

THE UNIVERSITY
OF NEW MEXICO
BULLETIN
• CATALOG ISSUE
1964-65

75TH ANNIVERSARY • 1889-1964





Bernard Rodey took time to glance from the window of his Santa Fe hotel room on February 28, 1889, he saw the profile of the Sandia Mountain looming 60 miles to the southwest—looking exactly as it does today.

But today—thanks in part to the crusade which took the young Albuquerque lawyer to the Territorial capitol—the view from Sandia Crest has undergone dramatic changes. In the 75 years since the 1889 Territorial Legislature adopted Rodey's plan to found The University of New Mexico a great educational institution has grown in the shadow of the mountain. And as it grew it added impetus to the growth of the State.

THE PAST . . .

The start was modest and—in a territory where both money and population were scanty and where a public school system was far in the future—early growth was slow. In 1914, at the end of the University's first 25 years, only 78 college students were enrolled. By 1939 and the 50th Anniversary, enrollment had reached 1,565 and the graduating class claimed 150 members.

But the story has been very different in the latest era of the history of The University of New Mexico. Since World War II, the University has participated in New Mexico's entry into the age of atomic energy and space exploration with an expansion program paralleling the state's burgeoning economic and population growth. By 1953 enrollment had reached 4,163 and in 1963 it had redoubled to 9,494 students.

THE PRESENT . . .

In its 75th Anniversary year The University of New Mexico looks back on an era which saw it grow from a single brick structure with a faculty of 7 to a \$60,000,000 plant staffed with a faculty of more than 350—a roster which includes scholars and scientists of international reputation in a score of fields. The University of New Mexico stands today—with a solid national reputation for academic quality established—as a great educational institution serving its state and its nation.

AND THE YEARS AHEAD . . .

For the University of New Mexico, the future can only mean continued growth. By 1970, the most conservative estimates foresee a student body of 15,000. But numbers alone are no measure of growth for a university. The research program, grown 500 per cent in the past 5 years with more than \$4,000,000 in contracts now in effect, will continue advancing the frontiers of knowledge at an accelerated pace. The University School of Medicine enrolls its first class in this anniversary year, beginning a new service for State and Nation. Other new instructional programs will be instituted as needs arise.

For the University of New Mexico, this 75th year marks not a turning point but a continuation of growth in service and in stature. Bernard Rodey's dream of a great university will continue to be realized.

1964-65



BULLETIN

SEVENTY-THIRD CATALOG ISSUE

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ed by The University of New Mexico, Albuquerque, New Mexico, seven times a
once in January, once in March, once in May, once in July, once in August, once
tember and once in December—with one additional issue in November during the
ears and one in August and one in December during the odd years. Second-
ostage paid at Albuquerque, New Mexico.

