
April 14	Last day to file application for graduation in Spring Quarter
May 5	Last day to drop a class with a grade of "W" or "WF"
May 30	Memorial Day (all college holiday)
May 31	Last day of classes. Grades for graduating students due in Records Office
June 1-9	Final examinations
June 9	Grades due in Records Office (except those graduating Spring Quarter)
June 10	Commencement
June 10	End of quarter

Other Important Dates for Students

I. Application Deadlines for Admission to the College

	Undergraduates	Graduates
Summer Quarter 1966	May 15	June 10
Fall Quarter 1966	July 29	September 14
Winter Quarter 1967	November 18	December 27
Spring Quarter 1967	March 10	March 21

II. Advising

For Summer Quarter 1966	May 2-13
For Fall Quarter 1966	May 2-13, Aug. 8-12
For Winter Quarter 1967	Nov. 7-18
For Spring Quarter 1967	Feb. 6-17

III. Early Registration

For Summer Quarter 1966	May 16-17
For Fall Quarter 1966	May 23-25 (Students registered Spring Qtr. but not Summer Qtr.)
For Winter Quarter 1967	August 15-16
For Spring Quarter 1967	November 21-29
For Spring Quarter 1967	Feb. 20-27

IV. Special Tests

American Institutions, U.S. Constitution, California Government Examinations	
Summer Quarter 1966	July 22
Fall Quarter 1966	Nov. 11
Winter Quarter 1967	Feb. 10
Spring Quarter 1967	April 28

V. Application Deadlines for Admission to the Teacher Education Program

For Summer Quarter 1966	
Admission to teacher credential programs (Credentials Office)	June 18
Submission to transcripts to Credentials Office	June 18
Screening tests for admission to professional coursework *	

8:30-12:00 1:00-4:00

June 18

For Fall Quarter 1966

Admission to teacher credential programs (Credentials Office)	Sept. 10
Submission to transcripts to Credentials Office	Sept. 10
Screening tests for admission to professional coursework *	
8:30-12:00	1:00-4:00
8:30-12:00	1:00-4:00

For Spring Quarter 1967

Admission to teacher credential programs (Credentials Office)	March 4
Submission to transcripts to Credentials Office	March 4
Screening tests for admission to professional coursework *	
8:30-12:00	1:00-4:00
8:30-12:00	1:00-4:00

For Summer Quarter 1967

Admission to teacher credential programs (Credentials Office)	June 10
Submission to transcripts to Credentials Office	June 10
Screening tests for admission to professional coursework *	
8:30-12:00	1:00-4:00

VI. Applications Deadlines for Student Teaching—Phase I and Phase II

For Fall Quarter 1966	June 30
For Winter Quarter 1967	Nov. 23
For Spring Quarter 1967	Feb. 17

* For further information, see section, "Admission to the Teacher Education Program."

1966

JUNE							JULY							AUGUST							SEPTEMBER													
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
—	—	—	—	—	—	—	1	2	3	4	5	—	—	1	2	3	4	5	6	—	—	—	1	2	3	—								
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10							
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17							
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24							
26	27	28	29	30	—	—	24	25	26	27	28	29	30	28	29	30	31	—	—	—	25	26	27	28	29	30	—							
—	—	—	—	—	—	—	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							
OCTOBER							NOVEMBER							DECEMBER							JANUARY													
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
—	—	—	—	—	—	—	1	2	3	4	5	—	—	1	2	3	4	5	6	7	8	9	10	11	12	13	14							
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
23	24	25	26	27	28	29	27	28	29	30	—	—	—	25	26	27	28	29	30	31	—	—	—	—	—	—	—	—						
30	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
FEBRUARY							MARCH							APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
—	—	—	—	—	—	—	—	1	2	3	4	5	—	—	1	2	3	4	5	6	—	—	—	1	2	3	—	—	—	—				
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
12	13	14	15	16	17	18	12	13	14	15	16	17	18	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25				
19	20	21	22	23	24	25	19	20	21	22	23	24	25	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	—				
26	27	28	—	—	—	—	26	27	28	29	30	31	—	23	24	25	26	27	28	29	30	31	—	—	—	—	—	—	—	—	—	—		

1967

**BOARD OF TRUSTEES
OF THE CALIFORNIA STATE COLLEGES**

EX OFFICIO TRUSTEES

Edmund G. Brown, LL.B.	State Capitol
<i>Governor of California and President of the Trustees</i>	Sacramento 95814
Glenn M. Anderson, A.B.	State Capitol
<i>Lieutenant Governor of California</i>	Sacramento 95814
Jesse M. Unruh, B.A.	State Capitol
<i>Speaker of the Assembly</i>	Sacramento 95814
Max Rafferty, A.B., M.A., Ed.D.	721 Capitol Mall
<i>State Superintendent of Public Instruction</i>	Sacramento 95814
Glenn S. Dumke, A.B., M.A., Ph.D., L.L.D., L.H.D.	5670 Wilshire Blvd.
<i>Chancellor of the California State Colleges</i>	Los Angeles 90036

APPOINTED TRUSTEES

Appointments are for a term of eight years expiring March 1 on dates in parentheses. Names are listed in order of accession to the Board.	
Louis H. Heilbron, A.B., LL.B., LLD (1969)	14 Montgomery St., San Francisco 94104
Donald M. Hart, B.A. (1968)	2230 Pine St., Bakersfield 93302
Charles Luckman, LL.D., A.F.D. (1966)	9220 Sunset Blvd., Los Angeles 90046
Paul Spencer, B.A. (1969)	P. O. Box 145, San Dimas 91773
Theodore Merriam, A.B. (1971)	P. O. Box 370, Chico 95927
Albert J. Ruffo, LL.B., B.S. in E.E. (1971)	1680 Hedding St., San Jose 95113
Mrs. Philip Conley, B.A. (1972)	3729 Huntington Blvd., Fresno 93702
E. Guy Warren, B.A. (1973)	P. O. Box 59, Hayward 94541
Daniel H. Ridder, B.A. (1967)	604 Pine St., Long Beach 90801
George D. Hart, A.B. (1967)	111 Sutter St., San Francisco 94104
Gregson E. Bautzer, B.A., LL.B. (1968)	190 N. Cañon Dr., Beverly Hills 90210
Simon Ramo, B.S., Ph.D. (1972)	8433 Fallbrook Ave., Canoga Park 91304
James F. Thacher, A.B., LL.B. (1970)	310 Sansome St., San Francisco 94104
Victor H. Palmieri, B.A., LL.B. (1970)	Janss Corp., Kirkeby Center, Wilshire at Westwood Blvd., Los Angeles 90024

Alec L. Cory, B.A., LL.B. (1973)
U. S. National Bank Building, San Diego 92101
Chester R. Bartalini (1966)
240 Golden Gate Avenue, San Francisco 94102

OFFICERS OF THE TRUSTEES

Governor Edmund G. Brown

President

Donald M. Hart

Vice-Chairman

Albert J. Ruffo

Chairman

Chancellor Glenn S. Dumke

Secretary-Treasurer

OFFICE OF THE CHANCELLOR OF THE CALIFORNIA STATE COLLEGES

5670 Wilshire Blvd., Los Angeles, California 90036 (213 938-2981)

Chancellor	Glenn S. Dumke
Executive Vice Chancellor	Raymond A. Rydell
Vice Chancellor, Business Affairs	Harry E. Brakebill
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 (714 871-3300)
California State College at Hayward	Dr. Fred F. Harclerode, President 25800 Hillary Street, Hayward, California 94542 (415 538-8000)
California State College at Long Beach	Dr. Carl W. McIntosh, President 6101 East Seventh Street, Long Beach, California 90804 (213 433-0951)
California State College at Los Angeles	Dr. John A. Greenlee, Acting President 5151 State College Drive, Los Angeles, California 90032 (213 225-1631)
California State College at Palos Verdes	Dr. Leo F. Cain, President 27608 Silver Spur Road, Palos Verdes Peninsula, California 90274 (213 377-6837)
California State College at San Bernardino	Dr. John M. Pfau, President 5500 State College Parkway, San Bernardino, California 92407 (714 887-6311)
California State Polytechnic College	Dr. Julian A. McPhee, President San Luis Obispo Campus, San Luis Obispo, California 93402 (805 546-0111) Kellogg-Voorhis Campus, Pomona, California 91766 (213 964-6424)
Chico State College	Dr. Glenn Kendall, President First and Normal Streets, Chico, California 95927 (916 343-4411)
Fresno State College	Dr. Frederic W. Ness, President Shaw and Cedar Avenues, Fresno, California 93726 (209 222-5161)
Humboldt State College	Dr. Cornelius H. Siemens, President Arcata, California 95521 (707 822-1771)
Sacramento State College	Dr. Stephen L. Walker, Acting President 6000 Jay Street, Sacramento, California 95819 (916 452-3252)
San Diego State College	Dr. Malcolm A. Love, President 5402 College Avenue, San Diego, California 92115 (714 286-5000)
San Fernando Valley State College	Dr. Ralph Prator, President 18111 Nordhoff Street, Northridge, California 91326 (213 349-1200)
San Francisco State College	Dr. Stanley Paulson, Acting President 1600 Holloway Avenue, San Francisco, California 94132 (415 584-2300)
San Jose State College	Dr. Robert D. Clark, President 125 South Seventh Street, San Jose, California 95114 (408 294-6414)
Sonoma State College	Dr. Ambrose R. Nichols, President 265 College View Drive, Rohnert Park, California 94928 (707 545-7220)
Stanislaus State College	Dr. Alexander Capurso, President 800 Monte Vista Avenue, Turlock, California 95380 (209 634-9101)

THE STATE COLLEGE SYSTEM

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 17 campuses of the California State Colleges (with another campus soon to be constructed) represent the largest system of public higher education in the Western Hemisphere and one of the largest in the world. Current enrollment exceeds 157,000 full and part-time students. The faculty and administrative staff numbers more than 8,000.

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.

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. A Statewide Academic Senate, made up of representatives elected by the faculty at each college, act as a consultative body to the Chancellor in the area of academic affairs.

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, ten new campuses have been developed; one is operating in temporary quarters in southwestern Los Angeles, and another has been authorized to be located in Kern County. Enrollment in the system is expected to reach 225,000 by 1970.

ADVISORY BOARD

California State College at Hayward

Thomas Caldecott, Chairman	Oakland
Mrs. Eulalia Anderson	Castro Valley
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
Robert E. Hillman	Danville

COLLEGE ADMINISTRATION

Executive

President	Fred F. Harclerode
Dean of the College	Albert R. Lepore
Executive Dean, 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
Administrative Assistant to the President	Alfred D. Kilmartin

Academic Affairs

Dean of the College	Albert R. Lepore
Dean of Instruction	Arnold P. Biella
Dean of Educational Services	Forrest L. Mayer
Associate Dean of Instruction	George H. Peterson
Associate Dean and Dean of Admissions and Records	Myron F. Pollack
Head, Division of Biological and Health Sciences *	Harvey L. Scudder
Acting Head, Division of Business and Economics	John W. Ashley
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

* Effective January 1, 1967.

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
Medical Officer	Fred D. Fisher
Director of Counseling Services	Donald J. Strong
Director of Testing Services	Donald J. Brown
Director of Placement Services	Eugene W. Clark

Business Affairs

Business Manager	Earle W. Nordstrom
Accounting Officer	Fred Okamoto
Personnel Coordinator, Financial Office	Richard Quay
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
Publicity Assistant	Darrell M. Gray
Publications Assistant	Jack K. Ayre

CALIFORNIA STATE COLLEGE AT HAYWARD

History and Physical Facilities

In a period of several years, California State College at Hayward has undergone a remarkable growth and laid a solid base for its future development. The College was established by the State Legislature in 1957 and opened its doors for the first time in September 1959, using temporary quarters in Hayward. It was at that time called State College for Alameda County.

From an initial enrollment of 400 students, 100 full-time, the College has more than matched the growth of the area it was planned to serve. There are now 4,700 students—a more than tenfold increase—and enrollment is expected to soar to 11,000 by 1970.

The College took formal possession of its present 354-acre campus in 1963, which was the year its name changed to California State College at Hayward. Classroom instruction here is offered in three multi-storyed buildings—an H-shaped Science Building, a patio-fringed Fine Arts Building, and a distinctive Music Building of circular design. By September 1966, the physical plant will include a Physical Education Building and by September 1967, a Cafeteria and Classroom Building No. 1. A privately financed dormitory is located on property adjacent to the campus.

Cal-State shares with four other State Colleges the facilities of the Moss Landing Laboratories at Monterey Bay, which provide a seaside site for year-round course work in marine biology, oceanography, and other marine sciences.

An Ideal Location

Located among the rolling foothills that rim San Francisco Bay, the Cal-State campus provides the faculty and students with many advantages of environment.

The climate of the area is moderate and usually delightful. The ocean to the West and the Sierras to the East are within easy reach by automobile. Oakland is 15 miles northward by freeway, cosmopolitan San Francisco lies 28 miles away via the Bay Bridge, and the Peninsula can be reached by the San Mateo Bridge. The location affords excellent opportunities to visit museums, libraries, art galleries, aquariums, and parks as well as to attend plays, concerts, musicals, and other types of entertainment for which the San Francisco area is famous.

Curricula and Degrees

The College offers programs leading to the baccalaureate degree in 29 majors and the master's degree in seven fields of study. 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 is accredited by the State Board of Education.

Faculty

Faculty have been recruited not only on the basis of 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. Two-thirds of the instructional faculty have a doctorate degree—the national average per institution is about 40 percent.

Instructional Facilities

There are a number of important instructional facilities on campus to aid the student in his studies. Outstanding among these is the College library, with 140,000 catalogued volumes and with subscriptions to approximately 1,600 periodicals. Other facilities include a computer center with late model data processing equipment, a Center for Independent Study with programmed materials for self-instruction, and an Audiovisual Service Center containing a wide variety of equipment.

Further information about Cal-State facilities may be found under *Curricula and Degrees*.

ADMISSION TO THE COLLEGE

Plan of Admission

Registration for admission to Cal-State San Joaquin is free and open to all students who meet the minimum requirements for admission as established by the State Board of Education.

Admission to the College is based on the following criteria:

1. The student must be a high school graduate or equivalent.

2. The student must be physically and mentally qualified to meet the demands of college work.

3. The student must be able to pay tuition and fees in full or in installments.

4. The student must be able to furnish evidence of good character and a desire to work.

5. The student must be able to furnish evidence of financial ability to support himself during his college work.

6. The student must be able to furnish evidence of good health.

7. The student must be able to furnish evidence of good moral character.

8. The student must be able to furnish evidence of good social character.

9. The student must be able to furnish evidence of good academic record.

10. The student must be able to furnish evidence of good physical condition.

11. The student must be able to furnish evidence of good mental condition.

12. The student must be able to furnish evidence of good social condition.

13. The student must be able to furnish evidence of good academic record.

14. The student must be able to furnish evidence of good physical condition.

15. The student must be able to furnish evidence of good mental condition.

16. The student must be able to furnish evidence of good social condition.

17. The student must be able to furnish evidence of good academic record.

18. The student must be able to furnish evidence of good physical condition.

19. The student must be able to furnish evidence of good mental condition.

20. The student must be able to furnish evidence of good social condition.

21. The student must be able to furnish evidence of good academic record.

22. The student must be able to furnish evidence of good physical condition.

23. The student must be able to furnish evidence of good mental condition.

24. The student must be able to furnish evidence of good social condition.

25. The student must be able to furnish evidence of good academic record.

26. The student must be able to furnish evidence of good physical condition.

27. The student must be able to furnish evidence of good mental condition.

28. The student must be able to furnish evidence of good social condition.

29. The student must be able to furnish evidence of good academic record.

30. The student must be able to furnish evidence of good physical condition.

31. The student must be able to furnish evidence of good mental condition.

32. The student must be able to furnish evidence of good social condition.

33. The student must be able to furnish evidence of good academic record.

34. The student must be able to furnish evidence of good physical condition.

35. The student must be able to furnish evidence of good mental condition.

36. The student must be able to furnish evidence of good social condition.

ADMISSION

ADMISSION TO THE COLLEGE

Plan of Admission

Requirements for admission to California State College at Hayward are in accordance with Title 5, Chapter 5, Subchapter 2 of the California Administrative Code as amended by the Board of Trustees of the California State Colleges on January 21, 1965. A prospective applicant who is unsure of his status under these requirements is encouraged to consult with a school or college counselor or contact the College Admission Office.

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.

Undergraduates

Applications for admission and readmission will be accepted until the dates published below. They will be processed in the order of receipt; all supporting documents (transcripts of all previous college work, ACT test scores and Statement of Residence) must be on hand prior to processing. 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 constitute 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 1966**

July 29.....Last day for undergraduate students to submit applications for admission or readmission
 September 14.....Last day for graduate students to submit applications for admission or readmission

WINTER QUARTER 1967

November 14.....Last day for undergraduates to submit applications for admission or readmission
 December 27.....Last day for graduate students to submit applications for admission or readmission

SPRING QUARTER 1967

March 10.....Last day for undergraduates to submit applications for admission or readmission
 March 21.....Last day for graduate students to submit applications for admission or readmission

Admission as a Freshman

An applicant who has had no college work will be considered for admission under one of the following provisions. 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 composite score on the ACT 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.

<i>Grade point average</i>	<i>ACT score needed</i>
3.20 and above	Eligible with any score
2.80	18
2.40	26
2.00	34
1.89 and below	Not eligible

* For 1966-67 the minimum eligibility index is ACT 738. It is computed by multiplying grade point average by 200 and adding it to 10 times the composite ACT score. (A complete table is available in the Dean of Admissions Office.)

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.

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 1966-67. The minimum required eligibility index is ACT—834 and is calculated as in 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 ACT.

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 currently enrolled in high school will be considered for enrollment in certain special programs if he is recommended by his principal and if 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. The applicant is not required to pursue a particular course pattern, but in order to be adequately prepared to undertake a full program of college studies and particularly the required program in General 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.

Certain majors list specific recommended preparation for the major; consult appropriate sections of this catalog for details.

Admission 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 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 as well as requirements currently in effect for first-time freshmen. An applicant who has been in full-time continuous enrollment at a college since his graduation from high school may also be admitted to Cal-State provided he meets the requirements of the California State Colleges which were 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, a \$5 application fee, and a Statement of Residence form.
2. File two official transcripts from *each* college attended. Students with fewer than 60 semester units (or equivalent quarter units) of acceptable college transfer credit must file two transcripts of all course work completed and one official transcript showing 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 a specific program 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 to be permitted to earn graduate credit at California State College at Hayward.

A separate graduate bulletin is under preparation.

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, however, must satisfy 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 seeking admission to the College from their native country must forward the completed application for admission, a financial statement, a transcript from each high school attended, and two transcripts from each college previously attended. Passing the Test of English as a Foreign Language (TOEFL) is a requirement for all foreign students. The College is a member of the Institute of International Education and requires all foreign applicants to be interviewed at one of the Institute offices in their native country.

Transfer foreign students who have attended educational institutions in the United States must file a financial certificate and take the TOEFL examination. They must otherwise follow the regular admission procedures as directed under the section, "Admission as an Undergraduate Transfer."

Admission

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 the regulations of the Immigration Department as well as those of the College.

Special counseling and further information can be obtained from the Dean of Men, who serves as foreign students' adviser.

Admission of Nonresident Students

Admission requirements for nonresident students, excepting first-time freshmen, are the same as those for resident students. See section "Admission as a Freshman." 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 under full benefits extended to veterans. Information concerning veterans' programs can be obtained from the Veterans Affairs Representative in the Admissions and Records 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. Two official transcripts from each institution attended since leaving this College must be filed in the Office of Admissions. Students graduating with baccalaureate degree from Cal-State must reapply for admission to take work at the graduate level. Stu-

Admission

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

	Graduates	Undergraduates
Fall Term	Sept. 14, 1966	July 29, 1966
Winter Term	Dec. 27, 1966	Nov. 18, 1966
Spring Term	Mar. 21, 1967	March 10, 1967
Summer Term	June 10, 1967	May 19, 1967

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 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 1966-67 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: *California State College at Hayward*. Please do not send cash.

Transcripts

It is the applicant's responsibility to see that official transcripts required for his type of admission classification be sent directly from the high schools attended (one copy from each) and/or colleges attended (two copies from each). 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 or forwarded to another institution, except in cases of redirection to another California State College.

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.

Statement of Residence

An official statement of residence must be completed and filed by each student with his application for admission. 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* for all students, except non-objective graduate students enrolled for fewer than seven units. The examination is to be performed by a private physician at the student's own expense and is to be recorded on a Student Health Record supplied by the College. This form also includes a health history to be completed by the student. When finished, the form is to be returned to the Student Health Services.

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, must reapply for admission. 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 by undergraduate students 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. Credit for certain vocational and remedial courses cannot be transferred.

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. Certain credits earned in colleges accredited as professional schools receive no transfer credit for admissions purposes. See section, "Credit by Examination."

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, provided 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 have been properly admitted to the College by the Office of Admissions prior to such registration.
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. In exceptional 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 previously admitted or continuing 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**

From the third through the sixth day of instruction, students may add and drop courses by securing their adviser's signature on add and drop cards, which are available from department secretaries. These cards must then be returned to the appropriate department secretaries for entry or deletion on class rosters. Adding a course is not permitted after the sixth day of instruction. A grade of "AF" will be entered on a student's permanent record if he registers for a course and drops out without filing an official drop card.

Students who find it necessary to drop a course between the seventh day and the end of the sixth week of instruction must secure the proper drop card from the Records Office, obtain necessary signatures, pay a dollar fee, and file the card in the Records Office. Students withdrawing during this period will receive a "W" if they were passing the course or a "WF" if they were failing the course. The units of credit for a course in which a "WF" is received will be included in the computation of the student's grade-point average. A student who drops a course

without filing the required card in the Records Office will be automatically assigned a grade of "AF" in the course. Students may not withdraw from individual courses after the end of the sixth week of instruction. The only exceptions to this regulation can be found under "Marking Policies and Procedures."

Withdrawal From College

Medical Withdrawal: A student who finds it necessary to withdraw from college for medical reasons must report to the Student Health Services with written verification of illness or incapacity from a physician. Upon approval of the verification, Student Health Services will notify instructors and initiate the withdrawal.

A student who is given a medical withdrawal during a quarter may return to college as a continuing student (application for readmission is not necessary) if no more than one full quarter has lapsed. However, it will be necessary for the student to notify the Admissions Office of his intent to return. Notification must be made before application deadline for that quarter.

The student must apply for readmission if he is not enrolled for more than one quarter.

Military Service Withdrawal: Any student who presents evidence of entering the armed forces may petition the Records Office for an honorable dismissal. No academic penalties will be assessed under these conditions, and a mark of "W" will be entered on the student's permanent record.

A student who withdraws to enter military service may, upon application for readmission, be considered as a continuing student.

Other Withdrawals: A student contemplating withdrawal from college because of personal or academic problems is encouraged to consult with the Dean of Men, Dean of Women, or Counseling Office before taking official steps to withdraw.

If withdrawal from the College is necessary, official withdrawal forms from the Records Office must be filled out and 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.

Medical Leave of Absence: A student may apply for a medical leave of absence if he has completed one quarter in residence. The leave normally is approved for one quarter only.

Schedule of Fees

Tuition is not charged to legal residents of California. The following reflects the fees of the College, subject to change by the Trustees of the California State Colleges. The fees for auditors of courses are the same as for those receiving credit for courses.

I. Registration Fees (payable at time of registration)

A. Quarters

	Fall	Winter	Spring	Summer
1. Regular students (over 6 units):				
Material and service fee	\$25.50	\$25.50	\$25.50	\$25.50
Student body fee	7.00	7.00	6.00	6.00*
Totals	\$32.50	\$32.50	\$31.50	\$31.50
2. Part-time students (6 or fewer units):				
Material and service fee	\$13.00	\$13.00	\$13.00	\$13.00
Student body fee	2.00	2.00	2.00	2.00*
Totals	\$15.00	\$15.00	\$15.00	\$15.00
3. Nonresident tuition, per quarter (in addition to above fees):				
1 to 14 units		\$13.50 per unit		
15 or more units		\$200.00 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 \$8.75 per unit

C. Summer session

Material and service fee	\$12.50 per unit
Student body fees*	3.00 only

There is no nonresident tuition for Summer Session.

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)	
1. Bachelor Degree	10.00
2. Master's Degree	14.00
F. Check returned	
1. Registration check	5.00
2. Any other check	2.00
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

* No student body fees are necessary for Summer Session or Summer Quarter if the student paid \$20 during the previous academic year.

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

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 provided a request is filed by the student in the Records Office.
- D. After withdrawal from college or reduction of academic load, *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%
- E. Students who have been drafted into military service and as a result find it necessary to withdraw from the College are eligible for a refund of a portion of their material and services fees.

STUDENT SERVICES

STUDENT SERVICES

Various offices in the College provide special services to individual students and groups of students while serving in a consultant capacity to academic advisers and academic departments of the College. Students with questions relative to academic programs should consult their advisers.

Counseling

Counseling services provide no-fee assistance regarding personal problems of an academic, vocational, or emotional nature for 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 given 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 a.m. 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.

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.

Scholarships

Scholarships ranging from \$50 to \$400 are granted to qualified students attending California State College at Hayward. 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 scholarship, financial need, leadership, and promise of success in their chosen fields, or by the criteria established by the donor.

Applications and information concerning scholarships are available in the Dean of Men's Office.

Loans

California State College at Hayward participates in the National Defense Act Student Loan Program as well as the United Student Aid Loan Program. These long range loans are available to students who are in need of financial assistance, and information concerning these loans is available from the Dean of Men's Office. The Parents' Confidential Statement is a prerequisite for these loans.

The College maintains a short term emergency loan program for students in temporary financial need, which makes available loans at no interest for period up to 30 days. These loans may be obtained through the Dean of Men's Office.

Housing

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

The Carlos Bee Residence Hall, adjacent to the campus, is a college approved residence hall, accommodating 308 men and women students. For information concerning housing, contact the Dean of Men's Office.

Foreign Students

Students from other countries must consult with the Dean of Men's Office on matters affecting their visas, eligibility for employment, financial aid, travel program, special workshops, and housing. The Dean of Men's Office also provides information pertaining to the admission of foreign students to the College (See section, "Admission of Foreign Students.").

Student Activities

The Dean of Women's Office serves to coordinate the many out-of-class educational activities sponsored by the College or by campus organizations. Calendar clearance and petition assistance are available in that office.

Associated Students: Every registered student becomes a member of the Associated Students and is entitled to participate in its activities and to vote in all special and general elections. The executive officers (elected annually) are the president, vice-president, secretary, and two representatives at large. The Student Council is composed of the executive officers and a representative from each of the six Academic Division Councils of the College.

The Student Council, serving as the executive and legislative branch of the student government, appoints standing committees, charters clubs and organizations, prepares and supervises the budget of the Associated Students, and works with the College in the planning, executing, and evaluating of many college programs and projects.

Clubs and Organizations: The College encourages the establishment of a great variety of clubs and organizations. Students and faculty meet together in religious, professional, service, recreational, educational, and cultural organizations. Membership in all organizations depends solely upon individual qualifications without regard for race, color, religion, or national origin. Recognized organizations are privileged to use the college name and facilities and to plan activities of benefit to their membership or to the total College.

Student Publications: The Associated Students sponsor the *Pioneer*, the student newspaper, and the *Elan*, the student yearbook, both of which are published in cooperation with the Journalism Department; and the *Amaranth*, published by the Humanities Division.

Intercollegiate Athletics

The College is a member of the Far Western Athletic Conference and competes on the varsity level in baseball, basketball, cross country, football, golf, swimming, tennis, track, and wrestling. Junior varsity teams represent the College, also, in football and basketball.

Placement and Employment 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.

Student Services

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.

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

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.

COLLEGE REGULATIONS

COLLEGE REGULATIONS

General Regulations

Catalog Requirements

A student at Cal-State-Hayward will follow the catalog 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 his attendance at the College or in requirements imposed at any time by the Trustees of the State Colleges and/or the State Legislature.

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. Copies of this code are available at the Office of the Dean of Women.

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 the 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.

* Students should be aware that student deferments require normal progress toward a degree. Some Selective Service Boards interpret this requirement to mean that a student must be enrolled for a minimum of 15 units each quarter.

COLLEGE
REGULATIONS

Academic Regulations

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.

Students are assigned class rank according to the following plan:

1. Lower Division:

Freshmen	44 $\frac{3}{4}$ quarter units
Sophomores	45- 89 $\frac{3}{4}$ quarter units

2. Upper Division:

Juniors	90-134 $\frac{3}{4}$ quarter units
Seniors	135 or more units

3. Graduate:

Possession of baccalaureate degree from an accredited institution.

PLANNING A PROGRAM

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.

Academic Load

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.

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 are expected of graduate level students.

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.