the UNIVERSITY of NEW MEXICO

DIRECTIONS FOR CORRESPONDENCE

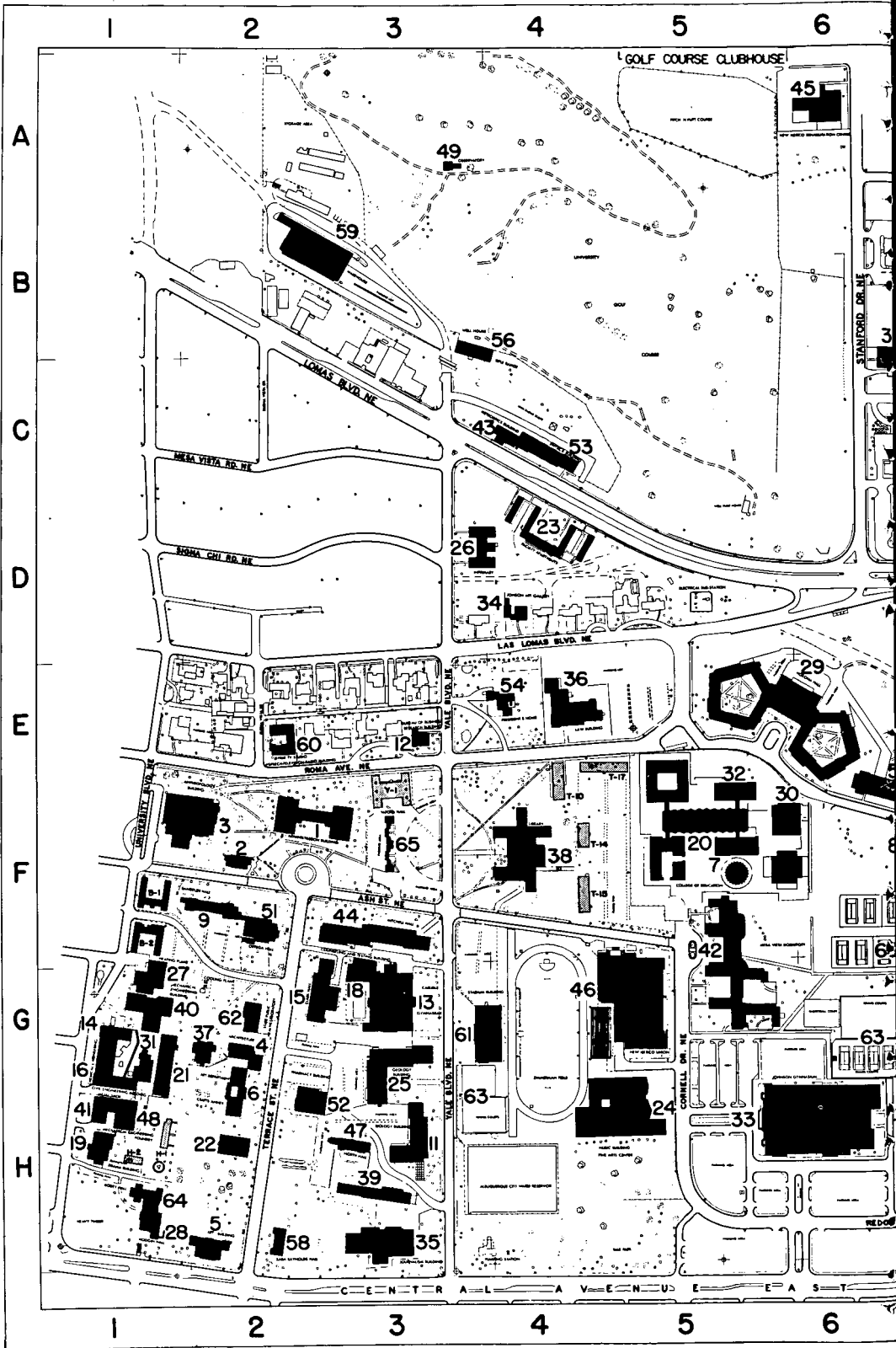
The post office address of The University of New Mexico is Albuquerque, New Mexico. Requests for specific information should be directed as follows:

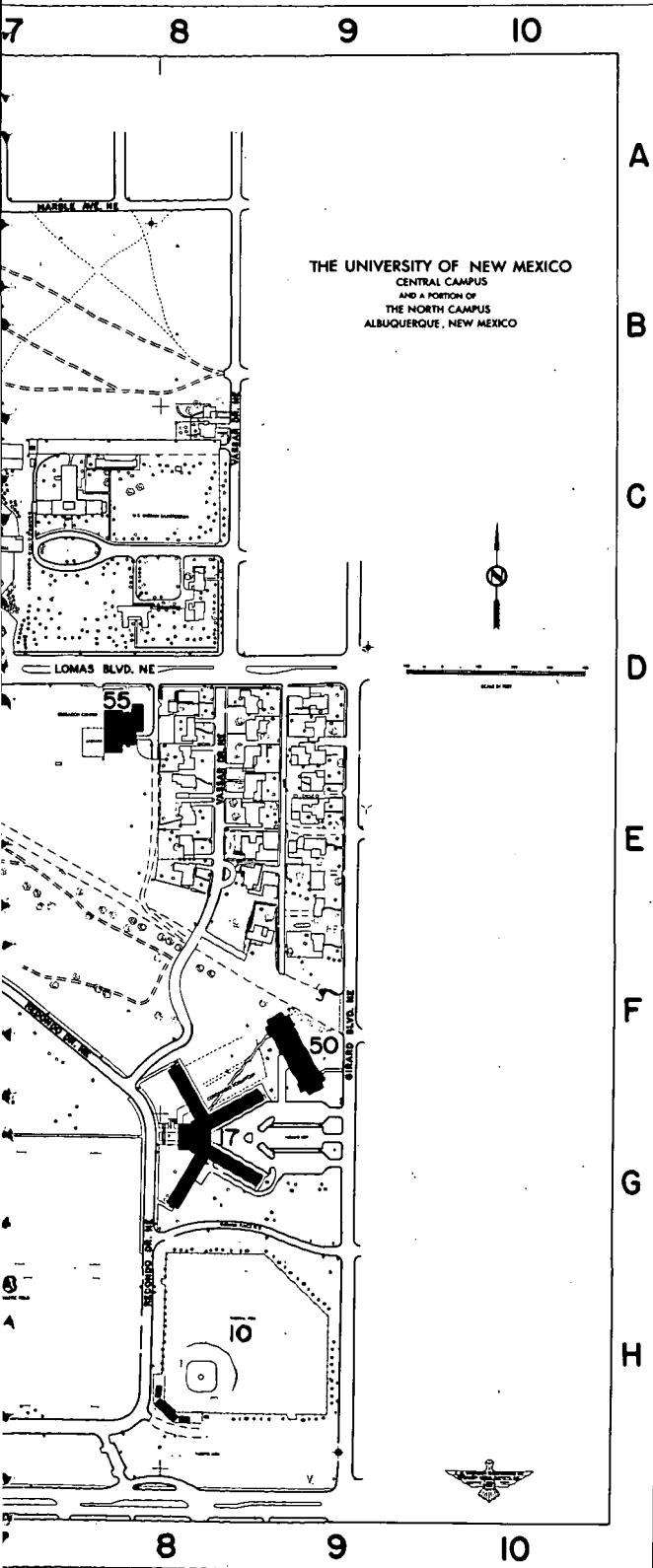
GENERAL INFORMATION, ADDITIONAL LITERATURE, ENTRANCE, CREDENTIALS (other than Graduate School, School of Law, and School of Medicine), CALENDAR, REGISTRATION, ACADEMIC MATTERS	Director of Admissions
ADMISSIONS (other than Graduate School, Law School, and Medical School)	Director of Admissions
GRADUATE SCHOOL (Admission and General Information)	Dean of the Graduate School
SCHOOL OF LAW (Admission and General Information)	Dean of the School of Law
SCHOOL OF MEDICINE	Dean of the School of Medicine
SUMMER SESSION	Director of the Summer Session
ANTHROPOLOGY FIELD SESSION	Chairman of the Department of Anthropology
APPLICATIONS FOR FIELD SESSIONS	Director of Admissions
EVENING CREDIT COURSES	Director of the Community College
HOUSING INFORMATION—DORMITORIES AND MARRIED HOUSING	Housing Director
SCHOLARSHIPS AND LOANS	Dean of Men
STUDENT EMPLOYMENT	Placement Bureau
AIR FORCE RESERVE OFFICERS TRAINING CORPS	Air Force R.O.T.C. Unit
NAVAL RESERVE OFFICERS TRAINING CORPS	Executive Officer, Naval R.O.T.C. Unit
VETERAN'S INFORMATION	Veterans Affairs Officer
PEACE CORPS INFORMATION	Peace Corps Training Center
EXPENSES	Comptroller
CORRESPONDENCE AND EXTENSION COURSES	Extension Division
STUDENT AFFAIRS	Dean of Students
PERSONAL WELFARE	Dean of Women or Dean of Men
VOCATIONAL ADVISEMENT, COUNSELING, TESTING	Counseling and Testing Services
GIFTS, GRANTS AND BEQUESTS	Director of Development

University office hours are, in general, 8:00 to 12:00 and 1:00 to 5:00 Monday through Friday. The Information desk of the Office of Admissions and Records, Room 102, Administration Building is also open 8:00 to 12:00 Saturday. Office hours of the University Cashier are 9:00 to 12:00 and 1:00 to 4:00 Monday through Friday. Administrative offices are open during most of the days of the official student Recess periods.