Consulting With Adviser

First-time freshmen during their first quarter of attendance at the College must develop a program with their advisers which will satisfy all requirements (general education, major, and minor if required) for the degree.

Undergraduate transfer students must develop, in conjunction with their academic advisers, a complete program of courses leading to the baccalaureate degree following receipt of Cal-State's evaluation of previous college credit (but in no case later than the end of the second quarter of enrollment). To satisfy degree requirements, this program must serve as a guide to the student throughout his college career, and no changes in it will be made without written approval of the adviser. The Evaluations Office will receive written notification of any changes.

These programs will give evidence of a student's agreement to fulfill the requirements of a degree program that were in effect at the time of entrance into this College. As long as the student maintains continuous enrollment in the College, the agreement shall be binding. Should curricular changes occur in the program, the student has the option of completing his original program or incorporating the changes. Should a course essential to the program be discontinued, the adviser and the student shall select an appropriate substitute course and treat it as a change in program.

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.

EXAMINATIONS**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 advance arrangements 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.

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 Cal-State-Hayward must take a Foreign Language Proficiency Examination prior to enrolling in Foreign Language Courses (French, German, Spanish). Dates for the examinations are announced each quarter. Arrangements must be made through the Foreign Language Department.

Music Placement Tests. First time students at Cal State-Hayward must take Music Proficiency Examinations prior to enrolling in music courses. Examinations are given by the Music Department before regis-

tration each quarter. Arrangements must be made through the Music Department.

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 this background 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 register during regular registration for the units to be earned by the examination. The class being challenged for credit must be listed in the class schedule for the particular quarter. An application for credit by examination should be secured from the Dean of Instruction's Office. The examination must be administered *during the first two weeks of the quarter* and the results, in grade form, must be submitted to the Records Office by the end of the fifth week. The instructor is responsible for notifying the student of the results of the examination.

If the exam is passed (a grade of "C" or better is required), the Records Office will indicate "credit by examination" on the student's permanent record. If the student fails the examination, he must either continue taking the course formally or officially withdraw from it in the Records Office within one week after completing the examination.

The instructor may arrange a course of study with the Center for Independent Study so that a student may prepare for the examination during the quarter prior to that in which the examination is to be taken. For details, students should consult the department offering the course to be challenged.

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 the 36 quarter units of residence requirements of the College.

GRADING PROCEDURES**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.

Marking System

1. Regular Grades

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 (the sixth day of classes) 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 follow the appropriate procedure as stated under "Adding and Dropping Courses" or "Withdrawal from College" within the section, *Registration*. Students who withdraw from a course without a grade mark after the last day to drop classes 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.

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 policy as explained in this catalog or unless they have filed a successful petition for late dropping of a course. The form is available in department and division offices.

Students who do not properly withdraw from courses will be assigned a grade of "F" or "AF".

3. Incomplete ("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:

- Extended absence for health problems.
- 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. Incomplete courses automatically revert to grades of "F" if not completed within the next calendar year. Students do not register to make up an Incomplete grade.

4. Military Service Withdrawal

Any student who presents evidence of entering the armed forces may petition the Records Office for an honorable dismissal. No academic penalties will be assessed under these 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.

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."

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 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 Cal-State-Hayward 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 (a) all work at this College and (b) all College work attempted.
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 all work at this College, and in 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 on total units attempted or 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) in (a) all College work and (b) all CSCH 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.
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 for a five-day period after formal notification of his disqualification has been made. In case of disqualification and denial of appeal, no immediate reinstatement is granted.

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 with a 2.0 grade point average earned at Cal-State who has no more than 8 quarter units of credit to complete for graduation may take up to 16 units and may apply toward graduate credit a maximum of 9 units beyond those required for graduation. Permission must be obtained from the department chairman in the area where the graduate credit is to be applied prior to registration. Appropriate forms are available in department and division offices.

SPECIAL PROGRAMS**Individual Study Programs**

An Individual Study Class, as defined at this institution, is a course which is listed in the College Catalog but is not being offered during the term in which a student must gain course credit 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 to the Records Office and a class card secured during the Add/Drop period.

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, or 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 to the Records Office and a class card secured during the Add/Drop period.

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.

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 186-198 quarter units of acceptable college credit, at least 60 quarter units of which must be in courses numbered 3000 or above and taken after attaining upper-division standing.
3. Complete a minimum of 36 quarter units in residence at this College. At least 18 of these units must be among the last 30 quarter units counted toward the degree. Units earned in summer sessions apply.
4. Satisfy the college general education requirements as described in the section, *Curricula and Degrees*.
5. Students must be in residence during the last two quarters before graduation.

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.
4. Complete within seven years, a minimum of 45 quarter units of approved work, at least 36 of which must be in residence.
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, and grade point averages as specified in departmental sections of this catalog.

Residence Requirements

A total of 186 units of credit must be earned for graduation with a bachelor of arts degree. Up to 198 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. *Students must be in residence during the last two quarters before graduation. Units earned in Summer Session may be substituted for regular session unit requirements on a unit-for-unit basis.*

The bachelor of education degree requires 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 campus after completion of 135 of the required number of quarter units.

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.
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

CURRICULA AND DEGREES

Baccalaureate Degrees With Major In:

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

Master's Degrees With Major In:

Biological Science (MA)	Music (MA)
Education (MS)	Physical Education (MS)
English (MA)	Political Science (MA)
Mathematics (MS)	

Non-degree Teaching Credential Programs

The College is accredited to recommend for the 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.

The Library

The library now has over 140,000 catalogued volumes and subscriptions to 1,600 periodicals 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

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

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

Professionally trained librarians are available to assist students and faculty.

Audiovisual Services

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 440 films.

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

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.

Instructional Computation Center

Current facilities include an IBM 1620 Digital Computer with Punched Card Input and Output, as well as printing card punches, a reproducer, a sorter and a 407 off-line listing machine. Both formal and informal instruction are available to students and staff interested in instructional or instructionally related projects which make use of the facility.

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 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.

For graduation with a baccalaureate degree, each student must complete a minimum of 76 quarters units of general education work. At least 36 units 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 for meeting G.E. requirements. For a major in any of the fields listed under general education requirements below, the total program 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 includes courses¹ 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 meets the general pattern requirements of the profession, the specific requirements of the professional school of his choice, and the CSCH requirements for his major and baccalaureate degree.

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

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, 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 humani-

ties 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 completion of the following courses during the undergraduate year: one 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, one semester of vertebrate embryology, and one semester of 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 1966-67 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; and the University of Florence, Italy. 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 1966-67 these costs were: France, Ger-

Curricula, Degrees

many, Japan, Spain: \$1,870; Sweden, \$2,070; Taiwan, \$1,370; and Italy, \$1,970. 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 1967-68 academic year should be made early in the fall term, 1966. Detailed information may be obtained from the Chairman of the Committee on International Education Programs or by writing to the Office of International Programs, the California State Colleges, 1600 Holloway Avenue, San Francisco, California 94132.

Curricula, Degrees

GENERAL EDUCATION CALIFORNIA STATE COLLEGE AT HAYWARD

Requirements		Courses Which Meet Requirement	Information
Area	Units		
Communications	6	Option I: Eng 1001 (3) and 1002 (3) or Sp/Dr 1001 (3) and 1002 (3) Option II: HWC 1001-2-3 (5-5-5), Eng 1001 (3) or Sp/Dr 1001 (3)	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 Pol Sci 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), Pol Sci 1201-2 (4-4), or Pol Sci 3100 (4)	Same as above.
Social Science Includes courses in two of four fields: anthropology, economics, geography, sociology, or social science.	12	Any course in anthropology, economics, geography, political science, sociology, or social science. The sequence, HWC 1001-2-3, satisfies one of the "two of four" and meets 4 units of the social science requirement. The sequence 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 is outside this area.
Humanities Includes 5 units in literature and/or philosophy.	16	Any course in history, philosophy (except Phil 1001, 1002), literature, languages, and the history of the arts. Literature and/or philosophy—Any literature and/or philosophy course (except Phil 1001, 1002). The sequence, HWC 1001-2-3 satisfies 8 units of humanities (5 literature and 3 philosophy). The sequence, Asia 2001-3-5, satisfies 5 units of humanities.	1. A maximum of 9 units of foreign languages may be applied to this requirement. 2. Additional units to satisfy the requirement may be taken in history, philosophy, literature, languages, and the history of the arts. 3. Approved upper division course is required if major is outside this area.
Psychology	4	Psych 2000 (4)	
Health and Physical Education	5	Option I: P.E. 1100 (3) and P.E. 1010-11-12 (½ for each activity chosen) Option II: P.E. 1000 (3), P.E. 1010-11-12 (½ for each activity chosen) 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), Sp/Dr 1010 (5), 2310 (4), 4050 (3), Asia 2001-3-5 (4-4-4)	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 (5) Basic Physical Science Chem 1100 (5), 1101 (5); Astr. 1000 (5), Geol 1101-2 (5), Physics 2001 (5), Physics 1000 (4), Physical Science 1340 (5)	Introductory courses in anatomy, physiology, botany and zoology may meet requirement.
			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.

Curricula, Degrees

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; complete 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	<p><i>Humanities Area</i></p> Art 3040, 3050, 3060, 3070 Music 3141, 3142, 3143 English 1010*, 1811, 1812, 1813, 3700, 3701, 3702 History 2001-2, 3100, 3301, 3601, 4000, 4160, 4180, 4511-2, 4531 History of Western Philosophy 3601-2-3 Philosophy 2000, 2100	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 sciences. Courses satisfying this requirement must be completed by a student who has upper division standing. Units taken to satisfy this requirement may be applied as appropriate to meet other general education requirements.	
		<p><i>Natural Sciences Area</i></p> Astronomy 1000 Biology 2500, 3500, 4450 Botany 2000, 4600 Conservation 4380 Entomology 4100, 4210 Geology 3300, 4310 Meteorology 1400 Nature Study 3391, 3392, 3393 Zoology 2000, 3101-2	2. Majors classed as humanities are: Art Music English Philosophy French Spanish History Speech and Drama Language Arts	
		<p><i>Social Science Area</i></p> Anthropology 3000 Economics 3303 Geography 3000 Journalism 4700 Political Science 3210, 3410, 3520, 4000, 4505, 4720, 4730 Psychology 3500 (acceptable after completion of 12 units of Social Science courses) Social Science 3001 Sociology 2010, 3410, 3520	3. Majors classed as sciences are: Biol. Sci. Phys. Ed. Chem. Physics Math. Physical Sci. Statistics	
Electives	5-6	Any course outside the major or related field.		
Total	76			

The total requirement in General Education is 76 units.

* Courses bearing 1000 and 2000 series numbers will satisfy the upper division requirement when taken by upper division students.

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, including 5 units of literature and philosophy and 3 units of humanities electives, and (3) 4 units of social science exclusive of code requirements in U.S. history and institutions. Completion of HWC 1001 earns credit for five units of humanities electives; completion of HWC 1001-2 earns credit for two units of communications and five units of literature and philosophy and three additional units of humanities electives (for a total of eight units); and completion of HWC 1001-2-3 earns credit for an additional unit of communications (for a total of three units) and four units of social science, including one course of the "two-of four" courses requirements (anthropology, economics, geography, sociology). The three units of communications above are equivalent to Eng. 1001 or Sp/Dr 1001.

1001. The Ancient and Medieval World

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

1992. 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. Completion of Asia 2001-2003-2005 earns credit for five units of humanities (philosophy-literature), three units of creative arts and four units of social science, including one course of the "two of four" courses requirement (anthropology, economics, geography, sociology).

2001. Patterns of Asian Cultures

150.1. *Contemporary Asia: Cultural Patterns*
Significance of contemporary Asia with particular reference to South Asia, approached through a study of various disciplines; physical, biotic, and social patterns. Four units; fall quarter.

2003. Development of Traditional Asian Cultures

1000. Development of Traditional Asian Societies. Major traditions of Asia with particular reference to South Asia, including political, economic, and aesthetic developments. Prerequisite: Asia 2001 or consent of instructor. Four units; winter quarter.

2005. Asian Societies in the Modern World

The European expansion in Asia with particular reference to South Asia; the rise of nation states; problems of modernization. Prerequisite: Asia 2001, 2003 or consent of instructor. Four units; spring quarter.

Interdivisional Programs

JUNIOR-SENIOR SYMPOSIA

The Junior and Senior Symposia are courses required of all undergraduates as follows: (1) Freshmen who enrolled in September 1963 and thereafter, (2) Transfers who enrolled for the first time at this institution in September 1965 and thereafter, (3) Upper-division transfers who have *not* been in continuous enrollment and who transferred to this College prior to September 1965, and (4) Upper-division transfers who have been in continuous enrollment at other institutions and who transferred to this College prior to September 1965. It is recommended that these transfers take the complete sequence.

3801. Junior Symposium

An interdisciplinary course in which the student examines and relates selected ideas. Includes lectures, readings, papers and discussions. Prerequisites: junior standing and completion of lower division general education courses in the humanities, natural sciences, and social sciences. Three units.

4801. Senior Symposium

A cross-disciplinary study of contemporary problems. Prerequisite: Junior Symposium 3801. Three units.

DIVISION OF BIOLOGICAL AND HEALTH SCIENCES

Professors: Scudder (head)*, Groody, Heath, Lutt, Arthur C. Smith (chairman, Biological Sciences); Associate Professors: Cogswell, Gross, G. Peterson, Schoenholz; Assistant Professors: Armstrong, Baalman, Goldstein, Lyke, McColm, McGinnis, J. Nybakken, Parnell, Schwanzara; Instructors: Cheng, B. Nybakken.

CURRICULA OFFERED

Baccalaureate Degree Major

Biological Science (B.S.)

Minor

Biological Science

Master's Degree

A master's degree in Biological Science has been approved, effective September 1966; contact the department office for additional information; see adviser for requirements.

PURPOSES

The division offers liberal arts, applied and preprofessional programs to prepare students for graduate study and to prepare teachers for the elementary and secondary schools. Also offered are general education and service courses.

INDEPENDENT STUDY AND DIRECTED GROUP STUDY

Students with special interests not covered in the courses listed may arrange one to four units of work on an independent study basis by registering for Independent Study. Specific requirements for each independent 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.

MOSS LANDING MARINE LABORATORIES

The California State Colleges will begin year-round operation of the Moss Landing Marine Laboratories, Moss Landing, California in the fall quarter, 1966. This marine facility will function as a seaside extension of the campuses of five cooperating State Colleges (Hayward, San Jose, San Francisco, Sacramento and Fresno), and will offer full-time course work in marine biology, oceanography, and other marine sciences. The curriculum has been designed to fulfill major requirements for qualified students. Such students can plan their academic schedules to provide for one or more terms at the Moss Landing Marine Laboratories and will receive resident credit.

Interested students should make early application because of limited enrollment. Consult biology advisers for further details, or write to Director, Moss Landing Marine Laboratories; P.O. Box 223, Moss Landing, California 95039.

Additional biology courses offered on the Hayward campus will make extensive use of the Moss Landing Marine Laboratories, especially on Saturdays.

* Appointment effective January 1, 1967.

BIOLOGICAL SCIENCE MAJOR

I. Complete the 76-unit requirement in general education, which is required for all majors. Students completing this major will satisfy 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:

A. General Biological and Related Science Core	Units
Foundations of Biological Science (Biol. 1201-2-3)	15*
General Chemistry (Chem. 1101-2-3)	15
Organic Chemistry (Chem. 3301-2-3)	5-15
College Mathematics, including Basic Analysis (Math 1301)	5-10**
General Physics (Phys. 2001-2-3)	12
Genetics (Biol. 2500)	5
General Ecology (Biol. 4461-2)	3-6
Senior Seminar (Biol. 4801-2-3)	3
	63-81
B. Additional courses insuring breadth in biological science	Units
1. A course in cellular, general, bacterial, plant, or comparative animal physiology (Biol. 4600, Bot. 4400, MBiol. 3200, or Zool. 4600 qualify.)	4-5
2. An advanced course with taxonomic emphasis (Biol. 4120; Bot. 4300; Ent. 4230; Zool. 3100, 3301, 3302, 4141, 4142, 4143, 4144 qualify.)	3-5
3. An advanced course including field experience with free-living plants or animals as an integral part of the work (Biol. 4220, 4270, 4462; Bot. 4300; Ent. 4210, 4230, 4310, 4410; Nat. St. 3391, 4400; Zool. 3100, 3301, 3302, 4141, 4142, 4143, 4144 qualify.)	3-5
	10-15
C. Approved electives in biological science	
These may include a maximum of 9 units of approved courses in related sciences pertinent to the student's area of special interest (biochemistry, paleontology, etc.)	32 (9)
	105

III. Prospective candidates for the Secondary Teaching Credential 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, and (d) Sci. Ed. 5100, 3 units.

* Transfer students who have taken an introductory college course in biology, botany or zoology will be placed in the appropriate quarter of Biology 1201-2-3 to complete their background, or be exempted from it on the basis of a placement examination. More advanced transfer students may be exempt from completion of this course on the basis of advanced courses already completed.

** A course in statistics is strongly recommended for certain options in biological science and for anyone contemplating graduate work.

Recommended Program for the Biological Science Major

First Year

	Units	Fall	Wint.	Spr.
Biol. 1201—Foundations of Biological Science	5			
Chem. 1101—General Chemistry	5			
Math. 1301—Basic Analysis, or General Education	5-7			
Biol. 1202—Foundations of Biological Science	6			
Chem. 1102—General Chemistry	5			
General Education	5-7			
Biol. 1203—Foundations of Biological Science	4			
Chem. 1103—General Chemistry	5			
General Education	5-7			
		15-17	16-18	14-16

Second Year

	Units	Fall	Wint.	Spr.
Phys. 2001—General Physics	4			
Chem. 3301—Organic Chemistry	5			
Biol. 2500—Genetics	5			
General Education	3			
Phys. 2002—General Physics	4			
Organic Chemistry and/or General Education Course	9-10			
Applicable Biology Elective	3-5			
Phys. 2003—General Physics	4			
Organic Chemistry and/or General Education Course	9-10			
Applicable Biology Elective	3-5			
		17	16-19	16-19

Third Year

	Units	Fall	Wint.	Spr.
Applicable Biology Elective	3-6			
General Education and/or Elective	8-11			
Applicable Physiology Course	4-5			
Applicable Biology Elective	8-11			
General Education and/or Elective	5			
Applicable Biology Elective	8-11			
General Education and/or Elective	5-7			
		11-17	17-21	13-18

Fourth Year

	Units	Fall	Wint.	Spr.
Applicable Course with Taxonomic Emphasis	3-5			
Biol. 4801—Senior Seminar	1			
Applicable Biology Elective	7			
General Education and/or Elective	3-5			
Biol. 4802—Senior Seminar	1			
Applicable Biology Elective	6-8			
General Education and/or Elective	7-8			
Biol. 4803—Senior Seminar	1			
Applicable Biology Field Course	4-5			
Applicable Biology Elective	3-5			
General Education and/or Elective	6-9			
		14-18	14-17	14-20

DESCRIPTION OF COURSES

BIOLOGY

1000. Principles of Biology

A study of plants and animals and the modern biological concepts that apply to their structure and function on both cellular and organismal levels. Special emphasis on man and his relationships with other living things. 4 hrs. lect., 3 hrs. lab. Five units.

1201, 1202, 1203. Foundations of Biological Science

Biology 1201: Introduction to molecular and cellular biology with emphasis on the integration of structure and function in the living cell as a biological system; cellular aspects of inheritance. Prerequisite: one year of high school chemistry or concurrent registration in Chem. 1100 or 1101. 4 hrs. lect., 3 hrs. lab. Five units.

Biology 1202: Basic organismic biology with emphasis on integration of structure and function at the tissue and organ system levels in plants and animals; principles of classification and brief surveys of plant and animal kingdom to illustrate diversity. 4 hrs. lect., 6 hrs. lab. Six units.

Biology 1203: Basic environmental and population biology, including an introduction to ecological and evolutionary processes on the population level for both plants and animals. Prerequisite: Biol. 1201 and 1202 or equivalent. 3 hrs. lect., 3 hrs. lab. Four units.

2500. Genetics

The basic mechanisms of gene transmission, fundamental structure of genes and chromosomes, gene action in relationship to genetically coded information. Prerequisite: Biol. 1201, 1202, 1203 or equivalent. 5 hrs. lect. Five units.

3500. Evolution

A study of the basic genetic principles of evolution, the theory and functioning of natural selection, the origin and maintenance of species, and a survey of the evolution of major physiological and biochemical systems. Prerequisites: genetics recommended, Biol. 1201, 1202, 1203 or equivalent required. 4 hrs. lect. Four units.

4100. Microtechnique

Theory and practice in the preparation of living and fixed organisms and tissues for microscopic study, with emphasis on histochemistry. Prerequisites: Biol. 1201, 1202, 1203 or equivalent, general chemistry and one other course in the biological sciences. 2 hrs. lect., 6 hrs. lab. Four units.

4110. Biological Illustration

Instruction and practice in drawing vertebrates, invertebrates and plants, with emphasis on the biologist's needs such as microscopic and cross-section views, external and internal structure, life cycles and systems. Experience preparing maps, graphs and charts from scientific data. Prerequisite: Biol. 1000 or equivalent. 1 hr. lect., 6 hrs. lab. Three units.

4120. Introduction to Taxonomy

A study of the principles and practice of botanical and zoological classification based on the International Code of Zoological Nomenclature and the International Code of Botanical Nomenclature. Exercises on the determination of availability and validity of scientific names, use of data, evaluation of type designation and other taxonomic determinations. Prerequisite: one upper division course in vertebrates, invertebrates or plants. 1 hr. lect., 6 hrs. lab. Three units.

4220. Marine Biology

A study of local marine organisms with emphasis on structural and functional adaptations to the sea as a specialized environment. Prerequisites: one year of college biological science which includes a survey of the animal kingdom. 2 hrs. lect., 6 hrs. lab., field trips. Four 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: Biol. 1201, 1202, 1203 or equivalent, and general chemistry. 2 hrs. lect., 6 hrs. lab., field trips. 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. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect. Three units.

4461, 4462. General Ecology

Study of the relationship of plants and animals to each other and their environment. Prerequisites: Biol. 1201, 1202, 1203 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.

4500. Developmental Biology

Experimental analysis of morphogenetic processes, molecular and cellular differentiation, current theories on developmental control in microorganisms, plants and animals. Prerequisites: General Embryology and Cell Physiology, or consent of instructor. 4 hrs. lect. Four units.

4601. Cellular Physiology

Living activities of cells and tissues, including nutrition, response, growth and reproduction; unique problems in different groups of organisms. Prerequisites: Biol. 1201, 1202, 1203 or equivalent; general chemistry and organic chemistry. 3 hrs. lect., 6 hrs. lab. Five units.

4700. Cytology

Structure, physics and chemistry of components of cells; behavior of chromosomes; problems of differentiation. Prerequisites: Biol. 1201, 1202, or 1203 or equivalent and at least two quarters of upper division biological sciences. 5 hrs. lect. 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 with emphasis on theoretical and practical research as carried on in university, industrial and governmental laboratories. Prerequisite: senior standing as a biology major or permission of instructor. 1 hr. lecture-discussion and/or field trips. One unit each.

4900. Independent Study

One-four units.

6200. Desert Biology

Study, observation, collection, identification, and preservation of desert plants and animals. In addition, physiological measurements on desert insects, amphibians, reptiles and mammals, with the physical and climatic state of the environment to be recorded. Prerequisite: consent of instructor. 2 hrs. lect., 6 hrs. lab. and field trips. Four units.

6410. Wildlife Ecology

The major principles of wildlife ecology as applied in mammalian and avian game species, with practical work to include field application of some of these principles. Prerequisites: Biol. 4461, 4462 and Zool. 3100. 3 hrs. lect., 3 hrs. lab and/or field trips. Four units.

6600. Community and Ecosystem Ecology

Structure, dynamics, and distributional aspects of ecological communities and energy flow relationships in whole ecosystems. Lectures and intensive field work in selected communities, with emphasis on those of central California. Prerequisites: Biol. 4461, 4462. 2 hrs. lect., 6 hrs. field (or lab). Four units.

6700. Population Ecology

Factors affecting reproduction, age composition, turnover, density and dispersion, and their fluctuations in time among populations of animals, with brief comparisons from studies of plants. Prerequisite: Biol. 4461. Genetics, statistics, and advanced zoology courses recommended. 3 hrs. lect., 3 hrs. lab., field trips. Four units.

6810. Graduate Seminar—Ecology

A seminar in ecology, with a different theme or subject area to be chosen each quarter. Course based on papers presented by students enrolled in it. Prerequisites: graduate standing in biology and consent of instructor. 4 hrs. seminar, discussion. Three units.

6910. Thesis Research

One-nine units.

BOTANY**2000. 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 students who have completed the Biol. 1201, 1202, 1203 sequence. 3 hrs. lect., 3 hrs. lab. Four units.

3101. Morphology of the Non-vascular Plants

A comparative study of the structure, development and phylogeny of the algae, fungi, lichens and bryophytes. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., 3 hrs. lab. For 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: Biol. 1201, 1202, 1203 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: Biol. 1201, 1202, 1203 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. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., 6 hrs. lab. Five units.

4600. Economic Plants

A study of the significance of plants in the development of human culture. Prerequisites: Biol. 1000 or Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., 3 hrs. lab. and/or field trips. Four units.

4900. Independent Study

One-four units.

5100. Plant Ecology

The relationships of plants to climate, soil, and other organisms. Prerequisites: Biol. 1201, 1202, 1203 or equivalent 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: Biol. 1201, 1202, 1203 or equivalent 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: Biol. 1201, 1202, 1203 or equivalent and Bot. 3101. 3 hrs. lect., 3 hrs. lab., field trips. Four units.

6910. Thesis Research

One-nine units.

ENTOMOLOGY**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. 3 hrs. lect. 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. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 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. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 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: Biol. 1201, 1202, 1203 or equivalent. 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: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

MICROBIOLOGY**3000. Microbiology**

The general biology of major groups of microorganisms, including their morphology, metabolism, reproduction, genetics, and ecology. Prerequisites: Biol. 1201, 1202, 1203 or equivalent; general chemistry; organic chemistry. 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. Prerequisites: 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: Biol. 1201, 1202, 1203 or equivalent; 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: Microbiol. 3000; 4201 is prerequisite to 4202. 3 hrs. lect., 6 hrs. lab. Five units each.

4300. Virology

General survey of plant and animal viruses, including pathogenesis, virus-host relationships, physical and chemical characteristics. Emphasis in the laboratory on biological activities of viruses. Prerequisites: microbiology, organic chemistry. 3 hrs. lect., 6 hrs. lab. Five units.

4400. Immunology and Serology

Specific and nonspecific reactions in immunity; manifestations of antigen-antibody reactions, hypersensitivity and transplantation immunity. Prerequisites: microbiology and one year of organic chemistry. 3 hrs. lect., 6 hrs. lab. Five units.

4500. Molecular Genetics

Analysis of gene structure and theories of gene action. Information coding and transmission in genetic systems. Genetic mechanisms peculiar to microorganisms. Prerequisites: genetics, organic chemistry; microbiology recommended. 4 hrs. lect. Four units.

NATURE STUDY**3391. Nature Study**

Natural history in the field and laboratory, with topics from trees, weeds, flowers, insects, birds, mammals, reptiles and amphibians. Offered in fall and spring quarters. 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.

4400. Field Natural History

A survey of the fauna, flora and natural features of typical coast range biotic communities, followed by practice in conducting nature hikes and directing youth groups in nature activities. Prerequisite: nature study or a biology field course or permission of instructor. 2 hrs. lect., 6 hrs. lab. and/or field trips. 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 requirements in science. 2 hrs. lect., 3 hrs. lab. Three units.

5100. Science in the Secondary School (Biological Science)

Curriculum, materials, A-V techniques, content, and methods for secondary school biological science. Prerequisite: consent of instructor. 2 hrs. lect., 3 hrs. lab. Three units.

5200. Scientific Inquiry at the Elementary School Level

An approach to studying science both in the laboratory and in the field through the use of scientific inquiry. Practice in directed observation, collecting, recording and charting data and interpreting results. Emphasizes the skills of critical thinking as it relates to problem solving in elementary school science. Prerequisite: fulfillment of general education science requirements. 2 hrs. lect., 6 hrs. lab. Four units.

ZOOLOGY**2000. 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 students who have completed the Biol. 1201, 1202, 1203 sequence. 3 hrs. lect., 3 hrs. lab. Four units.

2200. Evolutionary History of the Vertebrates

A survey of the evolutionary history within the classes of vertebrates and discussion of the relationships between the classes. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., field trips. Three units.

3100. Vertebrate Natural History

The natural history of fish, amphibians, reptiles, birds and mammals, including the ecology, behavior and physiology of these forms, plus field and laboratory work in the identification and techniques of study of living vertebrates. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., 6 hrs. lab., field trips. Five units.