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1964

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1965

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26 27 28 29 30	24 25 26 27 28 29 30	28 29 30	26 27 28 29 30 31
	31		

ACADEMIC CALENDAR

1964 SUMMER SESSION

1964

New Student Tests and Instructions	June 18, Thu.-June 19, Fri., 8 a.m. Room 101, Anthropology Bldg.
Registration	June 20, Sat.
Instruction begins; late registration fee applies	June 22, Mon.
Registration closes; last day for additions to programs; change of program fee applies	June 26, Fri., 5 p.m.
End of second week; last day for withdrawal from course without grade	July 3, Fri., 5 p.m.
Independence Day, holiday	July 4, Sat.
End of sixth week	July 31, Fri., 5 p.m.
Session ends	Aug. 14, Fri., 10 p.m.

1964 ANTHROPOLOGY FIELD SESSION

Registration	June 20, Sat.
Move to El Rito headquarters	June 21, Sun.
Field Session ends	Aug. 1, Sat.

DEADLINE FOR FILING OF ADMISSION APPLICATIONS AND CREDENTIALS FOR FALL SEMESTER

Aug. 15, Sat.

SEMESTER I, 1964-65

1964

New Student Tests—for students in the Albuquerque area	Aug. 26, Wed., or Aug. 29, Sat., or Sept. 1, Tues., 8 a.m., Room 101, Anthropology Building
New Student Testing and Orientation Period:	
Assembly for New University College Students	Sept. 6, Sun., 7:30 p.m., Johnson Gymnasium
Tests for New University College Students	Sept. 7, Mon., 8 a.m.
Tests for All Other New Undergraduates	Sept. 8, Tues., 8 a.m.
Orientation for New University College Students	Sept. 8, Tues.-Sept. 9, Wed.
Orientation for All Other New Undergraduates	Sept. 9, Wed.
Preregistration processing (supplies and records) for all AFROTC students, both old and new, Building Y-1	Sept. 8, Tues.-Sept. 9, Wed.
Preregistration processing for new NROTC students, Stadium Building	Sept. 7, Mon.-Sept. 9, Wed.
Advisement and Registration for all students	Sept. 10, Thu.-Sept. 12, Sat.
Instruction begins; late registration fee applies	Sept. 14, Mon.
Registration closes; last day for additions to programs; change of program fee applies	Sept. 26, Sat. noon
End of fourth week; last day for withdrawal from course without grade	Oct. 9, Fri., 5 p.m.
NMEA Convention, recess begins	Oct. 21, Wed., 10 p.m.
Classes resume	Oct. 26, Mon., 7:30 a.m.
Midsemester; deadline for faculty grade reports for first half of Fall semester	Nov. 7, Sat. noon
Homecoming, holiday	Nov. 14, Sat.
Thanksgiving recess begins	Nov. 25, Wed., 10 p.m.
Classes resume	Nov. 30, Mon., 7:30 a.m.
End of twelfth week; last day for removal of incomplete grade; last day for withdrawal from course without college approval	Dec. 12, Sat. noon
Christmas recess begins	Dec. 19, Sat., 10 p.m.

ACADEMIC CALENDAR

1965

Classes resume	Jan. 4, Mon., 7:30 a.m.
*Closed Period	Jan. 11, Mon.-Jan. 23, Sat.
*Pre-Examination Week	Jan. 11, Mon.-Jan. 17, Sun.
*Semester Final Examinations	Jan. 18, Mon.-Jan. 23, Sat.
Semester ends	Jan. 23, Sat., 10 p.m.

**DEADLINE FOR FILING OF ADMISSION APPLICATIONS
AND CREDENTIALS FOR SPRING SEMESTER** Jan. 1, Fri.

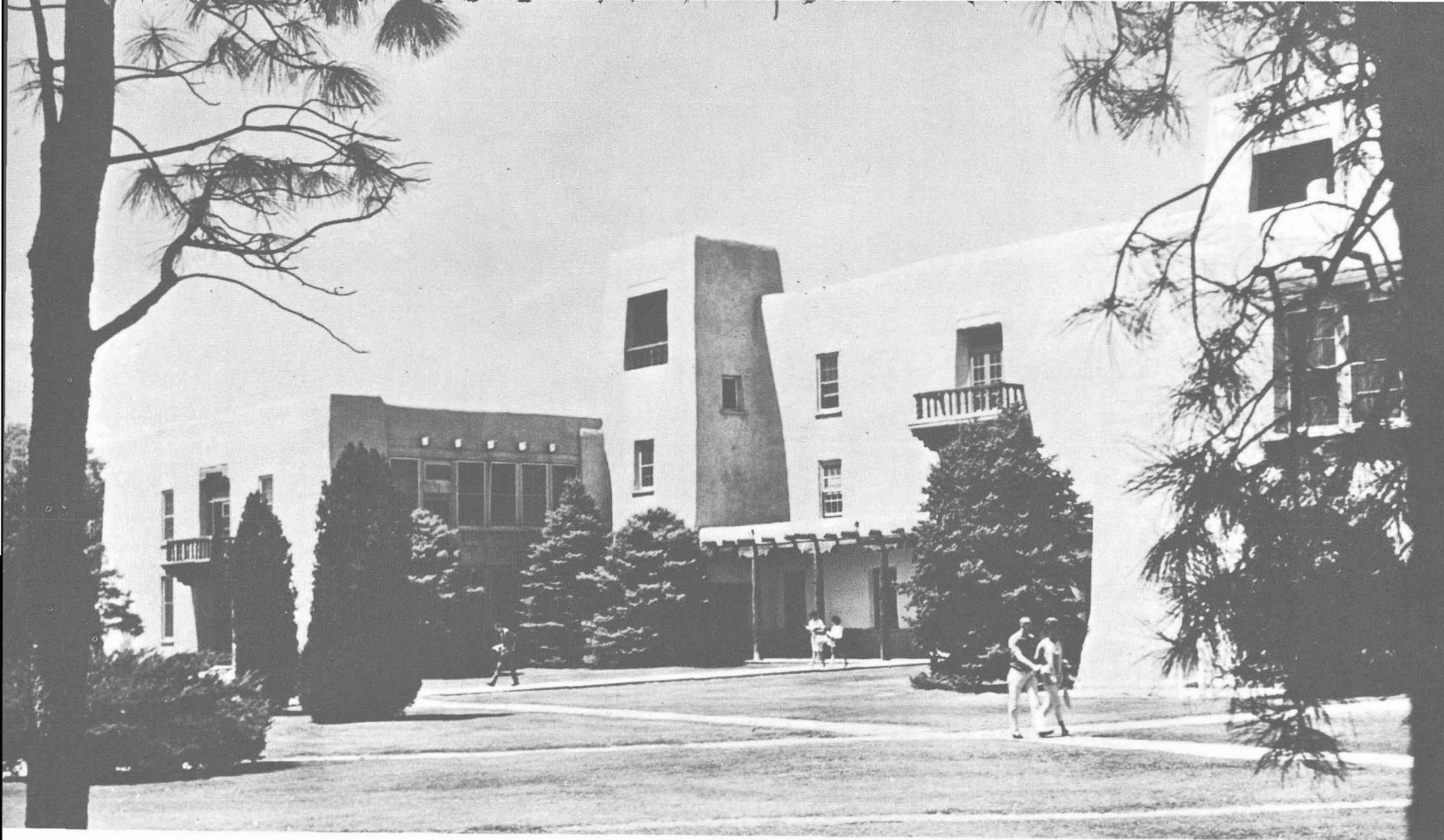
SEMESTER II, 1964-65

New Student Tests—for students in the Albuquerque area	Jan. 23, Sat., 8 a.m., Room 101, Anthropology Building
New Student Testing and Orientation Period:	
Assembly for All New Undergraduates	Jan. 26, Tues., 7:30 p.m.
Tests for All New Undergraduates	Jan. 27, Wed. 8 a.m.
Orientation for All New Undergraduates	Jan. 28, Thu.-Jan. 29, Fri.
Advisement and Registration for all students	Feb. 1, Mon.-Feb. 2, Tues.
Instruction begins; late registration fee applies	Feb. 3, Wed.
Registration closes; last day for additions to programs; change of program fee applies	Feb. 16, Tues., 5 p.m.
End of fourth week; last day for withdrawal from course without grade	Mar. 2, Tues., 5 p.m.
Midsemester, deadline for faculty grade reports for first half of Spring semester	Mar. 30, Tues., 5 p.m.
Spring recess begins	Apr. 13, Tues., 10 p.m.
Classes resume	Apr. 21, Wed., 7:30 a.m.
Honors Assembly	Apr. 21, Wed., 10:30 a.m.
End of twelfth week; last day for removal of Incomplete grade; last day for withdrawal from course without college approval	May 4, Tues., 5 p.m.
Fiesta Day, holiday	May 15, Sat.
*Closed Period	May 19, Wed.-June 1, Tues.
*Pre-Examination Week	May 19, Wed.-May 25, Tues.
*Semester Final Examinations	May 26, Wed.-June 1, Tues.
Deadline for Faculty Grade Reports for Graduating Students	May 26, Wed., 9 a.m.
Semester ends	June 1, Tues., 10 p.m.
Commencement	June 4, Fri., 7:30 p.m.