3301, 3302. Invertebrate Zoology

The advanced study of the anatomy, embryology, physiology, systematic relationships and evolution of invertebrate groups, excluding insects. Zool. 3301: Protozoa through Mollusca; Zool. 3302: Annelida through Echinodermata. Prerequisites: Biol. 1201, 1202, 1203 or equivalent; Zool. 3301 is a prerequisite to Zool. 3302. 2 hrs. lect., 6 hrs. lab. and/or field trips. Four units each.

3600. General Embryology

Anatomy and physiology of development, principally as exemplified by the vertebrates, including fertilization, morphogenetic movements, differentiation and organogenesis. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 3 hrs. lect., 6 hrs. lab. Five units.

3601, 3602. Anatomy and Physiology

Introduction to structure and function of human systems. Prerequisites: Biol. 1201, 1202, 1203 or equivalent; Biol. 3601 is prerequisite to Biol. 3602. 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.

4141. Herpetology

The ecology, physiology, ethology, identification and evolution of amphibians and reptiles with emphasis on western forms. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab., and/or field trips. Four units.

4142. Mammalogy

The ecology, physiology, ethology, identification and evolution of mammals with emphasis on western forms. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab., and/or field trips. Four units.

4143. Ornithology

The major adaptations and habits of birds, including sensory and behavioral limitations, flight, migration, nesting and distributional ecology; identification and taxonomy with field and laboratory practice emphasizing western U.S. forms. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

4144. Ichthyology

The ecology, physiology, ethology, identification and evolution of the fishes of California and coastal waters. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab and/or 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: Biol. 1201, 1202, 1203 or equivalent. 2 hrs. lect., 6 hrs. lab. Four units.

Biology

4600. Comparative Animal Physiology

Operation of response, nutritional and reproductive systems in animals. Comparison of unique adaptations to specialized environments. Prerequisites: Biol. 1201, 1202, 1203 or equivalent; cellular physiology, organic chemistry. 3 hrs. lect., 3 hrs. lab. Four units.

4900. Independent Study

One-four units.

6210. Analysis of Vertebrate Faunas

Intensive study of the vertebrates of selected regions, chiefly of western North America. Training in collection and preparation of specimens, in the accurate recording of habitat and behavioral information, and in the discovery of pertinent evolutionary histories. Prerequisites: Biol. 4461-4462 and two upper division courses in the vertebrate series. 1 hr. lect., 9 hrs. field and lab. Four units.

6400. 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. Prerequisites: Biol. 1201, 1202, 1203 or equivalent. General ecology and psychology recommended. 4 hrs. lect., 3 hrs. lab or field trips. Five units.

6410. Physiological Ecology

Topics concerned with the adaptation of an organism to its environment: Osmoregulation and water balance, oxygen intake in different habitats, metabolism and the environment, environmental adaptation of various sense organs, special sensory modalities, cyclic reproductive physiology and its adaptive significance, physiological stress and its role in population control, and thermal physiology and ecology. Laboratories concerned with student projects within this area of study. Prerequisites: invertebrate zoology (Zool. 3301, 3302), one course in the vertebrate series. 2 hrs. lect., 6 hrs. lab., field trips. Four units.

6810. Graduate Seminar—Vertebrate Zoology

A seminar in vertebrate zoology, with a different theme or subject area to be chosen each quarter. Course based on papers presented by the students enrolled in it. Prerequisites: graduate standing in biology or senior standing and consent of instructor. 4 hrs. seminar, discussion. Three units.

6910. Thesis Research

One-nine units.

DIVISION OF BUSINESS AND ECONOMICS

Departments: Economics, Management Sciences, Marketing

Professors: Ashley (acting division head) (chairman, Department of Economics), Allison (chairman, Department of Marketing), Jay, Kwang, Mayer, Salera, Strasburg (chairman, Department of Management Sciences), Wren; Associate Professors: Morehouse, Ozaki; Assistant Professors: Elliott, Finney, Hoffman, Inberg, Jensen, Khouja, Madrid, Sims; Lecturer: Nordstrom.

CURRICULA OFFERED

Baccalaureate Degree Majors

Business Administration (B.S.)
Business Education (B.S.)
Economics (B.A.)

Minor

Business Education

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. Students in the lower division should note that several upper-division business administration courses have specific mathematics prerequisites.

Major Requirements

The student's "major" consists of the core requirements plus one of the fields of concentration (accounting, management sciences, 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. 3001. Micro-Economic Analysis	4
Econ. 3005. Macro-Economic Analysis	4

Business Administration

	<i>Units</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 (except Management majors)	4
Bus. 3680. Industrial Relations	4
Bus. 4300. Business Finance	4
Total	40

Fields of Concentration

Accounting

Core requirements (all except Bus. 3200): 36 units.
The concentration:

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

Management Sciences

Core requirements (all except Bus. 3600): 36 units.
The concentrations:

Production and Operations Management: Bus. 3620, 3640, 3690, 4630, and 4650.
Personnel and Industrial Relations: Bus. 3611, 3612, Psych. 3710, Bus. 4630, and 4650.

Marketing

Core requirements (all ten courses): 40 units.
The concentration:

- (1) Choice of two from Bus. 3410, 3420, 3430, and 4440.
- (2) Bus. 4400.
- (3) Bus. 4450 or adviser-approved elective.

Illustrative Program, Business Administration

Freshman Year

Stat. 1000—Elements of Probability and Statistics
Other General Education 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.

Psych. 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. 3001—Micro-Economic Analysis

Business Education

Econ. 3005—Macro-Economic Analysis
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
Sr. Sym. 4801—Senior Symposium
—Two or three concentration courses
—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. 1000—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 in 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. 3001-2, 3005, 3100, 3310, 3680, 4100, 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, 3370, 4110, 4312, 4510, and Bus. 4500.

DESCRIPTION OF COURSES**BUSINESS ADMINISTRATION****Accounting****2251, 2252. Principles of Accounting**

An introduction to accounting analysis and practice. Courses are sequential. Prerequisite: sophomore standing. 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 Sciences**3600. Principles of Management**

Introduction to business organization and management practices; interrelationships of complex human, technical, and economic factors in administration of business. Not accepted as a course in the management field of concentration. Four units.

3611, 3612. Personnel Management and Human Relations

Principles and methods of personnel work; utilization of human resources within the organization; employee recruitment, selection, training, promotion, transfer, and wage and salary administration. Emphasis on developments in the behavioral sciences. Four units each.

3620. Introduction to Production Operations

An analysis of production operations in manufacturing and service enterprises. Facilities investment analysis; production line design; materials handling and transportation. Includes field problems. Prerequisites: Math. 1301 and Stat. 1000. Four units.

3640. Production Systems

Production efficiency, quality assurance, procurement operations, inventory control, nature of production planning and control, and line mechanization. Includes field problems. Prerequisite: Bus. 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. An introduction to the use of operations research techniques in the decision making function of the manager. Prerequisites: Math. 1302, Stat. 1000, and Econ. 3001. Recommended: Bus. 3620, Bus. 3640, and Math. 3120. Four units.

4600. Technological Innovation and Research Management

An analysis of the process of innovation and its effects on the enterprise, business, and society. The functions of planning, organizing, staffing, and evaluating an industrial research and engineering development program. Prerequisites: Bus. 3600 and 4300. Four units.

4630. Organization Theory

A study of classical and modern organization theory. Human behavior in organizations and successful leadership patterns. Prerequisites: Bus. 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. 3400, 4300 and 4500. 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 (1) the analytical problems of selling goods and services and (2) 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. 3001. 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. 3001. 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. 3001. Some calculus and matrix algebra are 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. 1000. 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. 3001 and 3005. 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. 3001. 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**2301. Principles of Economics I**

Basic economic concepts; introductory analysis of the determination of prices and output in different market structures; public policy. Prerequisite: sophomore standing. Four units.

2302. Principles of Economics II

Introductory analysis of the determination of national income and employment; money and banking; fiscal policy. Prerequisite: Econ. 2301 or equivalent. Four units.

3001, 3002. Micro-Economic Analysis I-II

Functioning of the free price system; allocation of resources; income distribution; structure of industry; international economics; public policy. Prerequisite: Econ. 2301 or equivalent. Four units each.

3005. Macro-Economic Analysis

Measurement and analysis of national income and employment; general price level; stabilization and growth. Prerequisite: Econ. 2302 or equivalent. 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. 1000. 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.

3160. Economic History of Europe

Forces involved in emergence of modern economic systems. General economic systems. General economic development of Europe from the 16th century to the present. Prerequisite: Econ. 2301 or equivalent. Four units.

Economics

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. Prerequisite: Econ. 2302. Four units.

3370. Public Finance

Fiscal theory and policy and the incidence of taxation. Prerequisite: Econ. 3001. 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.

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; analysis of principal explanations of 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. Prerequisite: Econ. 2301 or equivalent. Four units.

4520. Industrial Organization and Public Policy

Factors determining industrial organization and economic behavior; operation of antitrust laws; public regulation. Prerequisite: Econ. 2301 or equivalent. Four units.

DIVISION OF CREATIVE ARTS

DEPARTMENTS: Art, Music, Speech and Drama

Professors: Ernst (head and chairman, Department of Music), Kjelson, Martin (chairman Department of Speech-Drama), Randall (on leave), Robinson; Associate Professors: Barrett, Black, Cambus, Cory, Davis, Glasow, Minser, Muir, Pugliese (chairman, Department of Art), Saltzer, Slatoff, Toms, Whelan; Assistant Professors: Costy, Dempster, Denke, Eberhard, Fay, Fox, Gloe, Goeser, Graves, Gray, J. Hall, Hills, Kingsbury, LePell, Lewis, Lincoln, Loeks, McCauley, Myers, B. Robinson, Saxton, Stern, West, White; Instructors: Carson, Penrose, Shoptaugh, Tuttle.

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 requirements in section, *Curricula and Degrees*. Four units.

ART MAJOR

Requirements

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

Units

Six courses or their equivalents are prerequisite for upper-division art courses—Art 1010, Introduction to Art History (4); Art 1110, Introduction to Art (3); Art 1120, Design—Two Dimensional (3); Art 1130, Design—Three Dimensional (3); and Art 2141-2 (3 each). 19

Upper Division

Minimum of 3 units in 5 of the following areas: (a) Painting, (b) Graphics, (c) Sculpture, (d) Crafts, (e) Advertising Arts, (f) Art Education 15

Portfolio of work completed in other institutions may be submitted by transfer students for possible upper division placement; a portfolio and senior exhibit will be required of graduating students.

Art electives with adviser's approval. Those planning a teaching career will need approval of Education Department adviser. 20

Three elective units in each of Speech-Drama and Music 6

Total 60

III. For credential purposes concerning the major and minor in art 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), and (c) the requirements for a teaching minor (see minor adviser). Approval of education adviser and advisers for major and minor study is necessary.

ART MINOR

Requirements

See art adviser for approval.

A minimum of 30 units in courses selected in general areas of art. Of these, 19 units must be from the six required lower division courses listed above for the art major. It is recommended that the remainder include courses from the areas of design, art history, appreciation, drawing, painting, crafts or jewelry, ceramics or sculpture.

Recommended Sequence of Art Courses for Four-year Baccalaureate Program

First Year

	Units		
	Fall	Wint.	Spr.
Introduction to Art. Art 1110	3		
Design—Two Dimensional. Art 1120		3	
Design—Three Dimensional. Art 1130			3
Introduction to Art History. Art 1010	4		

		Units	
	Fall	Wint.	Spr.
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		3	
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	

Suggested Art Courses for the Art Major [‡]

The following are suggested upper division art courses available to the professional art major,* the art minor, and the teaching credential candidate for completion of credits toward their respective goals. A combination of courses totaling 35 units and spread over a minimum of five areas of study will satisfy the upper level requirements for an art major. For information about the credential programs for majors and minors, see Division of Education.

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)
 Art 3161 Life Drawing and Anatomy (3)
 Art 3162 Life Modeling and Anatomy (3)
 Art 3211-12-13 Painting (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)
 Art 4231-32 Painting: Water Media (3-3)
 Art 4121-22 Jewelry (3-3)
 Art 4531-32-33 Sculpture (3-3-3)

*See adviser for additional art courses.

[‡]One who takes courses preparatory for advanced professional work and graduate study.

Art 4611-12 Printmaking (3-3)
 Art 4630 Calligraphy (3)
 Art 4651-52 Advertising Design (3-3)
 Art 4681-82 Advanced Studio Practices (2-4 each)
 Art 4800 Art in Contemporary Soc. (4)
 Art 5350 Art Methods (3)
 Art 5900 Individual Study (2-5)
 Art 5901 Directed Group Study (1-5)

DESCRIPTION OF COURSES

ART

1010. Introduction to the History of Art

An examination of style in the visual arts and factors which influence the nature of art in selected salient periods of art history. Approved elective for Humanities Division. Four units.

1110. Introduction to Art

Investigation of the 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. Three units each.

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. Fulfills General Education requirements, Humanities Division only. Three units.

3050. Medieval Art

The nature of European art from early Christian times to the fifteenth century. Fulfills General Education requirements, Humanities Division only. Three units.

3060. Renaissance and Baroque Art

The nature of the art of the Renaissance and the evolution of the Baroque. Fulfills General Education requirements, Humanities Division only. Three units.

3070. Development of Modern Art

A survey of the evolution of contemporary art; philosophies of the "isms"; development of American art. Fulfills General Education requirements, Humanities Division only. Three units.

3161. Life Drawing and Anatomy

A development of graphic representation through study of human form. Problems dealing with anatomy and form, emphasizing the skeletal structure. Prerequisite: sophomore standing. 2 hrs. lect., 4 hrs. lab. Three units.

3162. Life Modeling and Anatomy

A development of graphic representation through study of the human form. Problems dealing with anatomy, 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 each.

3310. Art Experiences for Young Children

Relationship of art experience for young children in intellectual, social and emotional growth through communication and self-expression in varied art media. Emphasis on use of materials and expressive skills designed to encourage and understand the creative expression of young children. 1 hr. lect., 4 hrs. act. Three units.

3320. Arts and Crafts for Children

Introduction to art materials, tools and equipment necessary in providing art experiences for children. 1 hr. lect., 4 hrs. act. Three units.

3511, 3512, 3513. Ceramics

Development of individual abilities in the various ceramic art processes. 1 hr. lect., 6 hrs. lab. Courses are sequential. Three units each.

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 each.

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 each.

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 each.

4531, 4532, 4533. Sculpture

Basic techniques and processes involving clay, wood, stone, plaster, and metal. Approval of staff. Prerequisite: Art 1130. 1 hr. lect., 6 hrs. lab. Three units each.

4611, 4612. Printmaking

Introduction to printmaking processes, serigraphy, lithography, intaglio. Prerequisite: Art 1120 or approval of staff. 1 hr. lect., 4 hrs. act. Three units each.

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

Study of graphic motivation and design as applied to advertising, with emphasis on production techniques. Prerequisite: Art 4630 or approval of staff. 1 hr. lect., 4 hrs. act. Three units each.

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 each.

4800. The Arts in Contemporary Society

Four units. (See course description under Creative Arts listing.)

4900. Individual Study
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. Audiovisual 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.

MUSIC MAJOR

Requirements:

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. 2112—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

Upper Division

THEORY, HISTORY, AND LITERATURE		Units
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

¹ May be met by examination.

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

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.

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

Upper Division

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

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.

Music**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.)

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

**Recommended Sequence of Music Courses for
Four-year Baccalaureate Program**

	<i>Units</i>		
	<i>Fall</i>	<i>Wint.</i>	<i>Spr.</i>
First Year			
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		
* 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		

* Required only of credential candidates.

Music

Second Year
Literature and Materials I, Mus. 2021

	<i>Units</i>	<i>Fall</i>	<i>Wint.</i>	<i>Spr.</i>
* 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		
* 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		

* Required only of credential candidates.

† Required only of liberal arts majors.

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 4800	
Music Theory	6
Any combination of music theory courses for which the student is eligible	
Conducting (Mus. 3391)	3
¹ Piano, voice, and basic orchestral instruments	9
² Music activities	9
³ Music electives, with approval of adviser	9
⁴ Major instrument or voice (no unit credit)	—
	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, as partial fulfillment of this requirement, one course such as:

Mus. 5161—History of the Symphony

Mus. 5171—History of Chamber Music

Mus. 5131—History of Keyboard Music

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.

Requirements for 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.

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. Minors are limited to a maximum of 3 units of individual applied music instruction. Additional units must be approved by the appropriate instructor and the department chairman.

³ With approval of the adviser.

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

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 grade point average 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 or 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 adviser)	9 units
Introduction to graduate studies	3 units
Thesis	6 units
Ensemble participation (no unit credits)	—

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

Courses 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. 3 quarters. Three units each.

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

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. Three 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.

6051. Advanced Instrumentation

An advanced course in orchestral and band arranging; emphasis 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. Fulfils creative arts portion of general education requirements. 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

Three units each quarter. (For description, see music 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. 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.

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.

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. (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)

One unit each.

2241, 2242. Basic Orchestral Instruments (woodwind)

One unit each.

2251, 2252. Basic Orchestral Instruments (brass)

One unit each.

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. May be repeated for credit. One unit.

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. May be repeated for credit. One unit each.

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. One unit each.

1. Chorus
2. Orchestra
3. Band
4. College Singers

5. Opera Workshop
6. Instrumental Ensemble
7. Composition Workshop
8. Chamber Chorale

5500. Music Performance Activities

One unit. (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. 1 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. 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.

Speech-Drama**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. (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.

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, interdivisional major program for the *Elementary Education Credential*; (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. Candidates for the *Teaching Credential in Elementary Education* may take the speech/drama major, consisting of at least 36 upper-division units in the department. A recommended program for the elementary credential candidate is found in this section. This candidate must also: (a) complete requirements for admission to teacher education (see Division of Education section); (b) take Speech/Drama 4355, Teaching of Speech and Dramatics; (c) complete the requirements for a teaching minor; and (d) if a transfer candidate, take at least one course (more by advisement) in the department.
- IV. Candidates for the *Teaching Credential in Secondary Education* 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**SPEECH-DRAMA PROGRAM: APPROVED FOR ELEMENTARY CREDENTIAL**

	Units
<i>First Year</i>	
Oral and Written Expression I, 1001	3
Oral and Written Expression II, 1002	3
Fundamentals of Speech, 1007	3
<i>Second Year</i>	
Introduction to Theater, 1010	5
Interpretative Reading, 2310	4
Argumentation and Debate, 2411	5
<i>Third Year</i>	
Fundamentals of Play Production, 2110	5
Introduction to Radio and Television, 3310	4
Public and Group Discussion, 3510	5
Voice and Speech Improvement, 3410	4
<i>Fourth Year</i>	
Children's Theater, 4650	3
Creative Dramatics, 3650	3
Speech Development in the Classroom, 4610	3

THEATER EMPHASIS: APPROVED FOR SECONDARY CREDENTIAL

	Units		
	Fall	Wint.	Spr.
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	
Scene Design, 4420			4
Speech/Drama Workshop, 4180	2	2	2

RHETORIC AND PUBLIC ADDRESS EMPHASIS: APPROVED FOR SECONDARY CREDENTIAL

	Units		
	Fall	Wint.	Spr.
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

- Elementary credential candidates:* Enroll in a program leading to a minor in speech and drama. Such a program will include a minimum of 30 units in both speech and drama, selected by advisement with a department adviser.
- Secondary credential candidates:* Enroll in a program leading to a minor in speech or drama, either but not both. Such a program will include a minimum of 30 units of approved courses in either speech or drama.

DESCRIPTION OF COURSES

GENERAL SPEECH-DRAMA

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. Prerequisite for Sp/Dr 1002: Sp/Dr 1001 or equivalent. 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.

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.

3410. Voice and Speech Improvement

Improvement in voice and articulation through lecture, discussion and drill. Designed for majors, teachers, and students who have minor speech and voice problems. 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. One-three units. Six units maximum.

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.

* Designed to meet the general education 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.

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) requirement in general education. 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 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. Fulfils creative arts requirement in general education. Three units.

4420. Scene Design

Study and practice in scenic design through the use of various techniques and media, stressing the importance of line, mass, color, lighting and form. Actual experience in theater design. Prerequisite: Sp/Dr 3916 or consent of instructor. Four units.

4422. Costume Design

Study in the history of costume, with concentration on the design of costumes for the stage in each era and on the construction of such costumes for modern duplication, utilizing designs and patterns created by the students. Prerequisite: Sp/Dr 2110 or consent of instructor. Four 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.

4450. Contemporary Public Address

Investigations of the use of speechmaking in public affairs today. Students engage in analysis of contemporary speaking by representative figures in politics, education, religion, law and business. 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

Departments: Teacher Education, Counseling and Pupil Personnel, Health and Physical Education, Recreation, and School Administration and Supervision.

Professors: Barclay, G. Brown (chairman, Department of Teacher Education), Burnett (head and chairman, Department of School Administration and Supervision), Carlson, Comer, Hall, Joyal, Lawrence, Lepore, Lutt, Marsh, Morford (chairman, Department of Health and Physical Education), McHugh (on leave), Neilson, Niepold (chairman, Department of Recreation), Pederson, Peters, Sabath, Schunoff, Shriner, Soldahl, Vandenburg, White (chairman, Department of Counseling and Pupil Personnel); Associate Professors: D. Brown, Clark, Davies, Hancock, Hendrickson, T. Jones, W. Jones, R. Martin, M. Martin, Mathews, Parker, Price, Seavey, Whitehorn, Williams, Worland (on leave, winter and spring quarters) Yeager, Zeitlin; Assistant Professors: Albaugh, Belgum, Brock, C. Brown, Cheney, Davidson, Forbes, Graw, Groves, Hebler, Hergert, Hudson, Larson, Lazowick, Mennet, Railton, Rivenes, Rogers, Segal, Silverman, A. H. Smith, Spencer, Sprague, Stone, Wall, Weir; Lecturer: Zahn; Instructor: Davis.

CURRICULA OFFERED *

Baccalaureate Degrees Offered

Majors

Early Childhood Education (B.S.)

Physical Education (B.S.)

Recreation (B.S.)

Minors

Physical Education (B.S.)

Recreation (B.S.)

Graduate Degrees Offered

Master of Science in Education

Areas of Specialization: School Administration and Supervision of Reading
Counseling and Pupil Personnel

Master of Science in Physical Education

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 in the 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 specialized work in health and physical education, pupil personnel services, and supervision and school administration.

* Descriptions of programs and courses in this division are given by department.

IMPORTANT NOTICE

Recent legislation has mandated modifications in the Elementary and Secondary Credential programs. The nature of these changes has not been completely determined when this catalog went to press. New students in Education Credential programs should check with an adviser or the Teacher Education Department Office for copies of the modified programs.

CREDENTIAL PROGRAMS

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.)

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 May 1966.)

A program leading to the Standard Teaching Credential with Specialization in Junior College Teaching. (Accreditation pending as of May 1966.)

A program leading to the Standard Designated Services Credential with a Specialization in Pupil Personnel Services. (Accreditation pending as of May 1966.)

A program leading to the Standard Supervision Credential. (Accreditation pending as of May 1966.)

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 may enroll in Education 4021 and the appropriate public school laboratory.

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 to 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 admission to professional coursework and preliminary candidacy has been filed with the Credentials Office of the Department of Teacher Education along with transcripts of all college work.

**DEADLINES FOR FILING OF APPLICATION AND TRANSCRIPTS
IN CREDENTIALS OFFICE**

For preliminary candidacy in Summer Quarter, 1966:

June 18, 1966

For preliminary candidacy in Fall Quarter, 1966:

September 10, 1966. No beginning students will be admitted to the preliminary candidacy stage in winter, 1967; prerequisite coursework will be available.

For preliminary candidacy in Spring Quarter, 1967:

March 4, 1967

- Preliminary programming interview with education adviser (and, for secondary and junior college credential candidates, with an adviser in the teaching major and teaching minor departments). These interviews can be arranged through the Credentials Office.
- Successful completion of interviews and selected examinations on one of the following dates:

For preliminary candidacy for Summer Quarter, 1966:

Saturday, June 18, 8:30 a.m.-12 noon; 1 p.m.-4 p.m.

For preliminary candidacy for Fall Quarter, 1966:

Saturday, July 23, 8:30 a.m.-12 noon; 1 p.m.-4 p.m. or

Saturday, September 10, 8:30 a.m.-12 noon; 1 p.m.-4 p.m.

For preliminary candidacy for Spring Quarter, 1967:

Saturday, November 19, 8:30 a.m.-12 noon; 1 p.m.-4 p.m. or

Saturday, March 4, 8:30 a.m.-12 noon; 1 p.m.-4 p.m.

- e. The candidate must have earned a "C" average throughout his previous college work in order to be eligible for preliminary candidacy.
- f. 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.

Deadlines for applications for student teaching phase I or II (full candidacy):

For Fall Quarter 1966: June 30, 1966

For Winter Quarter 1967: November 23, 1966

For Spring Quarter 1967: February 17, 1967

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 conditions; 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 EARLY CHILDHOOD EDUCATION PROGRAM

Early childhood education is an interdisciplinary major drawing courses from the social and behavioral sciences, creative arts, health education and education, and is offered in the Department of Teacher Education. This program leads to a Bachelor of Science Degree in Early Childhood Education. The purpose of this program is to prepare students for work with young children in nursery schools, children's centers and residential institutions. The degree may serve as a foundation upon which to build the necessary requirements for admission to candidacy in the Standard Elementary Credential program.

Students pursuing this degree must plan their program with an early childhood education adviser to assure proper selection of courses.

Requirements for the Degree of Bachelor of Science in Childhood Education

1. GENERAL EDUCATION

Complete the college requirements in general education, stated in the section, *Curricula and Degrees*.

2. MAJOR REQUIREMENTS

Soc. and Behav. Sciences	Units	Totals
Anth. 4420. Cross Cultural Studies in Child Rearing Practices	4	
Soc. 2010. Social Problems	4	
Soc. 3410. Sociology of the Family	4	
Soc. 4450. Urban Sociology	4	
Psych. 2010. General Psych. II	4	
	—	20

(Anth. 1000 or 2300, Soc. 2000, Soc. 2400, and Psych. 2000 are prerequisites to the listed courses of the major.)

Creative Arts

Art 3310. Art Experiences for Young Children	3
Health Education	3

Health Education

Health 4500. Health Appraisal and Guidance Educ.	3
Educ. 3010. Principles of Early Childhood Education	4
Educ. 3060. Practicum in Early Childhood Education I	1
Educ. 4021. Child Growth and Development	3
Educ. 4061. Practicum in Early Childhood Education II	1
Educ. 4161. Practicum in Early Childhood Education III	2
Educ. 4221. Learning in Education for Early Childhood	4
Educ. 4231. Language Development and Introduction to Reading	4
Educ. 4262. Practicum in Early Childhood Education IV	2
Educ. 4390. Teaching the Culturally Different	4
	—
	25

Students select one additional course from each block:

Electives

Soc. and Behav. Science—Block I	
Soc. 4460. Social Stratification	4
Soc. 4520. Minority Groups	4
Anthro. 3400. Social Anthro.	4
Creative Arts—Block II	
Sp/Dr 3650. Creative Dramatics	3
Sp/Dr 4650. Children's Theater	3
Art 3320. Arts and Crafts for Children	3
Mus. 4100. Music Literature for Children	3
Education—Block III	
Educ. 4510. Administering the Nursery School	4
Educ. 5240. Children's Literature	3
	—
GRAND TOTAL	10-11
	61-62

II. THE ELEMENTARY TEACHER EDUCATION PROGRAM

The Department of Teacher Education offers a program at the graduate level which includes the State requirements for the Standard Teaching Credential with a Specialization in Elementary Teaching.

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 including a teaching major and general education curricula 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:

The professional education courses are taken post-baccalaureate, except for a course in Child Growth and Development and a public school laboratory experience, which may be taken as undergraduate electives upon approval of an education adviser. 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 baccalaureate majors in art, music, speech and drama, physical education, English, geography, history, French, Spanish, biological science, physical science, mathematics, social science, and political science.

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 catalog 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. The Teaching Minor:

A teaching minor is not required of Elementary Credential candidates if the major is in an academic subject area commonly taught in the public elementary schools (See 2 above for an approved list of majors). If the major is not commonly taught in the public elementary schools, two minors in subject areas commonly taught in the public elementary schools are required. For undergraduates, these minor programs may be found outlined either in this catalog 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

It is necessary to show 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 4½ 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 (including satisfactory completion of the statutory requirements in U.S. Constitution); science; and psychology. Verification of experience with children either in a community youth-service agency or a school laboratory program is necessary.

5. Professional Education Requirements

	Units
Math 4020. Teaching Mathematics in Elementary Schools	3
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	3
Ed. 5811. Language Arts in Elementary School	3
Ed. 5821. Social Studies in Elementary School	3
Ed. 5831. Reading in Elementary School (Corequisite: Public School Lab II or Student Teaching)	3
Ed. 5250. Teaching Resources in the School (Corequisite: Public School Lab II or Student Teaching)	2
Ed. 5262. Public School Lab II	1-3
Ed. 5601. Student Teaching in Elementary School I	4
Ed. 5602. Student Teaching in Elementary School II	5
Ed. 5603. Student Teaching Seminar	2
Electives:	
Group 1. At least one course taken by advisement from the following	3-4
Ed. 5210. Improving Language Arts in the Elementary Schools.	
Ed. 5220. Improving Social Studies in the Elementary Schools.	
Ed. 5240. Children's Literature.	
Ed. 5241. Literature for Adolescents.	
Ed. 5281. Curriculum Planning in the Nursery School, Kindergarten and Primary Grade.	
Ed. 5700. Teaching the Gifted.	
Group 2. Students majoring or minoring in art, music, science, or physical education must take one of the following	3
Mus. Ed. 5330. Music in the Elem. School.	
P.E. 4200. Methods and Materials in Health and P.E.	
Sc. Ed. 4020. Science in the Elem. School.	
Art 3320. Arts and Crafts for Children.	
Group 3. Additional electives to complete the requirement of a post-baccalaureate year	3-9

III. THE SECONDARY TEACHER EDUCATION PROGRAM

The Department of Teacher Education offers a professional graduate program which leads to the Standard Teaching Credential with a Specialization in Secondary Teaching.

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 adviser 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 catalog, *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 field 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.

The following are specific course requirements for the 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
Electives	4
Minimum post-baccalaureate units required	45

IV. THE JUNIOR COLLEGE EDUCATION PROGRAM

The Department of Teacher Education offers a professional graduate program which leads to a Standard Teaching Credential with a Specialization in Junior College Teaching. Applicants for preliminary acceptance and full acceptance into the junior college program must have completed the steps outlined in the prior section of this catalog, *Admission to the Teacher Education Program*.

1. General Requirements

Meet graduate admissions standards of the college. Hold a post graduate degree from an approved institution.

2. Minimum Teaching Major and Teaching Minor Requirements

The teaching major consists of a post graduate degree secured from an approved institution. The teaching minor consists of 20 semester hours of course work in a single subject area (when the major is not in an academic subject, 12 semester hours must be completed at upper division or graduate level). An interdepartmental minor consists of 20 semester hours, of which 12 are upper division semester hours in one department.

3. The Professional Graduate Junior College Program

General prerequisite: A master's degree, doctor's degree, or other post graduate degree approved by the State Board of Education requiring not less than five years, or its equivalent, of college or university education secured in an approved institution. The degree shall be in a subject matter area.

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

Requirements: Ed. 6001, The American Junior College in Higher Education Student teaching. Five units.

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, 1965, included:

Alamo Elementary School District
Amador Valley Joint Union High School District
Acalanes Union High School District
Alameda County Schools Office (Special Schools)
Alviso Elementary School District
Castro Valley Unified School District
Decoto Elementary School District
Emery Unified School District
Fremont Unified School District
Hayward Unified School District
Livermore Elementary School District
Livermore Joint Union High School District
Martinez Unified School District
Milpitas Elementary School District
Moreland Elementary School District
Mt. Diablo Unified School District
Newark Unified School District
New Haven Unified School District
Oakland Unified School District
Pittsburg Unified School District
Pleasanton Joint Elementary 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

DESCRIPTION OF COURSES

EDUCATION

3010. Principles of Early Childhood Education

Evolution of programs and philosophic positions guiding the establishment of educational group settings for young children. Exploration of the various patterns of pre-schools and kindergartens in the U.S. The personalities and forces influencing early childhood education. Concurrent registration with Ed. 3060. Four units.

3060. Practicum in Early Childhood Education I

Supervised school laboratory experience (in conjunction with Ed. 3010). One unit.

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 and Ed. 3060. (Early childhood education majors must enroll concurrently in Ed. 4161.) Lect. 3 hours. Three units.

4061. Practicum in Early Childhood Education II

Supervised experience in agencies and schools serving young children. (To be taken with Ed. 4021 by early childhood education majors). One unit.

Education**4161. Practicum in Early Childhood Education III**

Supervised public school laboratory experience. In conjunction with Ed. 4221. Two units.

4221. Learning in Education for Early Childhood

Analysis of factors contributing to program development for young children. Planning appropriate learning experiences, equipment and materials. Survey of teaching roles in guiding young children in educative group settings. Prerequisites: Ed. 3010 and Ed. 4021 or equivalent. Concurrent registration with Ed. 4161. Four units.

4231. Language Development and Introduction to Reading

Factors influencing growth and elaboration of language development in young children. Skills, techniques, methods, and materials for enhancing language and introducing pre-reading experiences and formal reading instruction. Prerequisite: Ed. 4221. Concurrent registration with Ed. 4262. Four units.

4262. Practicum in Early Childhood Education IV

Supervised public school laboratory experience, in conjunction with Ed. 4231. Two units.

4390. Teaching the Culturally Different

Understanding problems of language development, acculturation, community life, and motivation of children from socially and educationally impoverished backgrounds. Introducing innovation and modification of classroom organization and management to increase adaptation to school demands. Prerequisites: Ed. 3010, Ed. 4021, Ed. 4221 or consent of instructor. Four units.

4510. Principles of Administering Nursery Schools

Principles guiding practices in administration and supervision. Patterns of nursery school organization. Problems of staff development, personnel practices, interpretation of school programs to parents and community. Policies governing management of records, purchasing equipment and supplies and general practices. Prerequisites: Ed. 4221 or consent of instructor. Four 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.

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.

5200. 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.

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 audiovisual 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. Audiovisual Methods and Materials

Selection, utilization and evaluation of audiovisual methods and materials in the teaching-learning process; operation of audio-visual equipment. (Fulfills credential requirement. No credit for students with prior audiovisual 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.

5261, 5262, 5263. Public School Lab I, II, III

Three hours supervised participation in public schools and/or youth agencies for each unit of credit. Concurrent registrations as required with specific courses. For early childhood majors, concurrent registration in Ed. 4231 is required. Lab. I, one unit; Lab. II, two units; Lab. III, one-two 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.

5601, 5602. Student Teaching in the Elementary School, Phase I, 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. The student teaching sequence will cover two quarters.) Phase I, four units. Phase II, five units.

5651, 5652. Student Teaching in the Secondary School, Phase I, 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. The student teaching sequence will cover two quarters.) Phase I, four units. Phase II, five units.

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.

5800. 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.

6001. The American Junior College in Higher Education

An overview of the community college movement in America. History of junior colleges in higher education, presentation of learning theories, and instructional procedures appropriate to the diverse student bodies and curriculum of the junior college. Pre-student teaching experiences, observation of and participation in classroom activities in a variety of junior colleges. 3 lecture, 2 lab. Five 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.

6700. Advanced Education Psychology

(See Psychology Department for course description.) Four units.

6900. Individual Study

Two-four units.

6901. Group Study

Two-four units.

Subject Area Methods Courses—See appropriate division.

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.

Persons earning or holding a Designated Services Credential who wish to qualify themselves to become directors of guidance (or fill similar supervisory positions in pupil personnel) may do so by completing the requirements of the Supervision Credential. This program is offered by the College in conjunction with the Department of School Administration and Supervision from which some course work will be taken.

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. Adviser approval is required for all courses numbered in the 6000 series.

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, Psych. 4410, and Psych. 4610. Supporting recommendations from faculty members of the department will be required. Any required standardized testing will also be completed prior to advancement to candidacy.

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 approximately one week before the opening registration date (See class schedules for exact dates), provided the student presents an official transcript meeting the requirements previously stated. To avoid delay, however, students are encouraged to seek admission earlier.

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. It is recommended that the tests and interview be completed 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, supported by 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. Most field placements begin in the fall quarter and run through the year.

**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).]

Counseling, Pupil Personnel

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 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 6402b regarding explanation of the credit and experience substitution possibilities.)
 - (b) Applicant *without* teaching experience will complete Course Groups 1, 2, and 3, except that they may substitute electives for Psych. 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) 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)

Counseling, Pupil Personnel

- (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 (2-6)
- Coun. 6620. Pupil Personnel Seminar (2)
- Coun. 6661. Field Work in Pupil Personnel Services (2) or 6770 Pupil Personnel Internship (2-6)
- 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
* Psych. 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)
- Psych. 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)

* Refer to 2. (a) and (b) in the preceding text.

Counseling, Pupil Personnel

MASTER OF SCIENCE IN EDUCATION CONCENTRATION IN PUPIL PERSONNEL

The program consists of three parts:

General Professional Education

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

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

A Thesis

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.
4. All work toward the master's degree program must be completed within the seven years immediately preceding 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
Psych. 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	4
Coun. 6735. Educational and Vocational Planning	3-4
Coun. 6750. Counseling Theory	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	2-6

Thesis

Electives are arranged 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, Pupil Personnel

Supervision Credential (Pupil Personnel)

The Cal-State program to meet the requirements for this credential is listed below. A full statement of the credential regulations may be found in Sections 6550-6555 inclusive, Article I, Group 9 of the California Certification Requirements.

- (a) Master of Science in Education with Specialization in Pupil Personnel is deemed to meet this requirement in the same way as with the basic credential.
- (b) Completion of General Pupil Personnel Services Credential or Designated Services Credential with a Specialization in Pupil Personnel.
- (c) Completion of five years experience as a teacher, pupil personnel, health, or library worker in the public elementary or secondary schools or private schools of equivalent status.
- (d) Completion of an internship in supervision, plus 6 elective hours.
Completion of Coun. 6990—Supervision Internship (12)

Or

Completion of 18 quarter hours of professional education including:

1. SAS 6000—Leadership and School Organization (4)
2. Coun. 5570—Organization and Administration of Pupil Personnel Services (4)
Coun. 6670—Supervision of Pupil Personnel Services (4)
Coun. 6915, 6920, 6930—Supervision Seminar (2-2-2)
3. Coun. 6960, 6961, 6962—Supervision Field Work (2-2-2)

COURSE DESCRIPTIONS

COUNSELING AND PUPIL PERSONNEL

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. 3 hrs. lect., 3 hrs. lab. Four units.

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

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. 3 hrs. lect., 3 hrs. lab. Four units.

Counseling, Pupil Personnel

6610, 6620, 6630. Pupil Personnel Seminar I, II, III

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 I, II, III

Supervised field work in pupil personnel services in an organized program for the various specializations for the Pupil Personnel Services Credential. Prerequisite: approval of department, advance application, concurrent registration in 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. 3 hrs. lect., 3 hrs. lab. Four units.

6735. Educational and Vocational Planning

Sources of educational and occupational information; evaluation of such information and its clinical use in the counseling process. Prerequisite: Coun. 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 education and vocational plans. Prerequisites: Coun. 5750, Coun. 6735, Coun. 6901. 3 hrs. lect., 3 hrs. lab. Four units.

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 I, II, III

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 I, II, III

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, advanced application. Two units each.

Counseling, Pupil Personnel

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. 5100, Coun. 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: Psych. 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: Psych. 6720. 3 hrs. lect., 3 hrs. lab. Four units.

6915, 6920, 6930. Supervision Seminar I, II, III

Terminal, integrative seminar for persons working toward Pupil Personnel Supervision Credential. Prerequisites: concurrent registration in Coun. 6960, 6961, 6962, department approval, advance application, Coun. 6670. Two units each.

6960, 6961, 6962. Supervision Field Work I, II, III

Completion, under college faculty direction, of actual problems involving supervisory duties. Prerequisites: concurrent registration in Coun. 6915, 6920, 6930, department approval, advance application, Coun. 6670. Two units each.

6990. Supervision Internship

On-the-job completion of field duties normally carried by directors or supervisors of pupil personnel services. Prerequisites: Count. 6670, department approval, advance application, concurrent registration in Coun. 6915, 6920, 6930. Two to six units, usually three quarters of two units each.

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

Ed. 5021. The Exceptional Child

Ed. 5069. Home and School

Ed. 6020. Research in Education

Psych. 4410. Behavior Pathology

Psych. 4610. Psych. of Personality

Psych. 6720. Individual Mental Tests

Psych. 6700. Advanced Educational Psychology

Stat. 4001. Statistical Analysis I

Health, Physical Education

THE DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

The Department of Health and Physical Education offers courses leading to the bachelor of science degree with a major in physical education. The purpose of this major is to study man as an individual engaging in the motor performance of his daily life and in other motor performances yielding aesthetic values or serving as an expression of his physical and competitive nature. This major is basic to the professional field of physical education and to advanced study at the graduate level. The department also offers course work enabling a student to obtain a professional credential and a minor in physical education.

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

General Education Requirements 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.

	<i>Units</i>
P.E. 1100. Health and Physical Activity	3
P.E. 1000-1020. Activity Courses	2
	<hr/>

	<i>Units</i>
Option II	
H.Ed. 1000. Concepts of Health	3
P.E. 1010-1020. Activity Courses	2
	<hr/>

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 professional activity laboratory sequence.

PHYSICAL EDUCATION MAJOR (B.S. DEGREE)

General Requirements

- I. Complete the 76-unit requirement in general education.
- II. Complete the following requirements in the major:

Lower division total of 18 units from Zool. 3601, 3602, P.E. 1030, 1031, and two of Psych. 2010, Anthro. 2300, Soc. 2400.

Health, Physical Education

Upper division total of 36 units completed in the following areas:

	<i>Units</i>
Core Courses:	
P.E. 3100. Scope and History of Physical Education	4
P.E. 3400. Kinesiology	5
P.E. 3410. Physiology of Exercise	5
P.E. 3420. Measurement in Physical Education	3
P.E. 4400. Motor Learning and Skilled Performance	4
	<hr/>
	21

One course below:

P.E. 4410. Motor Development	3
P.E. 3500. History of Dance	3
P.E. 4420. Sport and Society	3

3

Electives from appropriate upper division courses in the bio-social science area; i.e., biology, anthropology, psychology. These courses should be selected in consultation with the department advisor.

12

Total 36

- III. Students planning a teaching career in physical education must also complete the following professional credential requirements:

	<i>Men</i>	<i>Women</i>
P.E. 4030/4031. Professional Field Experience	2	2
P.E. 300. Electives	8	6
P.E. 3241/3242. Dance electives, minimum	-	3
P.E. 4600. Organization and Administration	4	4
P.E. 5000. Electives	6	6
	<hr/>	<hr/>
	20	21

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

Special Requirements

- I. Each major planning to enter the professional field of physical education must (a) participate at the competitive level (for one season) in each of two sports, one of which must be in either football, field hockey, baseball, track and field or basketball; and (b) demonstrate satisfactory skill in the performance of any six individual activities, dance or sports. This requirement may be met by satisfactory completion of courses in P.E. 1010, 1011, and 1012, or by satisfactory demonstration of skill in a proficiency test. These requirements should ordinarily be completed by the end of the sophomore year. Students will not be permitted to enroll in P.E. 4030 unless all these requirements have been met.
- II. Proficiency screening tests in the area described under Section I(b) above will be given to all physical education students who transfer to California State College at Hayward, except where activity credit has been obtained prior to transfer. Deficiencies must be remedied before enrolling in professional courses in which specific skill prerequisites must be met.
- III. Specific details of these requirements may be obtained from the department office.

Health, Physical Education

PHYSICAL EDUCATION MINOR

Requirements

See physical education adviser for approval.

Select a minimum of 30 units in courses from the following areas:

	Units
One course from either P.E. 3400, 3410, or 4400	4-5
Two sections of P.E. 3000	4
P.E. 1030-1031, P.E. 4030-4031	4
	12-13
Select P.E. upper division electives in consultation with adviser	Min. 17
	30

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.

MASTER OF SCIENCE DEGREE IN PHYSICAL EDUCATION

Objectives of This Curriculum

To provide an opportunity for advanced study in physical education.

Plan A: Master of Science Degree (MS) with specialization in the bio-social science subject field of physical education.

Plan B: Master of Science Degree (MS) with specialization in the professional education area of physical education.

Admission to the Program

Plan A: (1) General requirements of the college for graduate standing. (2) A bachelor's degree or equivalent with a major in physical education or an appropriate minor and a minimum grade point average of 3.0 in those courses taken in the science areas of physical education and in courses taken in the related bio-social sciences.

Plan B: (1) General requirements of the college for graduate standing. (2) A bachelor's degree with a major or minor in physical education and a grade point average of 3.0 in courses considered appropriate to a professional background. (3) A teaching credential and some related teaching experience.

Advancement to Candidacy

1. Completion of not less than 16 quarter units of course work beyond the bachelor's degree with a minimum 3.0 grade point average. 2. Recommendation by a department committee.

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 grade point average in all courses included for degree credit.
3. Completion of a Thesis.
4. An oral examination to be given when the Thesis has been completed.
5. Course area requirements.

Health, Physical Education

Plan A

	Units
Elective courses selected from the physical education science concentration	16
Electives (from departments offering courses in related bio-social science fields and statistics)	20
Research in physical education (P.E. 6800)	4
Thesis	6
	—
	46

Plan B

	Units
Elective courses selected from physical education professional concentration	8-12
Electives selected from the physical education science concentration	4-8
Electives (from the Department of School Administration and Supervision, and a course in statistics)	20
Research in Physical Education (P.E. 6800)	4
Thesis	3-6
	45

DESCRIPTION OF COURSES

PHYSICAL EDUCATION

1000, 1010, 1011. Physical Education Activities

Instruction on the beginning and intermediate levels in designated physical education activities. May be repeated for credit. 2 hrs. act. One-half unit.

1012. Advanced Activity

Extramural participation in designated sports. 2 hrs. activity and a minimum of 6 field trips. One-half unit.

1020. Intercollegiate Activity

Participation in the intercollegiate athletic program on the varsity, junior varsity or freshman level. One unit.

1030, 1031. Activity Laboratory for Major and Minor Students

Instruction and practice in 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. Study of individual health appraisal and problems. Meets the health education portion of general education requirements. 3 hrs. lect. Three units.

Upper Division Major Courses

3100. Scope and History of Physical Education

Theories or bases for the rationale of physical education and its role in the culture. Four units.

3400. Kinesiology

Study of anatomical concepts and physical laws applied to joint and muscular action. Analysis of human movement in the performance of various motor skills. Prerequisite: Zool. 3601 and 3602 or equivalent. 4 hrs. lect., 3 hrs. lab. Five units.

3410. Physiology of Activity

Study of effects of physical exercise upon the circulatory, respiratory, digestive and nervous system. Relationship of endurance fatigue training and nutrition to the efficiency of physical performance. Prerequisite: P.E. 3400. 4 hrs. lect., 3 hrs. lab. Five units.

Health, Physical Education

3420. Measurement in Physical Education

Theoretical basis of measurement in physical education. Role of statistical analysis in physical education research. The limitations of measurement. Prerequisite: Stat. 1000 or Stat. 1502. Three units.

3500. History of Dance

Understanding and appreciation of dance. Development, philosophy and relationship to the other arts, including analysis of ballet and modern dance choreography. Prerequisite: P.E. 3100 or consent of instructor. Three units.

4400. Motor Learning and Skilled Performance

Perceptual and sensory systems involved in motor performance. Role of kinesiology and reaction time in neuromotor coordination and movement control. Motor learning, and transfer of learning. The structure of skill. Factors influencing performance. Prerequisites: Psych. 2010. 3 hrs. lect., 3 hrs. lab. Four units.

4410. Motor Development

Physical growth, body build and motor development in childhood, adolescence and the later ages. Age changes, sex and individual differences in strength, balance, coordination and typical motor performances. Prerequisites: P.E. 3400, 3410, 3420. Three units.

4420. Sport and Society

The interrelationship of sports and athletics with other aspects of culture. Emphasis is on 20th century. Prerequisite: P.E. 3100. Three units.

Professional Courses

3000. Theory of Sport

Instruction at the advanced theory level in designated areas of sport, including analysis of skill, game strategy and specific techniques of coaching. Organization of the sport, training and conditioning. Prerequisites: P.E. 3400 and experience specific to each section. Each section, two units. Different sections may be repeated for a maximum of eight units.

Section 1. Football

Section 2. Basketball

Section 3. Baseball

Section 4. Track and Field Athletics

Section 5. Gymnastics and Wrestling

Section 6. Aquatic Sports

3241. Theory of Modern Dance

Analysis and practice of skills, creative processes, and knowledge involved in modern dance. Includes technique, composition and production. Prerequisite: activity course in modern educational dance. 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.

4030, 4031. Professional Field Experience

Instruction and practice in professional technique and methodology through supervised field work. Prerequisites: completion of skill requirements for the major or minor. One unit.

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.

Health, Physical Education

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, audiovisual 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 including games, sports, fundamental rhythms and dances, and other activities commonly taught on the elementary level. Prerequisite: teaching experience 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.

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. 1000 or 1502. Three units.

5440. Adaptive Physical Education

A study of the theory of adapted physical education as applied to the exceptional person. Special emphasis on contribution of related disciplines to physical education for the handicapped. Prerequisite: P.E. 3400 and P.E. 3410. Four units.

Graduate Courses

6400. Seminar in Kinesiology and Body Mechanics

Critical review of research and the application of neurophysiological concepts, physical laws and kinesiology to analysis of human movement. Prerequisite: graduate standing, P.E. 3400. Four units.

6410. Seminar in Motor Learning and Performance

Advanced study of the scientific basis of movement behavior, with an emphasis upon learning and performance variables. Four units.

6420. Seminar in Exercise Physiology

Immediate and long-range adaptations of the body to exercise. Physiological limits and work capacities in relation to age, sex, diet, environmental factors and nature of activity. Prerequisite: graduate standing, P.E. 3410 or equivalent. Four units.

6430. Seminar in Cultural and Historical Aspects of Physical Education and Sport

Critical analysis of literature pertaining to the interrelationships of sport, physical education and culture within the historical perspective of school and society. Prerequisite: graduate standing, and P.E. 3100 or equivalent. Four units.

6600. Comparative Physical Education

A cross cultural study of the place of sport and exercise in education. Extent of governmental control of finance, program development, professional preparation. Special emphasis on programs in Scandinavia, Russia, and United Kingdom. Prerequisite: graduate standing, P.E. 3100. Four units.

6610. Physical Education Programs and Facilities

Development of various aspects of the school physical education program, including the preparation of courses of instruction and the functional planning of facilities. Four units.

6620. Seminar for Supervision in Physical Education

Analysis of present trends in physical education, their relationship to the school program, staffing needs, program development. Supervisor's role in elementary schools, in-service training. Prerequisite: SAS 6650 and 6600. 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 or Ed. 5100 or Stat. 1000 or 1502. Four units.

6850. Directed Study

Independent study under direction of staff. Two to four units.

6900. Masters Thesis

Three to six units.

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, including the investigation and evaluation of contemporary health problems and information. Meets health education portion of general education requirements.

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. Administration and interpretation of medical examinations. Three 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. Handling of emergencies. Three units.

THE 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. <i>Foundation Area:</i> Upper-division courses in psychology and sociology, selected from an approved list and including at least two courses in each area. The 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. <i>Professional Area:</i> Rec. 1000, 3500, 3750, 4000, 4500, 5000, 5001, 5002.	40 units
C. <i>Elective or Minor Area:</i> 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. <i>Additional Requirements:</i> 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.	

RECREATION MINOR

The Department of Recreation also offers courses leading to a recreation minor. Students should check with a departmental adviser for details.

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
Psych. 2000. General Psychology	4
Soc. 2400. 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, including required course in mathematics	18
	—
	48

Sophomore Year

Phys. Sci. 1340. Principles of Physical Science	5
Psych. 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

* Check with major adviser for details.

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
	<hr/> 48
Senior Year	
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
	<hr/> 48

DESCRIPTION OF COURSES

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. 1000 (Folk & Square Dance) or equivalent. 2 hrs. lect., 2 hrs. act. Three units.

2000. Principles and Practices in Organized Camping

Principles and practices in organized camping, with emphasis on the function of leadership in the camp setting. 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 characteristics; 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.

* Check with major adviser for details.

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

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. 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.

THE DEPARTMENT OF SCHOOL ADMINISTRATION AND SUPERVISION

The Department of School Administration and Supervision offers a program that combines the requirements for the Standard Supervision Credential and the Degree of Master of Science in School Administration. Persons who already hold a master's degree may complete a program for the Standard Supervision Credential only. These programs are designed to meet the needs of graduate students who have had successful school experience as teachers and who are seeking the authorization to serve in administrative or supervisory positions in the California public schools. This credential authorizes holders to serve as general supervisors, curriculum consultants, supervisors of special subjects, supervisors of pupil personnel services, elementary school principals, or secondary school principals. The legal requirements under which the credential program is offered are set forth in the California Education Code, Sections 13197-1 and 13197-15, and the California Administrative Code, Title V, Sections 6554-6558. Note that five years of teaching experience are required in addition to the specified academic requirements before the credential or degree can be issued.

Procedures to Be Followed**I. 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. Obtain formal admission to the College.
2. File application in the Department Office.
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 Requirements for the Degree and Credential

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 school district.

SAS 6800. Field Work (3-3) or

SAS 6850. Internship (2-2-2)

C. Other Course Requirements for the Degree

These courses will be scheduled at times mutually agreed upon by the student and his adviser.

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)

Students must confer with their advisers to determine whether or not additional work is needed to meet certification requirements for an academic major or degree.

D. 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. Arrange for binding and filing copies of the thesis or project report as required.
6. Complete five years of successful teaching experience.

II. The Master of Science Degree Program in Supervision With a Specialization in Reading**Admission to Candidacy**

Candidates will follow the same procedures as those outlined above under I 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:

SAS 6231. Methods, Techniques and Research for Analysis of Reading Problems

SAS 6232. Correction of Reading Difficulties

SAS 6233. Laboratory Practice in Correction of Reading Difficulties

SAS 6236. Seminar in Reading

For supplementary and elective courses, see Catalogue addenda or adviser.

- Students holding a master's degree and wishing to meet requirements for the Standard Supervision Credential should consult with their adviser about a specific program.
- Students seeking authorization to supervise pupil personnel services should consult with the chairman of the Department of Counseling and Pupil Personnel.

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, teaching 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.

School Supervision, Administration

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, SAS 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. Current issues and trends. Prerequisite: SAS 6000 and department approval. Four 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: SAS 6230, Ed. 5100, and consent of instructor. Three units.

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, SAS 6231, consent of instructor. Three units.

6233. Laboratory Practice in Correction of Reading Difficulties

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: SAS 6232 and consent of instructor. Six 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. Three 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.

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 leader-

School Supervision, Administration

ship for the instructional program. 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. 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. Prerequisite: 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 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.

6801, 6802, 6803. Field Work in Administration and Supervision, I, II, 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.

6851, 6852, 6853. Internship in Administration and Supervision, I, II, III

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.

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.

DIVISION OF HUMANITIES

Departments: English, Foreign Languages, History, Philosophy

Professors: Biella (head), Conner (chairman, Department of English), Cuomo, Larsen, Mayers (chairman, Department of Philosophy), Peterson, Rice (chairman, Department of History), Rosenbaum, Sarkar, Vidal (chairman, Department of Foreign Languages and Literatures), Williams; Associate Professors: Bryant, Chan (on leave), Cummins, Descouzis, DuFort, Ham, Raack, Roszak, Thompson, Vatuk, Yalom; Assistant Professors: Angress, Beck, Beringer, Carter, Clay, Collier, Cranston, Duncan, Frederick, Garcia, Gilliard, Graham, Gries, Harrell, Harrington, Johnson, Kimmel, Kowalski, Krafchick, Limper, Markos, Nelken, Nomikos, Ovalle, Patterson, Reeves, Reuter, Rosenthal, Smith, Staehle, Staniforth, Toft, Walz, Watson, Weeter, Weiss; Instructors: Ganz, Rohr, Stelzer, Walpole.

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.

Philosophy (B.A.)

Social Science (B.A.) An interdivisional major; see Social and Behavioral Science Division 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, philosophy, 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 determination 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

Candidates for the degree of bachelor of arts with a major in English must:

1. Complete 76 units in general education, as prescribed by the College. English courses in the 1000 series are designed to satisfy general education requirements.
2. Demonstrate a reading knowledge of a modern foreign language.
3. Complete 48-unit requirements in the major, including the following:
 - 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.
 - E. Eng. 4950, Pro-seminar in English, which is the culmination of the reading program. 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 the following:
 - (1) Not more than 8 units in the 2000 series
 - (2) At least one of these courses: 3100, 3200, 3300, 3400, 3500 (each four units)
 - (3) At least one of these courses: 3600, 3601, 3650 (each four units)
 - (4) At least one of these courses: 4100, 4200, 4300, 4400, 4500, 4650 (each four units) or 4250 (three units)

Candidates for the Standard Teaching Credential with specialization in secondary 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, including English 5950. Consult with advisers in English and the Division of Education for details.