1965 SUMMER SESSION

Registration (probable date)	June 19, Sat.
Instruction begins (probable date)	June 21, Mon.

* Pre-Examination Week and Semester Final Examination Week are closed to extracurricular and social campus activities.



Administration Building

IMPORTANT

The Catalog is the student's guide to the program and regulations of the University. The student is expected to familiarize himself with University regulations and to assume his proper responsibility in connection with them.

GLOSSARY OF COLLEGE TERMS

(as used at this University)

ACADEMIC YEAR . . . the period which includes the Summer Session (beginning in June), Semester I (mid-September through January), and Semester II (February to early June).

ACCREDITATION . . . the type of recognition held by an educational institution. There are a number of nationally recognized accrediting agencies and associations which are reliable authorities on the quality of training offered by educational institutions. By voluntarily conforming to the standards of excellence set by an agency or association, an institution becomes eligible for inclusion in its accredited or approved list. Regional accrediting associations such as the North Central Association of Colleges and Secondary Schools accredit the institution as a whole; professional agencies such as the Engineering Council for Professional Development are concerned in particular with the standards of the professional schools or programs in their respective fields.

ADMISSION . . . acceptance of an applicant for enrollment.

CLASS . . . the regularly scheduled meeting of an academic course; also a group of students whose graduation date is the same—freshman, sophomore, junior, senior.

CLASSIFICATION . . . the designation used for the student's year of study in terms of his progress toward his chosen degree—freshman, sophomore, junior, senior.

COLLEGE . . . an organizational unit of the University normally offering courses and curricula leading to a particular degree or degrees, and supervising the academic progress of students working toward those degrees. The University College supervises all freshmen programs but is not a degree-granting college. The degree colleges to which students may transfer, if eligible, after completion of the freshman year are: Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Nursing, and Pharmacy. The Graduate School, the School of Law, and the School of Medicine offer advanced study.

COURSE . . . a particular subject in which instruction is offered within a given period of time—thus, a course in English.

CREDIT . . . a numerical system for evaluating a student's progress toward a degree, described in terms of semester hours (see definition of semester hours). In order to earn a degree in the normal four-year period, the student will average at least 16 semester hours' credit per semester since the minimum credit required for any bachelor's degree is 124 semester hours.

CURRICULUM . . . a body of courses required for a degree or a diploma or constituting a major field of study.

DEGREE . . . a title bestowed as official recognition for the completion of a curriculum. The bachelor's degree is the first-level degree granted normally upon completion of a four-year course of study in a given field. The Bachelor of Laws degree, however, is a professional degree and normally requires seven years of college study. The master's degree is an advanced degree ranking above the bachelor's and below the doctorate. It normally requires at least one year beyond the bachelor's degree. The doctor's degree, or doctorate, is an advanced degree requiring at least three years beyond the bachelor's degree. The honorary degree is bestowed in recognition of outstanding merit or achievement without reference to the fulfillment of academic course requirements.

DEPARTMENT . . . a division of a college which offers instruction in a particular branch of knowledge; for example: the Department of Physics.

ELECTIVE . . . a course which the student may study by choice but which may or may not be required for his particular degree.

GRADUATE STUDENT . . . one who has earned a bachelor's degree and is enrolled for advanced work in the Graduate School.

MAJOR . . . the field of study in which the student chooses to specialize.

MINOR . . . the field of second emphasis. Fewer semester hours' credit are required for a minor than for a major.

NEW STUDENT . . . one who is registering for the first time in The University of New Mexico or for the first time in its Graduate School, its School of Law, or its School of Medicine.

PREREQUISITE . . . the requirement which must be met before a certain course can be taken.

READMITTED STUDENT . . . one who has previously registered for residence credit in this University but whose attendance has been interrupted by one or more semesters; a student transferring from non-degree to degree status in this University.