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 Eng. 3250.

ENGLISH MINOR

Candidates for the general English minor must complete 30 quarter-units in the field, including Eng. 3250, Eng. 3020, and 4040.

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.

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.

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, 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.

LANGUAGE ARTS MAJOR

I. Complete the 76 unit requirement in general education.

II. Complete these course requirements:

- 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.

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. Prerequisite: Eng. 1001 or equivalent. Three 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 English A or equivalent at an accredited college before registering in either of these courses.

1010. Introduction to Literature

Studies in prose fiction, verse, and the drama. Prerequisite: Eng. 1001-2, Sp/Dr 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, Sp/Dr 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, Sp/Dr 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, Sp/Dr 1001-2, or equivalent. Five units.

2060. Introduction to Linguistics

Origin, nature, and philosophy of language; history and comparison of language systems and structures. Four units.

2070. Introduction to Creative Writing

Introduction to imaginative writing of various types. 2 hrs. lect., 6 hrs. lab. Four units.

3020. Advanced Expository Writing

Expository writing and analysis in relation to traditional and contemporary theories of composition. Four units.

3040. History of the English Language

Origin and development of English, and its relations to cognate languages. Prerequisite: junior standing. Four units.

3071. Directed Writing I

The student will write regularly and will participate in classroom analysis and criticism of manuscripts submitted. Individual editorial conferences. 2 hrs. lect., 6 hrs. lab. Four units.

3072. Directed Writing II

Continuation of English 3071. For the developing beginning writer. 2 hrs. lect., 6 hrs. lab. Four units.

3073. Directed Writing III

Continuation of English 3072. For the beginning writer who has shown distinct promise. 2 hrs. lect., 6 hrs. lab. 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.

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. (Same as For. Lang. 3701) Four units.

3702. World Literature II

Selected writings from the great cultures of the world from the Renaissance through the Enlightenment. (Same as For. Lang. 3702) Four units.

3703. World Literature III

Selected writings from the great cultures of the modern world. (Same as For. Lang. 3703) 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.

4071. Writing Fiction I

Writing of long and short fiction. For the prospective professional writer. 2 hrs. lect., 6 hrs. lab. Four units.

4072. Writing Fiction II

Continuation of English 4071. For the advanced student writer who shows continuing development. 2 hrs. lect., 6 hrs. lab. Four units.

4073. Writing Fiction III

Continuation of English 4072. For the student writer who shows distinct professional promise. 2 hrs. lect., 6 hrs. lab. Four units.

4100. Studies in Medieval Literature

Intensive study of an important literary topic in the period. Prerequisite: Eng. 3100 or equivalent. Four units. Maximum total credit, 8 units.

4200. Studies in Renaissance Literature

Intensive study of an important literary topic in the period. Prerequisite: Eng. 3200 or equivalent. Four units. Maximum total credit, 8 units.

4300. Studies in Restoration and Eighteenth Century Literature

Intensive study of an important literary topic in the period. Prerequisite: Eng. 3300 or equivalent. Four units. Maximum total credit, 8 units.

4400. Studies in Nineteenth Century Literature

Intensive study of an important literary topic in the period. Prerequisite: Eng. 3400 or equivalent. Four units. Maximum total credit, 8 units.

4500. Studies in Contemporary English Literature

Intensive study of an important literary topic in the period. Prerequisite: Either Eng. 3500 or Eng. 3650 or equivalent. Four units. Maximum total credit, 8 units.

4650. Studies in Contemporary American Literature

Intensive study of an important literary topic in the period. Prerequisite: Either Eng. 3600 or Eng. 3601 or equivalent. Four units. Maximum total credit, 8 units.

4850. Studies in the Novel

Intensive study of selected novels. Three units. Maximum total credit, six units.

4900. Individual Study

One-four units.

4901. Directed Group Study

One-four units.

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.

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. Audiovisual 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.

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.

6650. American Literature since 1814

Proseminar on major trends in fiction, poetry, or drama. Four units.

6900. Thesis

Thesis or an equivalent work in fiction, verse, or drama. Nine units.

FOREIGN LANGUAGES**FRENCH MAJOR**

Candidates for the degree of bachelor of arts with a major in French must:

1. Take a proficiency examination in language competence given for the placement of students in appropriate French language and literature courses.
2. 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.
3. In lower division, complete the 24 units provided by Fr. 1001 through Fr. 2003 (or equivalent).
4. In upper division, complete Fr. 3001-2-3 and 33 units from among the literature courses.

Foreign Languages

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.

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

1. In lower division, complete requirement (3) under French major.
2. In upper division, complete Fr. 3001-2-3 and 9 units from among the literature courses.
3. 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.
4. 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.

SPANISH MAJOR

1. 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.

2. General Education

Complete the 76-unit requirement in general education. Proficiency in another foreign language, both audio-lingual and reading, is strongly recommended.

3. Spanish Courses

Lower Division: 24 units including the following courses: Span. 1001-2-3; Span. 2001-2-3 or equivalent. (Spanish 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.

4. Candidates for the Standard Teaching Credential with specialization in secondary teaching must complete (a) a baccalaureate degree 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.

5. 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.

Foreign Languages

SPANISH MINOR

1. Lower Division: As outlined above for the Spanish major.
2. Upper Division: 18 units, including Span. 3001-2-3; Span. 3101-2-3.
3. 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.
4. 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	½
	14	15½	14½
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	½	P.E. 2010	½
	15½	17½	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

DESCRIPTION OF COURSES

FOREIGN LANGUAGES

Note: Students may be admitted to any of the following courses by consent of instructor.

FRENCH

1001. Elementary French

Introduction to the reading, writing, understanding, and speaking of French. Four units.

1002. Elementary French

Continuation of French 1001. Prerequisite: French 1001. Four units.

1003. Elementary French

Continuation of French 1002. Prerequisite: French 1002. Four units.

2001. Intermediate French

Continuation of French 1003, with increased emphasis on the reading and writing of French. Prerequisite: French 1003. Four units.

2002. Intermediate French

Continuation of French 2001. Prerequisite: French 2001. Four units.

2003. Intermediate French

Continuation of French 2002. Prerequisite: French 2002. Four units.

3001. French Syntax

Written French and formal grammar. Prerequisite: French 2003. Three units.

3002. French Syntax

Continuation of French 3001. Prerequisite: French 3001. Three units.

3003. French Syntax

Continuation of French 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 French 4101. Prerequisite: French 2003. Four units.

4103. Contemporary French Literature

Continuation of French 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 German 1001. Prerequisite: Ger. 1001. Four units.

1003. Elementary German

Continuation of German 1002. Prerequisite: Ger. 1002. 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. Four units.

2002. Intermediate German

Continuation of German 2001. Prerequisite: Ger. 2001. Four units.

2003. Intermediate German

Continuation of German 2002. Prerequisite: Ger. 2002. Four units.

4900. Individual Study

One-four units.

4901. Directed Group Study

One-four units.

RUSSIAN

1001. Elementary Russian

An audio-lingual approach to Russian, designed to give students skill in understanding, speaking, reading and writing the language. Four units.

1002. Elementary Russian

Continuation of Russian 1001. Prerequisite: Russian 1001. Four units.

1003. Elementary Russian

Continuation of Russian 1002. Prerequisite: Russian 1002. 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. Four units.

1002. Elementary Spanish

Continuation of Span. 1001. Prerequisite: Span. 1001. Four units.

1003. Elementary Spanish

Continuation of Span. 1002. Prerequisite: Span. 1002. 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. Four units.

2002. Intermediate Spanish

Continuation of Span. 2001. Prerequisite: Span. 2001. Four units.

Foreign Languages

2003. Intermediate Spanish

Continuation of Span. 2002. Prerequisite: Span. 2002. Four units.

2101. Spanish Conversation

Practical application of Spanish in present-day experiences. Spanish sounds and intonation; vocabulary building. Prerequisite: Span. 1003. Three units.

2102. Spanish Conversation

Continuation of Span. 2101. Prerequisite: Span. 2101. Three units.

2103. Spanish Conversation

Continuation of Span. 2102. Prerequisite: Span. 2102. Three units.

3001. Spanish Grammar

Essentials of Spanish grammar and their application to advanced work in the language. Prerequisite: major in Spanish. Three units.

3002. Spanish Lexicon

Spanish vocabulary: word formation, cognate and topical vocabularies, and word families. Prerequisite: major in Spanish. Three units.

3003. Spanish Phonetics

Detailed study of the formation of Spanish sounds and intonation. Particular stress given to the problems English-speaking students face in acquiring an authentic pronunciation of Spanish. Prerequisite: major in Spanish. 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. 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. 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. 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. 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. Three units.

3601. Survey of Spanish American Literature

A study of Spanish American literature from the prehispanic period to the Wars of Independence. Prerequisite: Span. 2003. Three units.

3602. Survey of Spanish American Literature

A study of Spanish American literature from the early 19th century through modernism. Prerequisite: Span. 2003. Three units.

3603. Survey of Spanish American Literature

A study of Spanish American literature in the 20th century. Prerequisite: Span. 2003. Three units.

4001. Spanish Syntax

Detailed study of synchronic Spanish syntax. Prerequisite: Span. 3001. Three units.

4002. Spanish Syntax

Continuation of Span. 4001. Three units.

4003. Spanish Syntax

Continuation of Span. 4002. Three units.

Foreign Languages

4101. The Golden Age: Prose

The novel of the Golden Age in its various forms and non-fictional prose. Prerequisite: major in Spanish. 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. Three units.

4103. The Golden Age: Poetry

Study of the major poets of the Golden Age. Prerequisite: major in Spanish. 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. Three units.

4202. The 19th Century Spanish Literature: Drama

Selected readings from major dramatists of the 19th century. Prerequisite: major in Spanish. Three units.

4203. The 19th Century Spanish Literature: Poetry

Selected readings from the major poets of the 19th century. Prerequisite: major in Spanish. 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. Three units.

4302. Contemporary Peninsular Readings: Novel and Essay

Study of the major novelists and essayists of the 20th century. Prerequisite: major in Spanish. Three units.

4303. Contemporary Peninsular Readings: Poetry and Drama

Major poets and dramatists of the 20th century. Prerequisite: major in Spanish. Three units.

4503. Proseminar in Hispanic Studies

Review of Spanish language, literature and civilization. Prerequisite: major in Spanish with senior standing. Three units.

4601. The Spanish American Novel

A study of the Spanish American novel from its antecedents in the colonial period, *El Periquillo Sarniento*, the romantic and realistic novel of the 19th century, and modernist novel. Prerequisite: Span. 3601. Three units.

4602. The Spanish American Novel

A study of the Spanish American novel as manifested in the novel of the Mexican revolution, the Indianist and gaucho novels, and the novel of man against nature. Prerequisite: Span. 3602. Three units.

4603. The Spanish American Novel

A study of the urban novel, the psychological novel, and the latest tendencies in Spanish America. Prerequisite: Span. 3603. 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 given to improvement in linguistic skills. Prerequisite: one year of college Spanish. Three units.

5102. Spanish Language and Methods for Elementary Teachers

Continuation of Span. 5101. Prerequisite: Span. 5101. Three units.

5103. Spanish Language and Methods for Elementary Teachers

Continuation of Span. 5102. Prerequisite: Span. 5102. Three units.

FOREIGN LANGUAGES**3701. World Literature I**

Same as Eng. 3701. Four units.

3702. World Literature II

Same as Eng. 3702. Four units.

3703. World Literature III

Same as Eng. 3703. Four units.

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 given to the audio-lingual and audiovisual approach. Prerequisites: competence in at least one foreign language and consent of instructor. Three units.

HISTORY MAJOR

- I. Complete the 76-unit requirement in general education. A minimum of 4 quarter units in political science and 4 quarter units in economics is 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 European history 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 *each of three* of the following fields, preferably chronologically: (a) ancient and medieval, (b) modern Europe, (c) Asia, (d) United States, and (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.

MASTER OF ARTS IN HISTORY

A master's degree in history is under study. Contact the History Department Office for additional information.

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 sequence 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.

DESCRIPTION OF COURSES**HISTORY****I. Lower Division****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.

4211. Germany and East Central Europe, 1750 to 1900

The history of Germany and her eastern neighbors from the mid-18th century to the end of the 19th century. Four units.

4212. Germany and East Central Europe Since 1900

The history of Germany and her eastern neighbors since the turn of the century. Recommended preparation: Hist. 4211. Germany and East Central Europe, 1750 to 1900. Four units.

4221. History of Russia to 1855

Survey of the history of Kievan Rus, the Mongols, and the rise of Muscovy. Increasingly detailed coverage from the 16th to the mid-19th century with emphasis on the institutions of serfdom and autocracy and on the development of the Russian Empire. Four units.

4222. History of Modern Russia, 1855-1917

Political, economic, social, and diplomatic developments from the Crimean War to the March Revolution. The "Great Reforms," reaction, the growth and diversification of the opposition movements—liberalism, socialism, Russian and non-Russian nationalism; the decay and collapse of the Monarchy. Four units.

4223. History of the Soviet Union

The revolutionary movement in Russia, Marxism-Leninism, the Provisional Government and the Bolshevik coup, domestic and foreign affairs under Lenin and his successors. 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.

4513. American Social History to 1865

The development of American society from 17th century origins to the Civil War; social mobility, class structure, social movements, and institutions in American life. Four units.

4514. American Social History Since 1865

The development of American society from the Civil War to date; social mobility, class structure, social movements, and institutions in American life. 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.

4532. Inter-American Relations

The diplomatic and cultural relations of the United States and Latin America from the colonial period to the present, emphasizing the development of the

History

Western Hemisphere idea. The Enlightenment, Monroe Doctrine, Pan Americanism, Drago Doctrine and Castroism. 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.

4532. Inter-American Relations

See course description in United States History section. 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

3011. Philosophy of Science

See Philosophy section for course description. Four units.

3012. History of Science

See Philosophy section for course description. Four units.

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 for course description. Four units.

4711. Development of Western Political and Social Thought

See Political Science section for course description. Five units.

4712. Modern Democratic Thought

See Political Science section for course description. Five units.

4900. Individual Study

One to four units.

4901. Directed Group Study

One to four units.

4910. Special Problems in History

Readings, discussion and research on significant historiographical problems. Prerequisite: consent of instructor. 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

PHILOSOPHY MAJOR

A candidate for the degree of bachelor of arts with a major in philosophy will:

1. Complete 76 units in general education, as prescribed by the faculty of the College.
2. Demonstrate a reading knowledge of a foreign language.
3. Complete the following requirements in the major:
 - A. Phil. 1001, Introduction to Logic (4 units)
 - B. Phil. 2100, Ethics (5 units)
 - C. History of Western Philosophy: Phil. 3601, Ancient and Medieval Periods (4 units); Phil. 3602, Later Medieval, Renaissance and Early Modern Periods (4 units); Phil. 3603, 18th and 19th Centuries (4 units)
 - D. Eight units of course work from the following: Phil. 4951, Senior Seminar in Philosophy (4 units, 8 units maximum); Phil. 4952, Senior Project (4 units)
 - E. One from among the following courses: Phil. 4801, Contemporary American Philosophy (4 units); Phil. 4802, Contemporary British Philosophy (4 units); Phil. 4803, Contemporary Continental Philosophy (4 units)
 - F. One from among the following courses: Phil. 1002, Inductive Logic and Scientific Method (4 units); Phil. 3000, Modern Logic (4 units); Phil. 3011, Philosophy of Science (4 units); Phil. 3300, Epistemology (4 units)
 - G. Any three other courses (12 units)

PHILOSOPHY MINOR

A minor in philosophy requires 32 units of philosophy courses including the following:

Phil. 1001, 2100

Three of these courses—Phil. 2000, 3601, 3602, 3603

Any three additional upper-division philosophy courses

DESCRIPTION OF COURSES

PHILOSOPHY

1001. Introduction to Logic

A beginning study of the forms of valid inference, stressing recent developments in symbolic logic, and including Aristotelian deductive logic. (Does not satisfy the general education requirement in humanities.) Four units.

1002. Inductive Logic and Scientific Methods

An elementary study of how material truth is related to formal validity. The problems of induction and probable inference. Four units.

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.

3000. Modern Logic

A second level course in logic stressing symbolic techniques and including a study of the logic of truth functions and propositional functions. Prerequisite: Phil. 1001 or consent of instructor. Four units.

3011. Philosophy of Science

Methods and concepts of science and their philosophical significance. Four units.

Philosophy

3012. History of Science

The relation between logic and science in antiquity; the development of the modern scientific attitude during the Renaissance; the development of biological science; the shift from classical physics to contemporary physics. (See Hist. 3012.) Four units.

3200. Aesthetics

Introduction to the major aesthetic schools and theories. Four units.

3300. Epistemology

A study of the methods of knowing and their relations to the questions of metaphysics. Prerequisite: one previous course in philosophy or consent of instructor. Four units.

3400. Philosophy of Religion

Nature and significance of religion and its place in human society and in the life of the self. Four units.

3501. Social and Political Philosophy

A study of representative social and political philosophies from the Greeks to the German Idealists. Particular reference to their bases in metaphysics, epistemology and ethics. Four units.

3502. Contemporary Social and Political Philosophy

A continuation of the inquiry undertaken in Phil. 3501 with particular reference to the social and political philosophy of the 19th and 20th centuries. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of the instructor. Four units.

3503. Philosophy of Law

Introduction to the main schools of jurisprudence and legal philosophy. Four units.

3601, 3602, 3603. History of Western Philosophy

A survey of Western philosophy from the Pre-Socratics to the 19th century. Each course may be taken independently, but the full sequence is recommended.

3601. The Ancient and Early Medieval Periods. Four units.

3602. The Later Medieval, Renaissance, and Early Modern Periods. Four units.

3603. The Eighteenth and Nineteenth Centuries. Four units.

3701, 3702, 3703. 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.

3701. Classical Indian Philosophy. The Upanishads, Bagavadgita, Early Buddhism, Jainism. Four units.

3702. The Six Schools of Later Indian Philosophy. Nayaya-Vaisesika, Sankhya, Vedanta: absolutistic and theistic, philosophy of evolution. Four units.

3703. Philosophies of China and Japan. Confucius, Lao-Tse, Zen Buddhism and modern movements. Four units.

4801. Contemporary American Philosophy

Selected writings of major American philosophers of the 20th century. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of instructor. Four units.

4802. Contemporary British Philosophy

The selected writings of major British philosophers of the 20th century. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of instructor. Four units.

4803. Contemporary Continental Philosophy

Selected writings of the major European philosophers of the past century. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of instructor. Four units.

Philosophy

4900. Individual Study

One to four units.

4901. Group Study

One to four units.

4951. Senior Seminar in Philosophy

Intensive study of an important philosopher, school, or problem of philosophy. Maximum total credit 8 units. Prerequisite: two courses in philosophy or consent of instructor. Four units.

4952. Senior Project

Supervised research and preparation of an essay on a significant philosophical problem. Prerequisite: Phil. 4951. Four units.

5000. Philosophy of Education

Introductory course in philosophy of education. Examination of philosophical issues in education. Four units.

DIVISION OF PHYSICAL SCIENCE AND MATHEMATICS

Departments: Chemistry, Geophysical Science,
Mathematics, Physics, Psychology, Statistics

Professors: P. V. Peterson (head), Burke, DeVries, Guthrie (chairman, Department of Physics), Hancock, Livson (chairman, Department of Psychology), Purdy, Purvis, Resnikoff (chairman, Department of Statistics), Sawrey, Southard (chairman, Department of Mathematics) (on leave), Whitney (chairman, Department of Geophysical Sciences), Woods (chairman, Department of Chemistry); Associate Professors: Amemiya, Birge, Cummings, Fuller, Giles, Good, Jessner, Levine, Mechanic, Strong, Summers, Terrall, Tracewell, Weidlich, Wheeler, Whitehead, Zhivadinovich; Assistant Professors: Altman, Beckett, Bozak, Brooks, Coley, Coomes, Cooper, Fritz, Gray, Hunt, Hunter, Kenyon, Kimeldorf, Lewis, Martin, Matsumoto, Mintz, Monson, Peckenham, Pool, Ross, Schmid, Schustermann, Shelton, M. Smith, Stevens, Trumbo; Instructors: Ball, Boer, Gardner, Schrader.

CURRICULA OFFERED

Baccalaureate Degree

Chemistry (B.A., B.S.)
Mathematics (B.S.)
Physics (B.A., B.S.)
Physical Science (B.S.) *
Psychology (B.A.)
Statistics (B.S.)

Master's Degree

Mathematics (M.S.)

Minors

(See adviser for requirements)

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 may arrange from one to five units of 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.

* See section, *Physical Science Major*, for optional areas of concentration in the physical science major.

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.

CHEMISTRY MAJOR

- I. Complete the 76-unit requirement in general education, which applies to all majors. Students completing this major will have satisfied 14 of the 19-unit general education requirement in physical science and mathematics.
- II. Complete the following requirements:

	B.S.	B.A.
General Chemistry	15	15
Quantitative Analysis	6	6
Mathematics		
Basic Analysis *	-	5
Analytic Geometry-Calculus	20	12
Physics	20	16
Physical Science Electives	-	15-19
General Education	33	23-27
Upper Division		
Organic Chemistry	15	15
Physical Chemistry	15	5
Advanced Inorganic	5	-
Instrumental Analysis	3	-
Advanced Chemistry Electives	9-26	-
Minor Electives	0-17	-
Physical Science or Free Electives †	-	38-42
Foreign Language **	20	-
General Education (other than for. lang.)	20	35-39
Total	198	193

ILLUSTRATIVE PROGRAM FOR THE CHEMISTRY MAJOR—B.S.

First Year	Units		
	Fall	Wint.	Spr.
General Chemistry, 1101	5		
Anal. Geom.-Calculus, 1302	4		
General Education		8	
General Chemistry, 1102		5	
Anal. Geom.-Calculus, 1303		4	
Physics, 1011		4	
General Education			4
General Chemistry, 1103			5
Anal. Geom.-Calculus, 2301			4
Physics, 1012			4
General Education			4

* May be waived by examination. The candidate who is qualified to have this requirement waived will be expected to take an equivalent number of units in upper-division major or minor electives.

† Maximum of 25 free electives units.

** 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.

Physical Science and Mathematics

Second Year

	Units		
	Fall	Wint.	Spr.
Quant. Analysis, 2201	3		
Anal. Geom.-Calculus, 2302	4		
Physics, 2011	4		
General Education	5		
Anal. Geom.-Calculus, 2303		4	
Quant. Analysis, 2202		3	
Physics, 2012		4	
General Education		5	
Physics, 2013			4
General Education			12

Third Year

Organic Chemistry, 3301	5		
Physical Chemistry, 4501	5		
German 1001	4		
Other General Education	3		
Organic Chemistry, 3302		5	
Physical Chemistry, 4502		5	
German 1002		4	
Other General Education		3	
Organic Chemistry, 3303			5
Physical Chemistry, 4503			5
German 1003			4
Other General Education			3

Fourth Year

Instrumental Analysis, 4240	3		
Adv. Chem. Electives	5		
German 2001	4		
General Education	4		
Adv. Inorganic Chem., 4151		5	
Adv. Chem. Electives		4	
German 2002		4	
General Education		3	
Adv. Chem. Electives			12
General Education			4

MATHEMATICS MAJOR

I. Complete the 76-unit requirement in general education, which applies to 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.

Physical Science and Mathematics

II. Complete the following requirements in the major:

Lower Division

Recommended preparation for the major:

College chemistry and physics

Math. 1302-3 and Math. 2301-3 or equivalent

Units

15-25

20

Upper Division

Upper Division Core

Math. 3101, 3111

Math. 3201

8

4

12

Liberal Arts Option

Math. 3320 or equivalent

Math. 4331, 4332

Electives selected with aid of adviser

5

10

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 DEGREE, MASTER OF SCIENCE IN MATHEMATICS

The College offers the degree, Master of Science in Mathematics, with a choice of three options:

1. Teaching Option
2. Applied Mathematics Option
3. Pure Mathematics Option

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.

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.

Physical Science and Mathematics

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).
- (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 (with at least 12 of these 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.
 - (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

The physical science major is designed to give a student breadth in the physical sciences. It serves as a liberal arts option or can be combined with the general Secondary Teaching Credential program. The secondary credential is required of those planning to teach at the junior high school and high school levels. Electives within the program permit a student to concentrate in either chemistry, geology or physics.

The physical science courses available as electives are: astronomy, chemistry, Conservation 4380 (a five-unit course of which two units apply toward a physical science major), geology, mathematics, meteorology and physics.

A major in the physical sciences prepares a student for further study in both technical and non-technical fields as well as for the teaching of science or for employment in a variety of occupations in which a good science background is needed.

Physical Science and Mathematics

Requirements

I. Complete the 76-unit requirement in general education, which applies to 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:

Lower Division

	Units
Mathematics	20-25
General Chemistry	15
Quantitative Analysis	6-9
General Physics	20
Biology	5-10
Physical Science Electives	5-10

Upper Division

Approved electives for options in chemistry, geology or physics	21-39
---	-------

Total 110

III. Secondary teaching candidates must complete (a) the requirements for admission to teacher education; (b) the required professional courses in teacher education; (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	Fall	Wint.	Spr.
First Year				
Math. Anal. or General Education	5-6			
Gen. Chemistry, 1101	5			
Phys. Geol. or General Elective	5			
Anal. Geom. and Calc., 1302	4			
Gen. Chem., 1102	5			
Gen. Physics, 1011	4			
General Education	3-4			
Anal. Geom. and Calc., 1303	4			
Gen. Chem., 1103	5			
Gen. Physics, 1012	4			
General Education	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
General Education	0-5
Anal. Geom. and Calc., 2303	4

Physical Science and Mathematics

Second Year—Continued

	Units		
	Fall	Wint.	Spr.
Quant. Anal., 2203 or General Education		3	
General Physics, 2013		4	
Science Electives		0-5	
General Education		0-5	

Third Year

Phys. Sci. Electives	4-6
General Education and/or Electives	10-12
Phys. Sci. Electives	3-6
General Education and/or Electives	10-13
Phys. Sci. Electives	3-6
General Education and/or Electives	10-13

Fourth Year

Phys. Sci. Electives	4-7
General Education and/or Electives	9-12
Phys. Sci. Electives	3-7
General Education and/or Electives	9-12
Phys. Sci. Electives	4-7
General Education and/or Electives	9-12

PHYSICS MAJOR

I. Complete the 76-unit requirement in general education, which applies to 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:

	B.S.	B.A.
Lower Division		
General Physics	20	20
General Chemistry	15	15
Analytic Geometry and Calculus	20	20
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

* These may include 9 units of foreign language.

Physical Science and Mathematics

Illustrative Program for the Physics Major

	Units		
	Fall	Wint.	Spr.
Mathematics 1301, 1302, 1303	5	4	4
Chemistry 1101, 1102, 1103	5	5	5
Physics 1011, 1012		4	4
Electives—General Education	6	3	3

Second Year

Mathematics 2301, 2302, 2303	4	4	4
Physics 2011, 2012, 2013	4	4	4
Biology 1000	5		
Electives—General Education	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—General Education	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—General Education	2	9	6
Physics 3512	3		

PSYCHOLOGY MAJOR

Requirements

- I. Complete the 76-unit requirement in general education, which applies for all degrees.
- II. 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 psychology; tests and measurement. The following departmental requirements are in addition to the College's basic requirements for the B.A. degree.
 - a. Psych. 2000 *, 2010, 3100 and 4390.
 - b. Two courses from the following: Psych. 4801, 4802, 4803, 4804.
 - c. Two courses from the following: Psych. 4200, 4210, 4300.
 - d. One course from the following: Psych. 4220, 4310, 4320, 4340, 4350.
 - e. One course from the following: Psych. 3500, 4403, 4410, 4610.
 - f. Two courses from the following: Psych. 4401, 4402, 4730, 4700, 4790, Stat. 4000.
2. Stat. 1000 *, 2000; Biol. 1000 * or equivalent.

* May be used to discharge general education requirement.

Physical Science and Mathematics

3. An additional course from one of the three following options, depending upon the student's special area:
 - a. A course from either (c) or (d) above (experimental psychology).
 - b. A course from (e) above (personality and social psychology).
 - c. A course from (f) above (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.

STATISTICS MAJOR

- I. Complete the 76-unit requirement in general education, which applies for all majors. Students completing this major will have satisfied the general education requirement in mathematics. As specified below, students are required to take courses in two fields (outside of mathematics and statistics) in which statistical methods are applicable. Students completing this requirement will have satisfied general education requirements in the fields elected.
- II. Complete the following requirements in the major:

Lower Division:

<i>Mathematics Courses</i>	<i>Units</i>
Math. 1302, Anal. Geom. and Calculus	4
Math. 1303, Anal. Geom. and Calculus	4
Math. 2301, Anal. Geom. and Calculus	4
Math. 2302, Anal. Geom. and Calculus	4
Math. 2303, Anal. Geom. and Calculus	4
Approved Science Electives, 1st Field	12
Approved Science Electives, 2nd Field	12

Upper Division:

<i>Mathematics Courses</i>	<i>Units</i>
Linear Algebra and Matrices	5
Twelve units to be chosen from among the following:	12
Math. 3320, Differential Equations (5)	
Math. 3450, Linear Programming (3)	
Math. 3700, Computer Programming (3)	
Math. 3750, Numerical Analysis (4)	
Math. 3911, Operations Research I (3)	
Math. 3912, Operations Research II (3)	
Math. 4120, Modern Algebra (5)	
Math. 4331, Advanced Calculus I (5)	
Math. 4332, Advanced Calculus II (5)	
Math. 4340, Complex Variables (5)	

* May be used to discharge general education requirement.

Statistics Courses

Stat. 3500, Statistical Methods in Science and Engineering	4
Stat. 3401, Introduction to Probability Theory	4
Stat. 3502, Statistical Inference I	4
Stat. 3503, Statistical Inference II	4
Stat. 4501, Linear Methods in Statistics I	4
Stat. 4502, Linear Methods in Statistics II	4
Stat. 4410, Introduction to Stochastic Processes	4
Stat. 3601, Applied Statistics	4
Approved Science Electives—1st or 2nd Field	6
<i>Total</i>	99

Illustrative Program for Statistics Major

	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Units</i>
Math. 1301, Basic Analysis	5	Math. 2301, Analytic Geometry and Calculus III	4	Fall
Biology 1000, Principles of Biology	5	Stat. 3500, Statistical Methods in Science and Engineering	4	Wint.
Electives or General Education	5	Biology 2500, Genetics	5	Spr.
Math. 1302, Analytic Geometry and Calculus I	4	Electives or General Education	3	
Zoology 1001, General Zoology	4	Math. 2302, Analytic Geometry and Calculus IV	4	
Electives or General Education	7	Physics 1011, General Physics, Mechanics	4	
Math. 1303, Analytic Geometry and Calculus II	4	Electives or General Education	7	
Electives or General Education	11	Math. 2303, Analytic Geometry and Calculus V	4	
		Physics 1012, General Physics, Heat and Sound	4	
		Electives or General Education	7	

Fourth Year	Units		
	Fall	Wint.	Spr.
Stat. 3601, Applied Statistics	4		
Math. 4331, Advanced Calculus I	5		
Stat. 4501, Linear Methods in Statistics I	4		
Entomology 4210, General Entomology	4		
Math. 4332, Advanced Calculus II	5		
Stat. 4502, Linear Methods in Statistics II	4		
Electives or General Education	7		
Stat. 4410, Stochastic Processes	4		
Electives or General Education	11		
	186 units		

DESCRIPTION OF COURSES

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.

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 Chem. 4501 or permission of instructor (Chem. 4151 is prerequisite to Chem. 4152). Chem. 4151, 4 hrs. lect., 3 hrs. lab.; Chem. 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 and Chem. 4503, 3 hrs. lect., 6 hrs. lab. 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.

Conservation/Geology

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.

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 and 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.

Mathematics

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). Prerequisite for 1302: Math. 1301 or intermediate algebra, trigonometry and acceptable score on department placement test. Four units each.

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. Credit cannot be granted toward a mathematics major or a bachelor's degree. Prerequisite: Math. 2303 or equivalent. Three units.

2301, 2302, 2303. Analytic Geometry and Calculus

(See Math 1302.) Four units each.

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. Five units.

3201, 3202, 3203. Higher Geometry

Math 3201 emphasizes advanced aspects of plane and solid Euclidean geometry, including foundations; Math. 3202, non-Euclidean geometry; Math. 3203, synthetic and analytic projective geometry. Prerequisite: Math. 3201—Calculus; Math 3202—Math. 3201; Math. 3203—Math. 3201. Four units each.

3320. 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 nth 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. "Hands-on" experience with the college instructional computing facility. One field trip to nearby computing installation. 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.

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. Five 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. Five 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.

4340. Introduction to Complex Variables

Introduction to theory of functions of complex variables. Prerequisite: Math. 3320. Five units.

4360. Introductory Topology

Beginning course in topological methods in analysis, standard theorems in topology, bicontinuous transformations, topological spaces, metric spaces. Prerequisite: Math. 4332 or consent of instructor. Four units.

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. Three 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. Three 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. Three 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. Three units.

5109. Elements of Matrix Algebra

Introduction to matrices and linear algebra; elementary properties, inverses, the algebra of vectors. Three 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. Five 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. Five 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.

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.

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) 3 hrs. lect., 3 hrs. lab. Four units.

1012. HEAT AND SOUND

Temperature, introduction to kinetic theory of matter, wave motion. Prerequisites: Phys. 1011, Math. 1303. (Concurrent enrollment) 3 hrs. lect., 3 hrs. lab. Four units.

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) 3 hrs. lect., 3 hrs. lab. Four units.

2012. LIGHT

Reflection and refraction of light, Huyghen's principle, lens and mirror systems, interference and diffraction. Prerequisites: Phys. 2011, Math. 2302. (Concurrent enrollment) 3 hrs. lect., 3 hrs. lab. Four units.

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. Four units.

2001, 2002, 2003. Introduction to Physics

An introductory sequence in general physics at a level that does not require a knowledge of calculus. Designed primarily for students majoring in the biological sciences (including pre-medical and pre-dental studies) or in the humanities. It does *not* satisfy prerequisite requirements for further work in physics, nor for graduate work in some fields of biology.

2001. NEWTONIAN MECHANICS

Prerequisite: Math. 1301 or equivalent. 3 hrs. lect., 3 hrs. lab. each. Four units.

2002. HEAT, KINETIC THEORY, ELECTRICITY AND MAGNETISM

Prerequisite: Phys. 2001. 3 hrs. lect., 3 hrs. lab. each. Four units.

2003. LIGHT AND MODERN PHYSICS

Prerequisite: Phys. 2002. 3 hrs. lect., 3 hrs. lab. each. Four units.

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. Phys. 3331 is prerequisite to Phys. 3332; Phys. 3332 is prerequisite to Phys. 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.

Psychology

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: Psych. 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: Psych. 2010, Stat. 1000. 3 hrs. lect., 6 hrs. lab. 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: Psych. 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: Psych. 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: Psych. 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: Psych. 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: Psych. 4200; Psych. 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: Psych. 3100. Four units.

Psychology

4300. Motivation

Nature of primary and secondary drives. Critical analysis of the concept of motivation in relation to behavior, learning and performance. Prerequisite: Psych. 3100 or consent of instructor. Four units.

4310. Comparative Psychology

Basic psychological processes in relation to animal behavior. Prerequisite: Psych. 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: Psych. 2010 and consent of instructor. Four units.

4330. Physiological Psychology II

Continuation of Psych. 4320. Prerequisite: Psych. 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: Psych. 3100. Four units.

4350. Heredity and Behavior

A consideration of genetic and environmental determinants of behavior and psychological characteristics of animals and humans. Prerequisites: Psych. 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: Psych. 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.

4610. 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: Psych. 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: Psych. 2010 and Stat. 1000 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: Psych. 3100 and consent of instructor. 3-6 hr. lab. One-two units.

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: Psych. 3100 and consent of instructor. 3-6 hr. lab. One-two units.

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: Psych. 3100 and consent of instructor. 3-6 hr. lab. One-two units.

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: Psych. 3100 and consent of instructor. 3-6 hr. lab. One-two units.

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: Psych. 5700 or equivalent. Four units.

SCIENCE EDUCATION**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: 1½ years of high school algebra. Five units.

2000. Statistical Analysis I

Sampling, distributions, test of significance and correlational methods. Prerequisite: Stat. 1000 or equivalent. Four units.

2510. Statistical Methods in the Social Sciences

Standard scores, T scores, ranked data, linear regression, correlation, measures of association, the normal distribution and its uses, paired comparisons, the uses of chi-square, introduction to design of experiments. Prerequisite: Stat. 1000 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.

3500. Statistical Methods in Science and Engineering

Probability background to statistical methods. Statistical ideas, the binomial, hypergeometric and Poisson distributions and their applications. Introduction to the uses of the normal, Students-T, and the chi-square distributions. Prerequisite: Math. 2301 (may be taken concurrently). 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. Four units.

3601. Applied Statistics

Laboratory and computational methods in statistics. Uses of desk calculators and automatic digital computers in regression, the analysis of variance and sample surveys. Miscellaneous types in numerical analysis applied to statistics. Prerequisite: Stat. 3502 (may be taken concurrently). Four units.

4000. Statistical Analysis II

Introduction to analysis of variance. Prerequisite: Stat. 2000 or equivalent. Four units.

Statistics

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 multi-variate 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.

DIVISION OF SOCIAL AND BEHAVIORAL SCIENCE

Departments and programs: Anthropology-Geography, Journalism-Mass Communications, Political Science, Social Science, Sociology

Professors: Marrfield (head) (on leave), Freitag (acting division head) (chairman, Department of Political Science), Fry, Geiser (chairman, Department of Sociology), Jackman, Lawton, Mehling (chairman, Interdivisional Program on Journalism-Mass Communications), Shaudys, Thomas (chairman, Department of Geography/Anthropology); Associate Professors: Anderson, Bauer, Blawie, Crowell, Curti, Gothberg, Kariel, Khan, McAfee, McKnight, C. Smith, J. M. Smith, Yeager; Assistant Professors: Banfield, Batten, Carter, Clarke, Crumrine, Duhnke, Ellsworth, Forbes, Foster, Garg, Hartman, Huttman, E. Jay, Keller, Michelson, Pagenhart, Poschman, Pringsheim (on leave), Randolph, Segal, Sussman, Takagi, Vatuk, Winter.

CURRICULA OFFERED

Baccalaureate Degree

Social Science (B.A.) (An interdivisional major; see also History section and Economics section.)

Anthropology (B.A.)

Geography (B.A.)

Language Arts (B.A.) (An interdivisional major; see Humanities for details.)

Political Science (B.A.)

Sociology (B.A.)

Master's Degree

Political Science (M.A.)

Minors (See advisers for requirements)

Anthropology

Economics

Geography

History (See Humanities for details.)

Journalism-Mass Communications

Language Arts (See Humanities for details.)

Political Science

Sociology

PURPOSES

The division offers instruction in anthropology, geography, journalism-mass communications, political science, sociology and social science, leading to the baccalaureate degree in anthropology, geography, political science, 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.

Requirements:

I. Complete the 76-unit requirement in general education, which applies 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-mass communications, political science, psychology or sociology.
- B. 7-9 quarter hours in each of three supporting fields, selected from history, economics, the social sciences, and psychology.
- C. The remaining courses (normally 4-8 quarter hours) to be distributed among social science or one or more of the fields named in (A) above.
- 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 at least 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. For purposes of program planning, see the illustrative program in Social Science with a core in journalism-mass communications (under the section, "Journalism-Mass Communications").

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 normally select history, geography or political science as the field of concentration (28 upper division units) for the teaching major. Candidates for the four-year elementary credential normally select geography, history, or political science as the field of concentration (28 upper division units) for the teaching major. Graduate students using the social science 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).

* See adviser for applicable courses in Division of Business and Economics.

** See adviser for applicable courses in Division of Humanities.

DESCRIPTION OF COURSES**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, audiovisual techniques, and content in social sciences, grades 7 through junior college. Prerequisite: consent of instructor. Three units.

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 similarities and 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 focused 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; namely, anthropology and geography. These core fields offer 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, diplomacy, 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 in both anthropology and geography. Scheduled field work or field trips are required in some courses, as indicated.

ANTHROPOLOGY MAJOR**I. General Requirements**

Complete the 76-unit requirement in general education, which must be satisfied for the B.A. degree.

Anthropology

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 1000 or 2001, Geology 1101, English 2060, 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, if previously completed, may be substituted for Anth. 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. 3530, 3550, 3560, 3570, 3575, 3590.
6. Three courses from one of the following two groups (Systematic Option):
 - a. *Archeology and Prehistory*: Anth. 3210 and two of Anth. 3220, 3240, and 4430.
 - b. *Socio-Cultural Anthropology*: Anth. 4310 and two of Anth. 3430, 3460, 4330, 4430, and 4450.

III. Recommended Courses in Supporting Fields

1. General Electives

Biology 2500; Biology 3500.

2. Archaeology and Prehistory Option

History 3100 or 3300; History 4030; Geology 3201; 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

A considerable breadth of academic subjects is to be noted in the spectrum of physical and biological sciences, geology, the social sciences and the humanities.

Requirements

- I. Complete the 76-unit requirement in general education, which must be satisfied for the B.A. degree.

Recommended Courses:

Lower Division

History of Western Culture (HWC 1001-1002-1003) or
Comparative Studies in Asian Cultures (Asia 2001-2003-2005)

Biology 1000, 2500; Geology 1101

Statistics 1000 or 2001; Psychology 2000, 2010

Foreign Language 1001-1002-1003 or demonstrated reading competence

Geography 2100, 2300; Sociology 2000

English 2060

Anthropology

Upper Division

Biology 3500, Geology 3201

History 4030 and/or regional courses on U.S., Asia, or Latin America

Philosophy 3300, 3400

- II. Complete the following required courses for the social science area major:

Lower Division Prerequisites (2 courses, totalling 8 units)

Anthropology 2100 and 2300 (Anth. 1000 or 3000, if previously completed, 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: Anth. 3200, 3210, 3220, 3240

One course from the following: Anth. 3300, 3330

One course from the following: Anth. 3430, 3460, 4410, 4420, 4430, 4450

One course from the following: Anth. 3500, 3505, 3510, 3530, 3550, 3560, 3570, 3575, 3590

One course from the following: Anth. 4330, 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-mass 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.

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	Fall	Wint.	Spr.
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, German or Russian		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
Eng. 1002 or Sp/Dr 1002—Expos. & Rhetoric/Oral & Writ. Exp.					3
Total			13½	16½	17

Second Year

	Units		
	Fall	Wint.	Spr.
Asia 2001-2003-2005—Comparative Studies in Asian Cultures	4	4	4
Anth. 2100—Principles of Biological Anthropology	4		
Geol. 1101—Physical Geology	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	
Eng. 2060—Introduction to Linguistics		4	
Stat. 1000 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 two 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

Fourth Year

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 three choices)		4	
Recommended Courses in Supporting Fields for Option (incl. upper division General Education)	4	4	
Symp. 4801—Senior Symposium		3	
Electives (or teaching minor)	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 Anth. 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 or Biol. 3500. 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.

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, 8 hours activity (field excavation all day Saturday). 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. 1000 or 2300 or 3000 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 or geography course on region; or residence in region and consent of instructor. Four units.

3530. Peoples of Island Southeast Asia

Cultural patterns and problems of the Malay world; comparative study of the peoples of Malaysia, Indonesia, and the Philippines, including the Negrito, Chinese, Indian, and European minorities. Prerequisite: Anth. 1000 or 2300 or 3000; or history or geography course on Southeast Asia; 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.

3590. Peoples of Europe

Analysis of major cultures of contemporary Europe: origins and evolution, social organization, life styles, value systems, and material culture. Implications of rural-urban differences, national and subnational identification, and culture contact. Prerequisite: Anth. 1000 or 2300 or 3000; or history or geography course on Europe; or residence in region and consent of instructor. Four units.

Advanced—Socio-Cultural Anthropology**4310. Field Course in Ethnography**

Securing, recording, ordering, and analysis of cultural data; problems of participant observation and eliciting information from informants; methods of data collection. Prerequisite: One course in Anth. 3300 or 3400 or 3500 series. 1 hr. lecture, 8 hrs. activity (field work all day Saturday or two afternoons per week). Five units.

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.

4410. Language in Culture

The study of language in culture; analysis of speech and speech events; meaning, personality, social structure, world view and the speech community; language context in space and time; languages in an evolving cultural world. Prerequisite: English 2060 (Introduction to Linguistics). Four units.

4420. Cross-Cultural Studies in Child-Rearing

Infancy, childhood, adolescence; the process of enculturation considered cross-culturally. Prerequisite: Anth. 3460. Four units.

4430. Invention and Technology

Material artifacts as embodiment of cultural processes: innovation, acceptance, rejection, modification, manufacture, decoration, trade; influence of basic technological inventions. Prerequisite: Anth. 3200. 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—Regional Anthropology**4510. Comparative Study of Arid Land Habitats**

The varying interpretations and utilizations of arid and semiarid environments by different cultural groups at different times and places; problems of human adaptation to dry lands. Prerequisite: One of Anth. 3510, Geog. 3510, 3515, or 3530. Cross-listed with Geog. 4510. Four units.

Advanced—History of Anthropology**4600. Growth of Anthropological Thought**

History and philosophy of anthropology; its place among the sciences and the humanities; schools of thought, with emphasis upon the respective contributions and contrasting viewpoints of eminent anthropologists of America, Australasia, and

Geography

Europe. Prerequisite: senior standing; completion of three upper division anthropology courses, or consent of instructor. 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.

4910. Pro-Seminar in Anthropology

Seminar in anthropological literature, research aids, and source materials. Four units.

GEOGRAPHY MAJOR

I. General Requirements

Complete the 76-unit requirement in general education, which must be satisfied for the B.A. degree.

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 1001; Physical Science 1340; Meteorology 1400; Statistics 1000 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. 1000 and Foreign Language 1001-1002-1003).

II. The Major

The major consists of not less than 54 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:

1. Geog. 2100 and 2300 (Geog. 1000 or 3000, if previously completed, may be substituted for 2300).
2. Geog. 3100, 3310, 3400, 3410, 3420, 3600, 4600, 4910.
3. Two courses from the following (Regional Option): Geog. 3500, 3505, 3510, 3515, 3530, 3540, 3550, 3560, 3575.
4. Three courses from one of the following five groups (Systematic Option):
 - a. *Physical-Biotic Geography:* Geog. 4100, 4110, 4130, 4210.
 - b. *Cultural Geography:* Geog. 4310 and two of Geog. 3300, 3320, 3340, 4300.
 - c. *Historical-Theoretical Geography:* Geog. 4400, 4450, 4500, 4510, 4610.
 - d. *Cartographical Geography:* Geog. 3610, 3620, 4400, 4610.
 - e. *Resources Management:* Geog. 4110 or 4210; two of Geog. 4300, 4320, 4350.

Geography

III. Recommended Courses in Supporting Fields

1. Physical-Biotic Geography Option:

Math. 1301-1303; Geology 3201; Geology 3810; Geology 4310; Biology 3500; Botany 3000; Botany 4600; Zoology 3000; Zoology 4142; Biology 4461-4462.

2. 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.

3. 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.

4. Resources Management Option:

Upper division courses in at least four of the following subject fields: biology, botany, economics, geology, nature study, political science, recreation, sociology, and zoology, in an integrated program approved by the department.

GEOGRAPHY CORE IN SOCIAL SCIENCE AREA MAJOR

A considerable breadth of academic subjects is to be noted in the spectrum of physical and biological sciences and the social sciences. The geography core in social science area major is recommended for prospective elementary and secondary school teachers.

Requirements

1. Complete the 76-unit requirement in general education, which applies 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

Mathematics 3000; Psychology 2000

Foreign Language 1001-1002-1003 or demonstrated reading competence

Anthropology 1000; Sociology 2000

Upper Division

Geology 3201

Electives in Music, Art, Speech, Education

- II. Complete the following required courses for the social science area major:

Lower Division Prerequisites (2 courses, totalling 8 units)

Geography 2100 and 2300 (Geog. 1000, if previously completed, may be substituted for Geog. 2300)

Upper Division Core (7 courses, totalling 28 units in geography)

Geography 3000, 3300 or 3310, and 4300

One course from the following: Geog. 3400, 3410, 3600

One course from the following: Geog. 3500, 3505

One course from the following: Geog. 3510, 3515, 3530, 3540, 3550, 3560, 3575

One course from the following: Geog. 3320, 3340, 4400, 4450, 4500, 4600, 4610, 4910

Geography

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* subjects fields, selected from anthropology, economics, history, journalism-mass 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, 3310 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		
	Fall	Wint.	Spr.
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, German or Russian.....	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	
Eng. 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
Geog. 2100—Principles of Physical Geography.....	4		
Geol. 1101—Physical Geology.....	5		
Phys. Sci. 1340—Principles of Physical Science.....	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. 1000—Elements of Probability and Statistics.....		5	
Elective		4	
Total	18	17½	17½

Geography

	Units	Fall	Wint.	Spr.
Third Year				
Geog. 3100—Descriptive and Regional Climatology.....	4			
Geog. 3400—Field Instruments and Graphic Methods.....	5			
Geog. 3410—Map and Aerial Photo Reading and Interpretation.....	4			5
Geog. 3420—Field Observation and Report Writing.....				
Geog. 3600—Cartographic Instruments and Graphic Methods.....	4			
Geog. 3310—Economic Geography.....	4			
Biol. 4450—Biogeography.....	3			
Recommended Courses in Supporting Fields for Option.....	4	4	4	
Electives (or Teaching Minor).....	4	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 General Education).....	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 landforms, 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.

Geography**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.

3310. Economic Geography

Consideration of man's resource-converting and space-adjusting techniques; location, extraction, production, exchange, and consumption of raw materials, manufactured products, and services; the development, form, and function of economic regions; concepts of spatial interaction of goods and services. 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, 8 hours activity (field work all day Saturday). 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. Two half-day field trips required. 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, 8 hours activity (field work all day Saturday). 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.

3540. Geography of Eastern Asia

Study of Japan, Korea, China, Mongolia, Tibet, Taiwan, and Hong Kong. Prerequisite: Geog. 1000 or 2300 or 3000; or a previous course in history or political science on the region; 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 required half-day field trips to government and commercial map-reproduction organizations. Prerequisite: Geog. 1000 or 2100 or 3000. 1 hour lecture, 6 hours activity. Four 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, 6 hours activity. Five units.

Geography

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, 8 hours activity. Five 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 all-day Saturday field trips required. Prerequisite: Geology 1101. 4 hrs. lect., 3 hrs. lab. Cross-listed with Geology 4100. Five units.

4110. Field Course in Physical Geography

Problems and methods in analysis and mapping of landforms, drainage, weathering, soils, climatic elements; deduction of interrelations among physical processes shaping the landscape. Prerequisite: Geog. 3100 or 4100. 1 hr. lecture, 8 hours activity (field work all day Saturday). 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, 8 hours activity (field work all day Saturday). 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.

4310. Field Course in Cultural Geography

Problems and methods in analysis and mapping of material and non-material features of human origin; recognition of co-variation; cultural change; interrelations of form, function, and movement. Prerequisite: Geog. 2300 and one course in Geog. 3300 series. 1 hr. lecture, 8 hours activity (field work two afternoons per week). Five units.

4320. Geography of Energy Resources

Distribution of sources, production trends, use patterns, and potentials of water, wind, volcanic, tidal, solar, and other sources of power for human utilization, with emphasis upon the fossil fuels (coal, petroleum, oil shale) and nuclear energy. Prerequisite: Geog. 3310. Four units.

4350. Water Resources and Their Management

Study of fresh water resources, especially for the United States. Problems of supply, control, and multiple use for domestic and municipal purposes, waste transportation, manufacturing and processing, irrigation and drainage, power, recreation, navigation, and flood control. Prerequisite: Geog. 3310. Four units.

Journalism—Mass Communications

Advanced—Historical-Theoretical Geography

4400. Location Theory

Principles underlying the location and distribution of phenomena in a theoretical framework; application of systems analysis to the study of spatial relations; concepts and theories of static structure, functional organization, and simple dynamic systems. Prerequisite: Stat. 1000 and one geography course. 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 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.

4510. Comparative Study of Arid Land Habitats

The varying interpretations and utilizations of arid and semi-arid environments by different cultural groups at different times and places; problems of human adaptation to dry lands. Prerequisite: One of Anth. 3510, Geog. 3510, 3515, or 3530. Cross-listed with Anth. 4510. 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.

4610. Geographic Exploration and Discovery

Study of man's acquisition of knowledge about the earth's surface, from fortuitous discovery to planned scientific investigations, as exemplified by more accurate and detailed maps, charts, and aerial photographs. Prerequisite: Geog. 3300 or 3410 or one course in 3500 series. 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—MASS COMMUNICATIONS

PURPOSES

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.

Journalism—Mass Communications

Illustrative Program* for the Social Science Area Major

(Core concentration: Journalism-Mass Communications)

First Year

	Units		
	Fall	Wint.	Spr.
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. Dr. 1002—Expos. and Rhetoric/Oral and Written Expression		3	
P.E. 1101—Health and Physical Activity			3
Art 1110—Introduction to Art		3	
P.E. 1010, 1011—Physical Education Activity	½		½
Sp/Dr 2210—Mass Media of Communication	4		
Journ. 2401, 2402—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
P.E. 2010-11—Physical Education Activity	½		½
Stat. 1000—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	
Eng. 2700-01—World Literature I, II	4		4
Journ. 3700—Hist. and Development of the Mass Media			4
	15½	16	15½

Third Year

Eng. 4040—Modern English Grammar	4		
Anth. 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. 3150—Economic History of the U.S.		4	
Elective		4	
Journ. 3212—Pictorial Journalism		3	
Pol. Sci. 4241 or 4242—Governments of Asia		4	
Symp. 3801—Junior Symposium		3	
	16	15	15

Fourth Year

Journ. 4500—Editing	4		
Journ. 4650—Publications Internship		5	
Anth. 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

Journalism—Mass Communications

DESCRIPTION OF COURSES

JOURNALISM—MASS COMMUNICATIONS

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. Three units each.

2210. Mass Media of Communication

(See Speech/Drama Section for course description.) Four units.

3211. College Newspaper Laboratory

A laboratory experience with instruction. Class members constitute the staff of the college newspaper. Prerequisite: Journalism 2401-3 or equivalent or consent of instructor. 2 to 6 hrs. lab. One to three units. May be repeated for total of nine units.

3212. Pictorial Journalism

A laboratory course for students working on college pictorial publications. Principles of copy writing, photo editing and layout. 2 hrs. lab, 2 hrs. lect. One to three units. May be repeated for maximum of six 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 College offers a major in political science which 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.

THE BACHELOR OF ARTS DEGREE IN POLITICAL SCIENCE

I. Complete the 76-unit requirement in general education, which must be satisfied for the B. A. degree.

II. Complete the following requirements in the major:

- A. 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. For credential purposes 36 upper division units in political science are required; consult with an adviser regarding a credential program.
- 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. Proficiency may be demonstrated either by the completion of the second year of college course work in an approved foreign language or by examination.

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 2020 and History 4540 or approved tests. Political Science 3100 may not apply toward the major.

THE MASTER OF ARTS DEGREE IN POLITICAL SCIENCE

The College offers the degree of Master of Arts in Political Science. In general, the program is open to graduates of accredited institutions who (1) have an undergraduate program of 40 quarter units in political science and such additional upper division units in related fields of political science as to total 60 quarter units, (2) have earned not less than a 2.5 grade point average in all undergraduate work attempted, (3) have at least a 3.0 grade point average in the undergraduate major, and (4) obtain a score at or above the national norm on the Graduate Record Examination Aptitude Test. If a student does not receive a satisfactory score on the Graduate Record Examination, or if he has earned less than a 2.5 grade point average in all undergraduate work attempted, or if he does not meet the 3.0 grade point average required by the department, he may continue postgraduate work as an unclassified graduate for the purpose of removing deficiencies and otherwise demonstrating ability to succeed in a master's degree program.

Requirements for the Degree

A. Advancement to Candidacy.

A student who holds classified graduate standing may be considered for advancement to candidacy when he: (1) has filed an official program of study approved by the appropriate graduate adviser, (2) has completed all undergraduate deficiencies and, (3) has been recommended for advancement to candidacy by the department. Advancement to candidacy is recommended by the department after the student has satisfactorily completed 12 quarter units of work beyond the baccalaureate degree.

B. Examinations.

Before a student may register for Pol. Sci. 6990, *Master's Thesis*, the student must: (1) demonstrate a satisfactory knowledge of an approved foreign language and, (2) pass a written qualifying examination in methodology and theory in two of the following areas: American government and politics, comparative government, international relations, public law.

Upon completion of the thesis the student must pass an oral examination defending his thesis.

C. Curricular Requirements.

1. 45 quarter units of approved courses earned in graduate standing, of which at least 36 must be completed in residence.

2. Course Requirements.

All students in the program must take Pol. Sci. 6000, *Graduate Seminar in Political Science Methodology* (4 units), and Pol. Sci. 6990, *Master's Thesis* (5 units).