REGISTRATION . . . the act of enrolling in classes. A registration period is held at the beginning of each semester and summer session. At that time, the student with the help of his adviser chooses a program of courses for the session, fills in forms necessary for proper recording of his enrollment, and pays registration fees.

RESIDENT-FOR-TUITION-PURPOSES . . . classification as a resident of the State of New Mexico for purposes of assessing tuition. Determined on the basis of regulations applying to all institutions of higher learning in New Mexico.

RESIDENT STUDY (OR RESIDENCE WORK) . . . enrollment in courses on the campus or in courses off-campus which are allowed by special action to count as residence credit, as distinguished from correspondence or extension credit.

RETURNING STUDENT . . . one who was registered in the immediately preceding session.

SEMESTER . . . an instructional period of 16 weeks. Semester I, or the Fall Semester, runs from mid-September through January; Semester II, or the Spring Semester, runs from February through early June.

SEMESTER HOUR . . . the credit that is allowed for one 50-minute period per week throughout a semester in a lecture class. A course listed for three hours' credit would meet for three periods per week throughout the semester; for example: on Monday, Wednesday, and Friday from 10:30 to 11:20 a.m. Credit for laboratory work, activity physical education, and ensemble music requires more class time per credit hour.

Many other terms are defined within the text of the catalog. Consult the index for page references.

THE REGENTS OF THE UNIVERSITY

THE HONORABLE JACK M. CAMPBELL, Governor of New Mexico,
ex officio Santa Fe

LEONARD J. DeLAYO, State Superintendent of Public Instruction, ex
officio Santa Fe

HOWARD C. BRATTON, President Roswell

BRYAN G. JOHNSON, Vice President Albuquerque

MRS. C. FRED LUTHY, Secretary-Treasurer Albuquerque

THOMAS R. ROBERTS Los Alamos

LAWRENCE H. WILKINSON Albuquerque

ADMINISTRATIVE OFFICES AND OFFICERS, 1963-64

TOM L. POPEJOY, M.A., LL.D. President
 HOYT TROWBRIDGE, Ph.D. Acting Academic Vice President
 JOHN NICOLL DURRIE, B.A. Secretary of the University
 ANTHONY G. HILLERMAN, B.A. Administrative Assistant

ACADEMIC DIVISIONS

COLLEGE OF ARTS AND SCIENCES

MORRIS S. HENDRICKSON, Ph.D. Acting Dean
 HOWARD J. DITTMER, Ph.D. Assistant Dean
 MIGUEL JORRIN, Dr. Pub. and Civ. Law Director, Division of Foreign Studies

COLLEGE OF BUSINESS ADMINISTRATION

HOWARD VIVIAN FINSTON, Ph.D. Dean

COLLEGE OF EDUCATION

CHESTER COLEMAN TRAVELSTEAD, Ph.D. Dean

COLLEGE OF ENGINEERING

RICHARD HUDSON CLOUGH, Sc.D. Dean

DIVISION OF EXTENSION, SUMMER SESSION, AND COMMUNITY SERVICES

HAROLD ORVILLE RIED, Ph.D. Director
 MORRIS H. McMICHAEL, Ed.D. Assistant Director
 DAVID PAUL DILLARD, B.A. Assistant Director
 MONICA NOVITSKI, D.D.S. Director, Dental Assisting Program

COLLEGE OF FINE ARTS

CLINTON ADAMS, M.A. Dean

GENERAL HONORS PROGRAM

DUDLEY WYNN, Ph.D. Director

GRADUATE SCHOOL

WILLIAM JACKSON PARISH, D.C.S. Dean
 SIDNEY ROSENBLUM, Ph.D. Assistant Dean
 ABRAHAM ROSENZWEIG, Ph.D. Assistant Dean
 HAROLD LEROY WALKER, E.Met. Director of Research Services

HOLLOMAN GRADUATE CENTER

JOE REEDER FOOTE, Ph.D. Director

SCHOOL OF LAW

ROBERT EMMET CLARK, LL.B. Acting Dean
 MYRON FINK, LL.M. Law Librarian

LOS ALAMOS GRADUATE CENTER

GLENN ALAN WHAN, Ph.D. Director

SCHOOL OF MEDICINE

REGINALD HEBER FITZ, M.D. Dean
 ROBERT T. DIVETT, M.A. Librarian, Library of Medical