All students must choose four of the following five courses:

Pol. Sci. 6180, <i>Graduate Seminar in American Government & Politics</i>	4 units
Pol. Sci. 6280, <i>Graduate Seminar in Comparative Government</i>	4 units
Pol. Sci. 6480, <i>Graduate Seminar in Public Law</i>	4 units
Pol. Sci. 6580, <i>Graduate Seminar in International Relations</i>	4 units
Pol. Sci. 6780, <i>Graduate Seminar in Political Theory</i>	4 units

A typical program will, therefore, be as follows:

Required courses	20 units
Additional courses at 4000 level and above, as approved	20 units
Thesis Research	5 units

Total	45 units
-------	----------

Political Science

3. Grade Point Averages.

Grade point averages of at least 3.0 must be maintained on:

- all programmed courses required for the removal of undergraduate deficiencies
- all courses accepted for transfer credit
- all courses taken at California State College at Hayward concurrently or subsequently to the earliest course listed on the official master's degree program.

Illustrative Program for the Political Science Major

	Units	Fall	Wint.	Spr.
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			
General Education 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. 3112—Amer. Legislatures and Legislation	4			
Eng. 1010—Introduction to Literature	5			
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			
Geog. 2300—Principles of Cultural Geography	4			
Asia 2005—Asian Societies in the Modern World	4			
Eng. 1202—Expository Writing	4			
	16½	17½	16	

	Units	Fall	Wint.	Spr.
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			
Geog. 4300—Political Geography	4			
Pol.Sci. 4248—Government and Politics of China or				
Pol. Sci. 4249—Government and Politics of Japan	4			
Elective	4			
Conser. 4380—Conservation of Natural Resources	5			
	15	16	17	

Fourth Year

Sr. Symp. 4801—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	10			
	16	16	14	

DESCRIPTION OF COURSES

POLITICAL SCIENCE

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.

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.

4248. Government and Politics of China

Development of political ideas and institutions in Communist and Nationalist China, with emphasis upon nationalism, communism, constitutional development, foreign policy and current political problems. Four units.

4249. Government and Politics of Japan

Development of political ideas and institutions, with emphasis upon constitutional development, political parties and movements, legislation, foreign policy and current political problems. Four units.

4260. Government and Politics of Africa South of the Sahara

The governments of the independent states and dependent territories of Africa south of the Sahara, with special reference to comparative colonial policies, nationalism, political parties and the problems of nation building, pan-Africanism and inter-state relations. 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.

3503. Philosophy of Law

See Philosophy section for course description. 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 section for course 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 section for course 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 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.

4560. Soviet Foreign Policy

An analysis of the basic factors which underlie and condition Soviet foreign policy; goals in particular areas and fields of activity; methods, strategy and tactics of USSR in foreign policy. Prerequisite: Pol. Sci. 3520 or consent of instructor. Four units.

Political Science

4570. U.S. and the Far East

Forces influencing the relations between the U.S. and the states of the Far East; analysis of foreign policies of major Asian nations and factors leading to cooperation and conflict between U.S. and these states. 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.

4805. Politics of Public Administration

The politics in the administration of such areas as planning, personnel, public safety and urban renewal, with special reference to organizational theory, decision-making and pressure groups. Prerequisite: Pol. Sci. 4800. 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.

Sociology

Graduate Courses

6000. Graduate Seminar in Political Science Methodology

An analysis of the methodology employed in political science research; individual research on selected topics with emphasis upon the methodology. Prerequisite: approved M.A. candidates or consent of instructor. Four units.

6180. Graduate Seminar in American Government and Politics

Research and analysis of selected issues and problems of significance in the area of American government and politics. Prerequisite: approved M.A. candidate in political science and 8 units in American government and politics, or consent of instructor. Four units.

6280. Graduate Seminar in Comparative Government

Research and analysis of selected problems of significance in selected major and/or minor nations. Prerequisite: approved M.A. candidate in political science and 8 units in comparative government, or consent of instructor. Four units.

6480. Graduate Seminar in Public Law

Research and analysis in selected problems in public law including constitutional law, administrative law, comparative law, judicial processes, theory of law. Prerequisite: approved M.A. candidate in political science and 8 units in public law, or consent of instructor. Four units.

6580. Graduate Seminar in International Relations

Research and analysis of problems in international relations. Prerequisite: approved M.A. candidate in political science and 8 units in international relations, or consent of instructor. Four units.

6780. Graduate Seminar in Political Theory

Research on selected topics in political philosophy. Prerequisite: approved M.A. candidate in political science and 8 units in political theory, or consent of instructor. Four units.

6990. Graduate Thesis in Political Science

Research on approved topics for thesis for the master's degree. Prerequisite: advancement to candidacy and an officially appointed thesis director or thesis committee. Five units.

DEPARTMENT OF SOCIOLOGY

PURPOSES

The College offers a major in sociology which leads to the bachelor of arts degree. The objectives of the curriculum are to provide undergraduate preparation for continuing graduate study in sociology, social work or teaching at the secondary, junior college and university levels. The area major in social science with a core in sociology is designed for students who wish to become acquainted with sociology in some depth but who also desire to have a broader background in the related social sciences.

SOCIOLOGY MAJOR

and

SOCIAL SCIENCE MAJOR (Core in Sociology)

I. Complete the 76-unit requirement in general education which must be satisfied for the BA degree.

II. *The Major*

(a) *Sociology*

This consists of 61 to 63 units of course work, depending upon the area of concentration, and at least 12 units of upper-division course work selected under advisement from related fields.

(b) *Social Science Area Major (Core in Sociology)*

This consists of 60 units of course work, including at least 32 units of upper and lower division course work selected under advisement from related fields.

III. The following departmental requirements are in addition to the College's basic requirements for the BA degree:

1. *Lower Division—17 units*

- Soc. 2000, Introduction to Sociology *
- Soc. 2400, Introduction to Social Organization
- Stat. 1000, Introduction to Probability and Statistics **
- Stat. 1510, Statistics for Social Sciences

2. *Upper Division—12 units*

- Soc. 3300, History of Social Thought
- Soc. 3310, Current Sociological Theory
- Soc. 4100, Social Research Methods

3. *Area of Concentration* (Elect one area of concentration from a, b, c or d)

(a) *Social Organization and Social Psychology*

- 1. From the following—12 units:
 - Soc. 3500, Social Psychology
 - Soc. 3510, Social Change
 - Soc. 3540, Religion and Social Conduct
 - Soc. 4510, Dynamics of Collective Behavior
 - Soc. 4530, Introduction to Political Sociology

- 2. From upper-division sociology courses—8 units

(b) *Population and Demography*

- 1. From the following—12 units:
 - Soc. 3400, Introduction to Population and Demography
 - Soc. 3430, Social Stratification
 - Soc. 4440, Industrial Sociology
 - Soc. 4450, Urban Sociology
 - Soc. 4460, Occupations and Professions
 - Bus. 3850, Data Processing

(or)

Math. 3700, Introduction to Digital Computer Programming

- 2. From upper-division sociology courses—8 units

(c) *Social Services*

- 1. From the following—18 units:
 - Soc. 3700, Introduction to Social Services
 - Soc. 3710, Social Legislation and Public Policy
 - Soc. 4111-12, Field Investigation
 - Soc. 4711-12, Pro Seminar in Social Processes

- 2. From upper-division sociology courses—4 units

(d) *Social Science Major (Core in Sociology)*

- 1. From the following—12 units:
 - One course from each of III,3(a) above; III,3(b) above; and III,3(c) above
- 2. From upper-division sociology courses—4 units

* Also satisfies part of the two-of-four general education code requirement in social science.

** Also satisfies the general education code requirement in mathematics, logic or statistics.

4. *Collateral Requirements for Sociology Major*

(a) *Courses in related fields:*

Each student in the *sociology 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: anthropology, economics, geography, history, journalism, philosophy, political science, psychology and social science.

(b) *Foreign Language*

Each student in the *sociology major* must give satisfactory evidence of a reading ability in at least one modern foreign language.

5. *Collateral Requirements for Social Science Major (core in Sociology)*

(a) *Upper division supporting fields** (8 courses totalling 32 units):

- Two courses in *each of three* subject fields, selected from anthropology, economics, geography, history, journalism—mass communications, political science, and psychology.
- Two additional courses to be distributed among one or two of the above named fields or social science.

(b) *Foreign Language*

It is strongly recommended that students in the social science major (core in sociology) have a reading ability in at least one modern foreign language.

SOCIOLOGY TEACHING MINOR

Soc. 2000, Introduction to Sociology	4 units
Soc. 2400, Introduction to Social Organization	4 units
Stat. 1000, Introduction to Probability and Statistics	5 units
Stat. 1510, Statistics for Social Science	4 units
Soc. 3310, Current Sociological Theory	4 units
Soc. 4100, Social Research Methods	4 units
Soc. 4900, Individual Study	1-4 units
Upper Division Course in Sociology (Elective)	4 units

TOTAL 30-33 units

Illustrative Program for the Sociology Major

(Concentration in the Social Services)

<i>First Year</i>	<i>Units</i>		
	<i>Fall</i>	<i>Wint.</i>	<i>Spr.</i>
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

* 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.

Second Year

	Units		
	Fall	Wint.	Spr.
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
Eng. 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. 1000—Elements of Probability and Statistics			5
Speech 1003—Fundamentals of Speech			3
	15½	16	16½

Third Year

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	
Eng. 3252—Shakespeare's Tragedies		4	
	15	16	16

Fourth Year

Stat. 2010—Statistical Methods in the Social Sciences	4		
Soc. 4111—Field Investigation	3		
Soc. 4711—Pro-seminar in Social Processes	2		
Soc. 4460—Occupations and Professions	4		
French 1001—Elementary French	4	3	
Soc. 4112—Field Investigation		3	
Soc. 4112—Pro-seminar in Social Processes		2	
Soc. 4100—Social Research Methods		4	
French 1002—Elementary French		4	
Sr. Symp. 4801—Senior Symposium		3	
Phil. 3400—Philosophy of Science		4	
French 1003—Elementary French		4	
Cons. 4380—Conservation of Natural Resources		5	
Hist. 4000—Contemporary World Problems		4	
	17	19	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.

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.

FACULTY

HARCLEROAD, FRED F. (1959)	President
B.A., 1939, M.A., 1942, Colorado State College; Ph.D., 1948, Stanford University	
ALBAUGH, GLEN (1965)	Assistant Professor of Physical Education
B.A., 1954, M.A., 1959, San Jose State College	
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)	
ANGRESS, RUTH (1965)	Assistant Professor of Foreign Languages
B.A., 1950, Hunter College; M.A., 1953, M.L.S., 1956, M.A., 1964, University of California (part time)	
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)	Acting Head, Business and Economics Division; 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	
AYRE, JACK (1965)	Publications Assistant, Lecturer in Communications
B.A., 1948, University of Michigan	
BAALMAN, ROBERT J. (1965)	Assistant Professor of Biological Science
B.S., 1960, M.S., 1961, Fort Hays Kansas State College; Ph.D., 1965, University of Oklahoma	
BALL, JERALD T. (1965)	Instructor of Mathematics
B.A., 1954, San Jose State College; M.A., 1964, California State College at Hayward (part time)	
BANFIELD, JANE (1965)	Assistant Professor of Political Science
B.A., 1954, LL.B., 1954, University of British Columbia; M.A., 1959, University of Toronto	
BARCLAY, JAMES R. (1964)	Professor of Education
A.B., 1949, Sacred Heart College; M.A., 1956, Ph.D., 1959, University of Michigan	
BARRETT, G. HAROLD (1963)	Associate Professor of Speech and Drama
A.B., 1949, M.A., 1952, University of the Pacific; Ph.D., 1962, University of Oregon	
BATES, ROBERT E. (1963)	Professor, Director of Institutional Studies
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)	
BELGUM, EVELYN H. (1965)	Assistant Professor of Education
A.B., 1948, University of California; M.A., 1959, San Francisco State College	
BELTON, JOHN C. (1966)	Assistant Professor of Biological Science
B.S., 1957, Lewis and Clark College; M.S., 1962, Oregon State University	
BENTON, ELIZABETH J. (1966)	Assistant Professor of Counseling
B.A., 1932, University of Washington; M.A., 1934 Mills College (part time)	
BERINGER, RICHARD E. (1965)	Assistant Professor of History
B.A., 1956, Lawrence College; M.A., 1957, Ph.D., 1966, Northwestern University	
BIELLA, ARNOLD P. (1960)	Dean of Instruction; 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.B., 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	

BLOOMBERG, MAX ARTHUR (1963)	Librarian
B.A., 1960, Texas Christian University; M.A., 1961, Denver University	
BOER, GARRETT L. (1965)	Instructor of Mathematics
B.A., 1954, University of California (part time)	
BOSWELL, JULIA (1965)	Librarian
B.A., 1964, Vanderbilt University; A.M.L.S., 1965, University of Michigan	
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	
BROWN, CLARK (1964)	Assistant Professor of Education
Columbia University (part time)	
BROWN, DONALD J. (1963)	Director of Testing Services; Associate 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, GERALD W. (1965)	Chairman, Department of Teacher Education, Professor of Education
B.S., 1939, University of Nebraska; M.A., 1951, University of California; Ed.D., 1954, Stanford University	
BROWN, PAULINE (1966)	Assistant Professor of Education
A.B., 1941, A.M., 1959, Stanford University	
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	
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	
CARSON, LEWIS S. (1965)	Instructor of Art
B.A., 1960, Alfred University; M.A., 1963, 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 (on leave, academic year)	
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, Bryn Mawr College; M.A., 1964, University of California (part time)	
CLARK, CHARLES M. (1965)	Associate Professor of Education
B.A., 1951, M.A., 1956, University of Akron; Ph.D., 1960, Ohio State University	
CLARK, EUGENE W. (1964)	Director of Placement Services
B.A., 1949, Macalester College; M.S., 1951, University of Illinois; Ph.D., 1963, University of Denver	Professor of Biology
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; Ph.D., 1965, University of Missouri	
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	

Faculty

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) Chairman, Department of English; Professor of English
 B.A., 1939, B.S., 1942, Texas College of Arts and Industries; Ph.D., 1952, Stanford University

COOMES, HUGH R. (1965) Assistant Professor of Mathematics
 B.S., 1958, M.A., 1960, University of Kentucky

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

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

CROWELL, JACKSON H. (1963) Associate Professor of Political Science
 A.B., Bowdoin, 1947; M.A., 1949, Ph.D., 1959, Fletcher School of Law and Diplomacy

CRUMRINE, N. ROSS (1965) Assistant Professor of Anthropology
 B.A., 1957, Northwestern University; M.A., 1962, University of Arizona

CUMMINGS, JON C. (1964) Associate Professor of Geology
 B.S., 1952, M.S., 1956, Ph.D., 1960, Stanford University

CUMMINS, LEJEUNE (1963) Associate 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

CURTI, G. PHILIP (1966) Associate Professor of Social Science and Education
 B.A., 1951, M.A., 1957, Ph.D., 1960, University of California at Los Angeles

DAVIDSON, MORRIE (1963) Assistant Professor of Recreation
 A.B., 1950, M.A., 1958, San Francisco State College; Ed.D., 1965, University of California

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) Associate Professor of Art
 B.A., 1948, M.A., 1950, Central Washington State College

DAVIS, LESTER RAY (1965) Instructor of Physical Education
 B.A., 1963, San Jose State College; M.A., 1965, Stanford University

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)

DESCOUIZIS, PAUL M. (1964) Associate Professor of Foreign Languages
 M.A., 1951, Boston University; Ph.D., 1959, University of Maryland

DETWEILER, DEAN W. (1965) Director of Public Affairs and College Relations, Lecturer in Communications
 B.S., 1941, Ball State University

DEVRIES, JOHN E. (1964) Professor of Chemistry
 A.B., Hope College, 1941; Ph.D., University of Illinois, 1944

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)

DUHINKE, HORST G. (1964) Assistant Professor of Political Science
 B.A., 1950, M.A., 1952, Ph.D., 1964, University of California

DUNCAN, CHARLES F., JR. (1966) Assistant Professor of English
 A.B., 1960, Yale University; M.A., 1961, Ph.D., 1965, Emory University

EBERHARD, CARL J. (1966) Assistant Professor of Music
 B.M., 1962, M.M., 1963, Michigan State University

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

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

Faculty

FAY, JOSEPH (1965) Assistant Professor of Art
 B.A., 1957, M.A., 1960, Michigan State University

FINNEY, FRANK R. (1966) Assistant Professor of Business Administration
 A.B., 1942, Stanford University; M.B.A., 1957, University of California

FISHER, FRED D. (1964) Medical Officer
 A.B., 1931, M.D., 1935, University of California

FORBES, ROBERT L. (1960) Assistant Professor of Social Science and Education
 B.S., 1949, New York University; A.M.I., 1950, Harvard University

FOSTER, MARY L. (1966) Assistant Professor of Anthropology
 B.A., 1936, Northwestern University; Ph.D., 1965, University of California (part time)

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) Assistant Professor of History
 B.A., 1959, Harvard College; M.A., 1960, University of Michigan

FREITAG, OTTO F. (1960) Chairman, Department of Political Science
 B.A., 1939, M.A., 1940, University of Denver; Ph.D., 1942, State University of Iowa

FRITZ, CAROL S. (1966) Assistant Professor of Mathematics
 B.S., 1961, Ph.D., 1965, University of South Carolina

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

GANZ, JUDITH (1963) Instructor of English
 B.S., 1956, M.A., 1958, Ohio State College (part time)

GARCIA, ELSA (1965) Assistant Professor of Foreign Languages
 B.A., 1958, M.A., 1960, University of California

GARDNER, JEANNE C. (1965) Instructor of Mathematics
 B.S., 1953, University of Illinois; M.S., 1959, University of Pittsburgh

GARG, PULIN K. (1965) Assistant Professor of Sociology
 B.A., 1950, Rajputana University; M.A., 1952, Patna University, India

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) Associate Professor of Physics
 B.Sc., 1955, University of Sheffield, England; Ph.D., 1958, University of Exeter, England

GILLIARD, FRANK D. (1966) Assistant Professor of History
 B.A., 1957, University of Florida; M.A., 1961, University of California

GLASOW, GLENN L. (1961) Associate Professor of Music
 B.A., 1947, M.A., 1948, Hamline University

GLOE, ERNST (1965) Assistant Professor of Music
 B.M., 1942, University of Rochester Eastman School of Music; M.A., 1964, University of California

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)

GOOD, ROBERT H. (1966) Associate Professor of Physics
 A.B., 1953, University of Michigan; Ph.D., 1961, University of California

GOTHBERG, 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)

GRAW, HERBERT M. (1965) Assistant Professor of Physical Education
 B.A., 1957, M.A., 1959, University of California

GRAY, DARRELL M. (1964) Publicity Assistant, Assistant Professor of Journalism
 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)

GRAY, MARY W. (1965) Assistant Professor of Mathematics
 A.B., 1959, Hastings College; M.A., 1962, Ph.D., 1964, University of Kansas

GRIES, FRAUKE (1966) Assistant Professor of Foreign Languages
 B.A., 1962, San Francisco State College; M.A., 1964, Stanford University

GROODY, TOM C. (1960) Professor of Biological Science
 B.S., 1936, Kansas State University; M.S., 1937, Ph.D., 1952, University of California

GROSS, PHYLLIS (1965) Associate Professor of Biological Science
 B.A., 1937, San Jose State College; M.A., 1939, Stanford University

Faculty

GROVES, FRANK F. (1965) Assistant Professor of Education
B.A., 1950; M.S., 1952, Southern Illinois University; Ed.D., 1964, University of Colorado
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
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, GALIA M. (1966) Associate Professor of Foreign Languages
B.A., 1927, 1928, College Sainte-Marie, Amiens, France; M.A., 1939, Ph.D., 1947, University of California at Los Angeles; M.A., Library Science, 1953, University of Michigan
HANCOCK, JOHN D. (1960) Coordinator, Independent Study Center; Professor of Mathematics and Education
B.A., 1948, University of Southern California; M.A., 1949, Stanford University; Ed.D., 1961, Stanford University
HARRELL, JEAN GABBERT (1964) Assistant Professor of Philosophy
A.B., 1943, University of California; Ph.D., 1950, Columbia University
HARRINGTON, CARROLL E. (1965) Assistant Professor of History
B.A., 1949, M.A., 1953, Ph.D., 1959, University of California (part time)
HARTMAN, WILLIAM R. (1965) Assistant Professor of Political Science
B.A., 1961, Kenyon College; M.A., 1962, University of Chicago
HEATH, HARRISON DUANE (1960) Professor of Biological Science
A.B., 1944, A.M., 1946, Ph.D., 1951, Stanford University
HEBLER, JANE ANN (1965) Assistant Professor of Education
B.A., 1949, M.A., 1953, Syracuse University; Ed.D., 1965, Stanford University
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
HONG, SOON-YOUNG (1965) Librarian
B.A., 1960, M.A., Ewha Women's University, Korea; M.L.S., 1965, University of California
HUDSON, DON RICHARD (1965) Assistant Professor of Physical Education
B.A., 1958, M.A., 1963, San Francisco State College; Ed.D., 1965, University of Utah
HUNT, JUDITH ANN (1965) Assistant Professor of Psychology
A.B., 1960, Brown University; M.S., 1964, Ph.D., 1964, Northwestern University
HUNTER, ULYSSES (1964) Assistant Professor of Mathematics
B.S., 1959, A.M. & N. College, Arkansas; M.S., 1961, Ph.D., 1964, Purdue University
HUTTMAN, ELIZABETH D. (1965) Assistant Professor of Sociology
B.A., 1951, Syracuse University; M.S., 1955, Cornell University
INBERG, CAROL (1963) Assistant Professor of Business and Economics
A.B., 1943, C.P.A., 1952, M.B.A., 1960, University of California
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
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, University of California; LL.B., 1963, Boalt Hall, University of California School of Law; Member California State Bar
JENSEN, JANE H. (1963) Instructor of Mathematics
B.S., 1948, University of California (part time)
JENSEN, WILLIAM S. (1965) Assistant Professor of Business and Economics
B.A., 1957, University of Washington; M.S., 1959, Columbia University; LL.B., 1964, Hastings College of the Law, University of California (part time)
JESSNER, PETER HANS (1964) Associate Professor of Mathematics
A.B., 1949, Harvard College; M.S., 1951, University of New Mexico; Ph.D., 1962, University of North Carolina
JOHNSON, J. THOMAS (1965) Assistant Professor of Philosophy
B.A., 1955, University of Minnesota; M.A., 1958, Columbia University
JONES, G. BRIAN (1965) Assistant Professor of Counseling
B.A., 1956, University of Saskatchewan; B.Ed., 1959, M.Ed., 1962, University of Alberta (part time)

Faculty

JONES, TUDOR (1964) Associate 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; Associate 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 Educational Administration
A.B., 1925, M.A., 1926, Ph.D., 1931, University of California; L.H.D., 1959, California College of Medicine
KARIEL, HERBERT G. (1965) Associate Professor of Geography
B.S., 1949, M.Ed., 1954, University of Oregon; Ph.D., 1962, State University of Iowa
KELLER, BONNIE B. (1965) Assistant Professor of Anthropology
A.B., 1961, University of Missouri; M.A., 1963, University of California
KENYON, DEAN H. (1966) Assistant Professor of Physics
S.B., 1961, University of Chicago; Ph.D., 1965, Stanford University (part time)
KHAN, F. KARIM (1966) Visiting Associate Professor of Geography
B.A., 1943, Patna University, Patna India; M.A., 1945, Muslim University, Aligarh, India; Ph.D., 1958, Louisiana State University
KHOUJA, MOHAMAD W. (1965) Assistant Professor of Business and Economics
B.S., 1961, M.A., 1962, Indiana University (part time)
KIMELDORF, GEORGE S. (1965) Assistant Professor of Mathematics
A.B., 1960, University of Rochester; M.A., 1961, Ph.D., 1965, University of Michigan
KIMMEL, ARTHUR S. (1965) Assistant Professor of Foreign Languages
A.B., 1953, M.A., 1954, University of Miami
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
KWANG, CHING-WEN (1965) Professor of Business and Economics
B.A., 1948, Yenching University; M.A., 1952, University of Southern California; B.S., 1954, Ph.D., 1955, Syracuse University
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)
LAWTON, WILLIAM C. (1963) Professor of Sociology
B.A., 1933, M.A., 1935, University of Texas; Ph.D., 1955, University of Chicago
LAZOWICK, LIONEL M. (1966) Assistant Professor of Education
B.S., 1948, Roosevelt University; M.S., 1949, Ph.D., 1953, University of Illinois (part time)
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 the College; 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
LIMPER, PETER F. (1966) Assistant Professor of Philosophy
B.A., 1961, M.A., 1965, Yale University
LINCOLN, LELAND R. (1962) Assistant Professor of Music
B.M., 1948, M.M., 1949, Boston University (part time)
LIVINGSTON, JAMES W. (1965) Instructor of Statistics
B.S., 1964, M.S., 1965, California State College at Hayward (part time)
LIVSON, NORMAN (1966) Chairman, Department of Psychology, Professor of Psychology
B.S., 1945, M.A., 1949, Ph.D., 1951, University of California
LOEBS, BRUCE D. (1965) Assistant Professor of Speech and Drama
B.A., 1959, University of California at Santa Barbara; M.A., 1964, University of Oregon
LUTHE, MARIE K. (1965) Librarian
B.S., 1964, California State College at Hayward

Faculty

LUTT, CARL J. (1960) Professor of Biology and Health Education
B.S.M., 1942, Creighton University; M.D., 1945, Creighton University School of Medicine
LYKE, EDWARD B. (1965) Assistant Professor of Biological Science
B.A., 1959, Miami University; M.S., 1962, Ph.D., 1965, University of Wisconsin
MCAGUE, MALCOLM (1966) Associate Professor of Sociology
B.A., 1944, University of Chicago; B.D., 1945, Yale Divinity School; M.A., 1950, Ph.D., 1954, Yale Graduate School
MCNAULY, NANCY (1965) Assistant Professor of Art
B.A., 1956, M.A., 1960, University of California (part time)
MCOLM, CAROL A. (1966) Assistant Professor of Biological Science
B.A., 1961, M.S., 1963, University of Minnesota
MCGINNIS, SAMUEL E. (1963) Assistant Professor of Biological Science
B.S., 1958, University of Wisconsin; Ph.D., 1965, University of California
MCHEUGH, WALTER S. (1960) Professor of Education
B.S., 1953, Lowell State College; Ed.M., 1957, Ed.D., 1960, Boston University (on leave, academic year)
MCKNIGHT, ROBERT K. (1966) Associate Professor of Anthropology
B.A., 1951, Miami University; M.A., 1954, Ph.D., 1960, Ohio State University
MADRID, ROBERT B. (1965) Assistant Professor of Business and Economics
B.S., 1956, University of California; C.P.A., 1958 (part time)
MAHANEY, DAVID W. (1961) Coordinator of Building Program; Lecturer in Engineering
B.S., 1937, Virginia Polytechnic Institute
MARKOS, DONALD W. (1966) Assistant Professor of English and English Education
B.S., 1959, Wisconsin State University; M.S., 1960, Mankato State College
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
MARTIN, DUNCAN H. (1965) Assistant Professor of Mathematics
B.Sc., 1961, University of Natal; Ph.D., 1964, University of South Africa
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) Associate Professor of Education
A.B., 1926, M.A., 1955, University of California
MATHews, ALFRED (1963) Associate Professor of Physical Education
B.A., 1954, M.A., 1958, Ed.D., 1966, University of California
MATSUMOTO, ROY T. (1965) Assistant Professor of Psychology
B.A., 1962, University of Hawaii; M.A., 1964, Ph.D., 1965, State University of Iowa
MAYER, FORREST L. (1960) Dean of Educational Services; Professor of Business
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., 1956, 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
MEHLING, REUBEN (1965) Chairman, Interdivisional Program of Journalism-Mass Communications; Professor of Journalism and Mass Communications
B.A., 1949, University of California; M.A., 1950, University of Iowa; Ph.D., 1957, Stanford University
MENNELL, 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 Sciences; Professor of Social Science
A.B., 1935, M.A., 1935, University of Chicago; Ph.D., 1952, Claremont Graduate School (on leave, academic year)
MEUTER, ROBERT G. (1965) Librarian
B.A., 1956, Golden Gate College; B.A., 1960, M.A., 1965, San Jose State College
MICHELSON, HERBERT A. (1962) Assistant Professor of Journalism
B.S., 1954, Indiana University (part time)
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)
MINTZ, LEIGH W. (1965) Assistant Professor of Geology
B.S., 1961, M.S., 1962, University of Michigan
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
B.M.E., 1948, Rensselaer Polytechnic Institute; B.M.A., 1959, Ph.D., 1965, University of California (on leave, academic year)

Faculty

MORFORD, ROBERT W. (1965) Chairman, Department of Health and Physical Education
B.P.E., 1956, M.P.E., 1959, University of British Columbia; Ed.D., 1964, University of California
MUIR, DONALD BELDEN (1960) Associate Professor of Speech and Drama
B.A., 1951, George Washington University; M.A., 1954, Stanford University
MYERS, HAROLD W. (1965) Assistant Professor of Art
A.B., 1954, San Jose State College; M.F.A., 1959, Mills College
NELKEN, ZOILA E. (1966) Assistant Professor of Foreign Languages
A.B., 1934, H. Sophie Newcomb College; M.A., 1936, Tulane University (part time)
NEILSON, NEILS P. (1966) Professor of Health and Physical Education
B.S., 1919, Utah State Agricultural College; M.A., 1922, Ph.D., 1936, University of California
NIEPOTH, EDWARD W. (1960) Chairman, Department of Recreation; Professor of Recreation
B.A., 1949, M.A., 1950, Chico State College; Ed.D., 1962, Stanford 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
NYBAKKEN, BETTE H. (1965) Instructor of Biological Science
B.A., 1960, St. Olaf College; M.S., 1962, University of Wisconsin (part time)
NYBAKKEN, JAMES W. (1965) Assistant Professor of Biological Science
B.A., 1958, St. Olaf College; M.S., 1961, Ph.D., 1965, University of Wisconsin
OVALLE, JOSEPH F. (1961) Assistant Professor of Foreign Languages
B.A., 1955, St. Mary's College; M.A., 1963, Stanford University (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)
PARNELL, DENNIS R. (1965) Assistant Professor of Biological Science
B.A., 1961, Whittier College; M.A., 1963, Ph.D., 1965, University of California at Los Angeles
PARKER, HAROLD K. (1965) Associate Professor of Education
A.B., 1937, Grove City College; Ed.M., 1948, University of Pittsburgh, Ed.D., 1952, Stanford University (part time)
PATTERSON, YOLANDA (1965) Assistant Professor of Foreign Languages
B.A., 1954, Smith College; M.A., 1960, Ph.D., 1964, Stanford University
PECKENHAM, JESSE K. (1962) Assistant Professor of Mathematics
B.E., 1941, Northwestern University; M.A., 1950, Arizona State University (part time)
PEDERSON, CLAIRE (Mrs.) (1964) Professor of Education
A.B., 1946, University of California; M.A., 1946, Columbia University; Ed.D., 1952, Stanford University
PENROSE, GLORIA (1965) Instructor of Speech and Drama
A.B., 1946, M.A., 1950, University of California
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
PETERSON, DOUGLAS L. (1960) Professor of English
B.A., 1949, M.A., 1950, Ph.D., 1957, Stanford University
PETERSON, GEORGE H. (1963) Associate Dean of Instruction, Associate 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
POLLACK, MYRON F. W. (1965) Associate Dean of Instruction; Dean of Admissions and Records
A.B., 1941, Dartmouth College; M.A., 1950, Ph.D., 1965, Stanford University
POOL, KENNETH B. (1964) Assistant Professor of Psychology
A.A., 1950, Ventura Junior College; B.A., 1951, University of California, Santa Barbara
POSCHMAN, GENE S. (1965) Assistant Professor of Political Science
A.B., 1956, M.A., 1963, University of California
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 (on leave, academic year)	
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	
PURVIS, COLBERT T. (1960)	Professor of Mathematics
B.S., 1940, Georgia Teachers College; M.S., 1948, East Texas State Teachers College; Ph.D., 1957, George Peabody College	
PYLE, JOYCE S. (1961)	Librarian
B.A., 1944, Reed College; M.L.S., 1945, Columbia University	
RAACK, RICHARD C. (1965)	Associate Professor of History
A.B., 1950, A.M., 1953, University of California at Los Angeles; Ph.D., 1957, Harvard University	
RAILTON, ESTHER P. (1960)	Assistant Professor of Education
B.S., 1951, Western Michigan University; M.S., 1955, University of Michigan; Ed.D., 1960, University of Illinois	
RANDALL, ARNE WILLIAM (1960)	Professor of Art
B.A., 1938, Central Washington State College; M.A., 1940, Teachers College, Columbia University (on leave, academic year)	
RANDOLPH, LILLIAN L. (1965)	Assistant Professor of Political Science
B.A., 1953, M.A., 1956, University of Washington; Ph.D., 1965, University of California	
REEVES, ROSA (1965)	Assistant Professor of Foreign Languages
B.A., 1961, Northwestern State College	
RESNIKOFF, GEORGE J. (1964)	Chairman, Department of Statistics; Professor of Mathematics and Statistics
B.S., 1950, University of Chicago; M.S., 1952, Ph.D., 1955, Stanford University	
REUTER, WILLIAM C. (1965)	Assistant Professor of History
A.B., 1955, M.A., 1959, University of California	
RICE, CHARLES E. (1964)	Assistant Professor of Psychology
B.A., 1952, Denison University; Ph.D., Florida State University (part time)	
RICE, RICHARD B. (1960)	Chairman, Department of History; Special Assistant to the President; Professor of History
B.A., 1945, M.A., 1947, Ph.D., 1957, University of California	
RIVENES, RICHARD S. (1964)	Assistant Professor of Physical Education
B.S., 1960, Washington State University; M.S., 1961, Ph.D., 1964, Pennsylvania State University	
ROBINSON, BRENDA J. (1965)	Assistant Professor of Speech and Drama
B.A., 1962, University of the Pacific; B.A., 1963, University of Illinois	
ROBINSON, KARL FREDERIC (1965)	Professor of Speech and Drama
B.S., 1925, University of Illinois; M.A., 1935, University of Michigan; Ph.D., 1940, University of Wisconsin	
ROGERS, DARRYL D. (1965)	Assistant Professor of Health and Physical Education
B.A., 1957, M.A., 1965, Fresno State College	
ROHR, MICHAEL D. (1965)	Instructor of Philosophy
B.A., 1962, Harvard College (part time)	
ROSE, MELISSA M. (1964)	Librarian
A.B., 1951, M.L.S., 1963, University of California	
ROSENBAUM, MORTON (1960)	Professor of English
B.A., 1943, M.A., 1947, Wayne State University; Ph.D., 1952, University of Wisconsin	
ROSENTHAL, MELVYN (1966)	Assistant Professor of English
B.A., 1961, City College of New York	
ROSS, MARVIN (1965)	Assistant Professor of Chemistry
B.S., 1955, Brooklyn College; Ph.D., 1960, Pennsylvania State College (part time)	
ROSZAK, THEODORE (1963)	Associate Professor of History
B.A., 1955, University of California at Los Angeles; Ph.D., 1958, Princeton University	
SABATH, MILDRED R. (1960)	Professor of Education
B.A., (LAS) 1945, University of Illinois; M.E., 1951, Ed.D., 1960, Wayne State University	
SALERA, VIRGIL (1959)	Professor of Business Administration and Economics
B.S., 1935, M.A., 1936, University of California; Ph.D., 1941, Columbia University	
SALTZER, RUDOLPH B. (1965)	Associate Professor of Music
B.A., 1947, University of California at Los Angeles; M.S., 1952, D.M.A., 1964, University of Southern California	
SARKAR, ANIL KUMAR (1965)	Professor of Philosophy
B.A., 1933, St. Columba's College; M.A., 1935, Ph.D., 1946, Patna University, Patna, India	
SAWREY, WILLIAM L. (1960)	Professor of Psychology and Statistics
A.B., 1949, Indiana University; Ph.D., 1952, University of Nebraska	
SAXTON, S. EARL (1962)	Assistant Professor of Music
A.B., 1947, University of California; M.A., 1960, San Francisco State College (part time)	

Faculty

SCHMID, KARL H. (1965)	Assistant Professor of Mathematics
M.Sc., 1963, D.Sc., 1964, University of Stuttgart	
SCHOENHOLZ, WALTER K. (1965)	Associate Professor of Biological Science
B.S., 1956, M.A., 1959, Ph.D., 1962, University of California	
SCHRADER, H. LUANA (1963)	Instructor of Mathematics
A.B., 1936, University of California; M.S., 1964, California State College at Hayward	
SCHUINHOFF, HUGO F. (1962)	Professor of Education
A.B., 1931, Illinois College; M.A., 1933, Gallaudet College; M.Ed., 1949, University of Missouri; Ed.D., 1956, University of Maryland (part time)	
SCHUSTERMAN, RONALD J. (1964)	Assistant Professor of Psychology
B.A., 1954, Brooklyn College; M.A., 1958, Ph.D., 1961, Florida State University (part time)	
SCHWANZARA, SHIRLEY ANN (1966)	Assistant Professor of Biological Science
A.B., 1959, University of California at Los Angeles; M.A., 1960, California State College at Los Angeles	
SCUDDER, HARVEY L. (1966)	Head, Division of Biological and Health Sciences, Professor of Microbiology
B.S., 1939, Ph.D., 1953, Cornell University	
SEAVEY, JOAN (1962)	Associate Dean of Students; Dean of Women; Associate Professor of Education
B.A., 1939, M.E., 1950, University of Oregon; Ed.D., 1958, Stanford University	
SEGAL, MORLEY (1963)	Assistant Professor of Social Science and Education
A.B., 1957, M.A., 1959, San Francisco State College; Ph.D., 1965, Claremont Graduate School	
SHAUDYS, VINCENT K. (1963)	Assistant to the President; Professor of Geography
B.A., 1950, Duke University; M.A., 1953, Ph.D., 1956, Ohio State University	
SHELTON, JOHN C. (1965)	Assistant Professor of Chemistry
B.S., 1959, Lock Haven State College; Ph.D., 1964, Cornell University	
SHIVELY, THORNTON T. (1963)	Librarian
B.A., 1934, Hastings College; M.L.S., 1958, University of California	
SHOPTAUGH, PHILIP L. (1965)	Instructor of Music
San Francisco State College (part time)	
SHRINER, WILLIAM C. (1959)	Professor of Education
B.A., 1936, M.A., 1941, University of California; Ed.D., 1951, Columbia University	
SILVERMAN, THALIA (1965)	Assistant Professor of Education
B.S., 1949, M.A., 1956, Northwestern University (part time)	
SIMS, JOHN H. (1965)	Assistant Professor of Business and Economics
B.S., 1940, United States Naval Academy; M.B.A., 1950, Harvard University	
SLATOFF, HOWARD A. (1959)	Associate Dean of Students; Dean of Men; Associate Professor of Art
A.B., 1948, San Jose State College; M.A., 1949, Stanford University	
SMITH, ALAN M. (1964)	Assistant Professor of History
A.B., 1959, Dickinson College; M.A., 1960, University of Pittsburgh	
SMITH, ARLENE H. (1965)	Assistant Professor of Health and Physical Education
B.A., 1956, University of Redlands; M.A., 1960, California State College at Los Angeles	
SMITH, ARTHUR C. (1959)	Chairman, Department of Biological Sciences; Professor of Biological Science
A.B., 1939, San Jose State College; Ph.D., 1951, Cornell University	
SMITH, CLARENCE E. (1964)	Associate Professor of Anthropology
A.B., 1940, Ph.D., 1950, University of California	
SMITH, J. MALCOLM (1965)	Associate Professor of Political Science
B.A., 1946, University of Washington; M.A., 1948, Ph.D., 1951, Stanford University	
SMITH, MARIANNE (1963)	Assistant Professor of Mathematics
B.S., 1943, Queens College; M.S., 1944, Ph.D., 1947, University of Illinois	
SOLDALH, THOMAS A. (1963)	Professor of Education
B.S., 1947, M.A., 1950, Ph.D., 1962, University of Minnesota	
SOUTHARD, THOMAS H. (1960)	Chairman, Department of Mathematics; Director, Instructional Computation Center; Professor of Mathematics (on leave, academic year)
B.A., 1932, M.A., 1933, Ph.D., 1936, Ohio State University	
SOWERS, MALCOLM (1965)	Associate Professor of Counseling
A.B., 1943, University of California; M.D., 1946, University of California Medical School (part time)	
SPENCER, JAMES E. (1963)	Assistant Professor of Education
B.A., 1950, Pomona; M.A., 1957, Claremont Graduate School	
SPRAGUE, DOUGLAS G. (1965)	Assistant Professor of Education
B.A., 1955, Carleton College; M.A., 1959, University of Minnesota	
STAEBLE, JANE T. (1964)	Assistant Professor of English
B.A., 1960, M.A., 1962, Ohio State University (part time)	
STANIFORTH, GWENDOLYN E. (1964)	Assistant Professor of English
B.A., 1954, Illinois College; M.A., 1959, University of California	
STELZER, JOHN H. (1965)	Instructor of Philosophy
B.S., 1964, University of Maryland (part time)	

Faculty

STERN, DANIEL S. (1962)	Assistant Professor of Music
B.A., 1962, University of California (part time)	
STEVENS, JOHN M. (1965)	Assistant Professor of Education
B.S.S., 1953, M.A., 1955, University of Chicago; Ed.D., 1965, University of California	
STEVENS, ROBERT R. (1965)	Assistant Professor of Mathematics
B.S., 1958, M.S., 1960, Purdue University; Ph.D., 1965, University of Arizona	
STONE, EDMUND C. (1964)	Assistant Professor of Education
B.S., 1950, University of California; M.A., 1951, Mills College (part time)	
STRASBURG, L. GLEN (1964)	Chairman, Department of Management; Professor of Business Administration
B.S., 1947, Brigham Young University; B.S., 1953, University of Utah; M.B.A., 1960, Ph.D., 1962, Ohio State University	
STRONG, DONALD J. (1963)	Director of Counseling Services; Associate Professor of Psychology
A.B., 1950, Houghton College; M.A., 1951, University of Michigan; Ph.D., 1959, University of Denver	
SUMMERS, JOHN W. (1961)	Associate Professor of Mathematics and Statistics
A.B., 1951, M.A., 1955, San Jose State College; Ph.D., 1961, University of California	
SUSSMAN, SYLVIA (1965)	Assistant Professor of Sociology
B.A., 1960, University of California; Ph.D., 1963, University of London (part time)	
TAKAGI, PAUL T. (1964)	Assistant Professor of Sociology
A.B., 1949, University of California; M.A., 1963, Stanford University	
TERRALL, JOHN R. (1965)	Associate Professor of Mathematics
B.S., 1942, Harvard University; Ph.D., 1950, Massachusetts Institute of Technology (part time)	
THOMAS, WILLIAM L., JR. (1963)	Chairman, Department of Geography-Anthropology; Professor of Anthropology and Geography
B.A., 1941, M.A., 1948, University of California at Los Angeles; Ph.D., 1955, Yale University	
THOMPSON, JOHN B. (1961)	Associate Professor of Philosophy
B.A., 1926, Beloit College; B.D., 1932, Union Theological Seminary	
TICKNER, ELSE (Mrs.) (1962)	Librarian
B.A., 1951, University of Minnesota; M.S., 1952, Columbia University	
TOFT, DANIEL J. (1966)	Assistant Professor of History
B.A., 1957, Grinnell College; M.S., 1962, University of Wisconsin	
TOMS, JACK (1965)	Associate Professor of Music
B.M., 1932, Oberlin College; M.M., 1936, University of Michigan (part time)	
TRACEWELL, THEODORE N. (1962)	Associate Professor of Mathematics
B.A., 1959, Ph.D., 1964, University of California	
TRUMBO, BRUCE E. (1965)	Assistant Professor of Statistics
A.B., 1959, Knox College; M.S., 1961, Ph.D., 1965, University of Chicago	
TUTTLE, CARROLL, S. (1965)	Instructor of Music
B.A., 1965, California State College at Hayward (part time)	
VANDENBURGH, WILLIAM G. (1960)	Executive Dean, Administrative Services; Professor of Physical Education
B.S., 1949, M.S., 1950, University of Washington; Ed.D., 1953, Columbia University	
VATUK, SYLVIA JANE (1965)	Assistant Professor of Anthropology
B.A., 1955, Cornell University; M.A., 1958, University of London (part time)	
VATUK, VED PRAKASH (1965)	Associate Professor of Foreign Languages
B.A., 1952, M.A., 1954, Meerut College, Agra University, India	
VIDAL, ELIE R. (1965)	Chairman, Department of Foreign Languages and Literature; Professor of Foreign Languages
A.B., 1952, M.A., 1953, Ph.D., 1957, University of Michigan	
VRMEER, RICHARD (1965)	Lecturer and Research Consultant, Educational Services
A.B., 1961, University of California at Riverside; M.S., 1965, University of Southern California	
WAGNER, EVA BOND (1966)	Professor of Education
B.S., 1926, Teachers College, Columbia University; M.S., 1932, University of Alabama; Ph.D., 1938, Teachers College, Columbia University	
WALL, HARVEY R. (1965)	Assistant Professor of Education
B.A., 1951, Tabor College; M.E., 1954, University of Kansas; Ed.D., 1960, University of California (part time)	
WALPOLE, EARL L. (1965)	Instructor of Foreign Languages
B.A., 1962, Arizona State University (part time)	
WALZ, JOHN D. (1965)	Assistant Professor of History
B.A., 1951, University of Wyoming; A.M., Syracuse University	
WATSON, ROY T. (1966)	Assistant Professor of Foreign Languages
A.B., 1952, Jacksonville State College; M.A., 1955, University of Washington; Ph.D., 1964, University of California	

Faculty

WEETER, RAYMOND D. (1964)	Assistant Professor of Foreign Languages
B.A., 1950, University of Utah; M.A., 1952, Universidad Nacional de Mexico	
WEIDLICH, JOHN EDWARD, JR. (1964)	Associate Professor of Mathematics
B.S., 1948, M.S., 1950, Stanford University; Ph.D., 1961, University of California	
WEIR, MARY K. (1965)	Assistant Professor of Education
B.A., 1947, M.A., 1963, University of California (part time)	
WEISS, WINFRIED F. (1966)	Assistant Professor of Foreign Languages
B.A., 1961, University of North Carolina; A.M., 1963, Harvard University	
WEST, MARIAN (1964)	Assistant Professor of Music
B.S., 1951, University of Washington (part time)	
WHEELER, LAWRENCE (1964)	Associate Professor of Psychology
A.B., 1948, M.A., 1950, Ph.D., 1962, Indiana University	
WHELAN, HAROLD P. (1962)	Associate Professor of Music
B.A., 1937, University of Washington; M.M., 1947, Northwestern University	
WHITE, JULIAN M. (1965)	Assistant Professor of Music
B.S., 1957, M.S., 1958, Juilliard School of Music	
WHITE, ROBERT M. (1962)	Chairman, Department of Counseling and Pupil Personnel; Professor of Education
B.A., 1947, Dakota Wesleyan University; M.A., 1954, Ph.D., 1958, University of Minnesota	
WHITEHEAD, MARIAN (1964)	Associate Professor of Physics
B.A., 1944, Reed College; M.A., 1945, Columbia University; Ph.D., 1951, University of California	
WHITEHORN, EUGENE D. (1963)	Coordinator, Materials Preparation Services; Associate Professor of Education
B.S., 1938, M.E., 1946, Wayne State University	
WHITNEY, ROBERT C. (1963)	Chairman, Department of Geophysical Sciences; Professor of Physical Science
B.S., 1947, University of Washington; M.S., 1958, Ph.D., 1963, Cornell University	
WILLIAMS, ROBERT C. (1963)	Associate Professor of Education
A.B., 1949, A.M., 1953, Ed.D., 1960, Stanford University (part time)	
WILLIAMS, ROBERT V. (1963)	Professor of English
B.A., 1948, Cornell University; M.A., 1950, Stanford University	
WINTER, ROBERT E. (1965)	Assistant Professor of Geography
B.S., 1962, M.S., 1965, University of Wisconsin	
WONG, PHILLIP W. (1964)	Instructor of Statistics
A.B., 1962, M.A., 1964, University of California (part time)	
WOODS, MARION C. (1960)	Chairman, Department of Chemistry; Professor of Chemistry
B.S., 1947, Colorado State University; M.S., 1948, California Institute of Technology; Ph.D., 1950, Cornell University	
WORLDAND, CHARLES W. (1960)	Coordinator, Utilization Services; Associate Professor of Education
B.A., 1948, Indiana University; M.A., 1950, University of Michigan; Ed.D., 1960, Columbia University (on leave, winter and spring quarters)	
WREN, DALE P. (1959)	Professor of Business Administration
A.B., 1946, San Jose State College; M.A., 1950, Ed.D., 1952, Stanford University	
YALOM, MARILYN K. (1963)	Associate Professor of Foreign Languages
B.A., 1954, Wellesley College; M.A.T., 1956, Harvard; Ph.D., 1963, Johns Hopkins	
YEAGER, HERMAN V. (1960)	Associate Professor of Social Science and Education
A.B., 1950, San Jose State College; M.A., 1951, Ph.D., 1959, Stanford University	
ZAHN, JANE C.	Lecturer in Education
B.S., 1949, M.A., 1950, University of Oregon (part time)	
ZEITLIN, HARRY (1960)	Associate Professor of Education
B.S.S., 1948, College of the City of New York; M.A., 1949, Teachers College, Columbia University; Ph.D., 1958, Columbia University	
ZHIVADINOVICH, MILKA R. (1964)	Associate Professor of Chemistry
M. Chem. Eng., 1934, Belgrade University, English School; Sc.D., 1939, Sorbonne (University of Paris)	

INDEX

	Page
Academic Calendar	6
Academic Load	47
Academic Regulations	46
Accounting, Courses in	82
ACT Test	20
Adding and Dropping Courses	32
Administration, College	13
Admission to the College	19
Admission Policies and Procedures	24
Admission as a Freshman	20
Admission as an Undergraduate Transfer	22
Admission with Graduate Standing	23
Advisory Board	13
Alumni Association	42
American Government and Politics	211
Anthropology, Courses in	194
Anthropology, Major	191
Anthropology, Teaching Minor	193
Application Fee	34
Application for Graduation	56
Applied Music, Courses in	100
Art, Courses in	90
Art, Major	88
Art, Minor	88
Associated Students	41
Astronomy, Courses in	174
Athletics	41
Audiovisual Services	60
Auditing Courses	31
Baccalaureate Degree Requirements	54
Baccalaureate Degrees	59
Biological and Health Sciences, Division of	69
Biological Science, Major	70
Biology, Courses in	72
Board of Trustees	13
Botany, Courses in	74
Business Administration, Courses in	82
Business Administration, Major	79
Business and Economics, Division of	85
Business Education, Courses in	81
Business Education, Major	81
Business Education, Minor	6
Calendar	12
California State College System	11
California State Colleges, Listing of	26
Cancellation of Admission	32
Cancellation of Enrollment	60
Center for Independent Study	10
Chancellor's Staff	48
Change of Objective	32
Changes in Registration	174
Chemistry, Courses in	165
Chemistry, Major	49
Class Attendance	46
Classification of Students	212
Comparative Government, Courses in	67
Comparative Studies in Asian Cultures	60
Computation Center	176
Conservation, Courses in	127
Counseling and Pupil Personnel, Courses in	122
Counseling and Pupil Personnel, Department of	39
Counseling Services	48
Course Examinations	46
Course Numbering System	87
Creative Arts, Division of	109
Credentials, Teaching	49
Credit by Examination	49
Credit for Experience	28
Credit for Extension and Correspondence Work	27
Credits for Junior College Work	59
Curricula and Degrees	47
Declaration of Objectives	59
Degrees	59
Disqualification of Students from College	51
Drama, Courses in	106
Dropping Courses	32
Dual Matriculation	32
Early Childhood Education Program	111
Economics, Courses in	85
Economics, Major	82
Education, Courses in	117
Education, Division of	108
Elementary Teacher Education Program	112
English, Courses in	146
English, Major	145
English, M.A. Degree	146
English, Minor	145
Entomology, Courses in	75
Entrance Requirements	19
Evaluation of Transfer Credits	27
Examinations	48
Faculty	222
Fees	34
Foreign Languages, Courses in	149
Foreign Languages Placement Tests	48
Foreign Students	40
French, Courses in	152
French, Major	149
French, Minor	150
Freshman Admission	20
General Education	60
General Education Requirements	65
Geography-Anthropology, Department of	191
Geography, Courses in	201
Geography, Major	198
Geography, Teaching Minor	200
Geology, Courses in	176
German, Courses in	153
Grade Reports	51
Grading Procedures	49
Graduate Standing, Admission to	23
Graduation, Making Application for	56
Graduation Requirements	54
Graduation With Honors	55
Health Services	39
Health Education, Courses in	136
Health and Physical Education, Department of	130
Health Sciences	62
History, Courses in	157
History, Major	156
History, Minor	156
History of Western Culture	67
Honors in English and History	144
Honors List	51
Honors Program	54
Housing	40
Humanities, Division of	144
Incomplete Marks	50
Independent Study Programs	53
Individual Study Programs	53
Instructional Computation Center	60
Insurance	39
Intercollegiate Athletics	41
Interdivisional Programs	67
International Programs	63
International Relations, Courses in	213
Journalism, Courses in	207
Journalism-Mass Communication	205
Junior College Education Program	116
Junior-Senior Symposia	68
Language Arts, Major	146
Late Registration	32
Library	59
Loans	40
Major and Minor Requirements (See divisions)	
Management Sciences, Courses in	83
Marketing, Courses in	84
Marking System	50

INDEX—Continued

	Page
Mass Communications	205
Master's Degree Requirements	55
Master's Degrees	59
Mathematics, Courses in	177
Mathematics, Major	166
Mathematics, M.S. Degree	167
Mathematics and Physical Science, Division of	164
Mathematics Placement Test	48
Matriculation	31
Meteorology, Courses in	181
Microbiology, Courses in	75
Military Service Withdrawal	51
Military Training, Credit for	28
Moss Landing Marine Laboratories	69
Music, Courses in	98
Music Courses, Recommended Sequence	94
Music Education, Courses in	101
Music History and Literature, Courses in	99
Music, Major	92
Music, M.A. Degree	96
Music, Minor	98
Music Performance, Courses in	48
Music Placement Tests	48
Music Theory, Courses in	98
Nature Study, Courses in	76
Non-degree Credential Programs	59
Notification of Acceptance or Denial	26
Part-time Student Employment	41
Part-time Students	46
Petition of Leniency by Students	53
Photography, Courses in	181
Philosophy, Courses in	161
Philosophy, Major	161
Philosophy, Minor	161
Physical Education, Courses in	133
Physical Education and Health, Department of	130
Physical Education, Major	130
Physical Education, Minor	132
Physical Education, M.S. Degree	132
Physical Examinations	26
Physical Science, Courses in	182
Physical Science and Mathematics, Division of	164
Physical Science, Major	168
Physics, Courses in	182
Physics, Major	170
Placement Examination	48
Placement Services	41
Post Baccalaureate Students	52
Political Science, Courses in	211
Political Science, Department of	208
Political Science, M.A. Degree	209
Political Science, Major	208
Political Theory, Courses in	214
Pre-law Studies	62
Pre-professional Preparation	61
Pre-theological Studies	62
Probation and Disqualification	51
Program Planning	46
Programs, Special	53
Psychology, Courses in	184
Psychology, Major	171
Public Address, Courses in	107
Public Administration, Courses in	214
Public Law, Courses in	213
Pupil Personnel, Courses in	127
Pupil Personnel and Counseling Department	122
Pupil Personnel, M.S. Degree	126
Recreation, Courses in	138
Recreation, Department of	136
Recreation, Major	136
Recreation, Minor	137
Refund Regulations	35
Registration	31
Registration Fees	34
Regulation, Academic	46
Regulations, General	45
Reinstatement	52
Repeated Courses	51
Requirements for Graduation	54
Residence Requirements	55
Responsibilities of the Student	48
Rhetoric and Public Address, Courses in	107
Russian, Courses in	153
Schedule of Classes	46
Schedule of Fees	34
Scholarships	40
Scholarship Requirements for Graduation	55
Scholarship Status	51
School Administration and Supervision, Courses in	141
School Administration and Supervision, Department of	139
School Administration and Supervision, M.A. Program	140
School Districts, Program Participation	117
Science Education, Courses in	76
Secondary Teacher Education Program	114
Selective Service Regulations	45
Senior Symposium	68
Social and Behavioral Science, Division of	189
Social Science, Area Major	190
Sociology, Courses in	219
Sociology, Department of	215
Sociology, Major	215
Sociology, Teaching Minor	217
Spanish, Courses in	153
Spanish, Major	150
Spanish, Minor	151
Special Programs	53
Speech-Drama, Courses in	105
Speech-Drama, Major	102
Speech-Drama, Minor	105
Standard Teaching Credentials	109
Statistics, Courses in	172
Statistics, Major	187
Student Conduct	45
Student Council	41
Student Publications	41
Student Responsibility	48
Student Insurance	39
Student Health Services	39
Student Services	39
Student Organizations	40
Teacher Education, Admission to	109
Teacher Education, Department of	109
Teaching Credentials	109
Transfer Credits, Evaluation of	27
Trustees, California State Colleges	9
Undergraduate Transfer	22
Veterans Information	45
Withdrawal from College	33
Zoology, Courses in	76

NOTES

NOTES

AREA MAP

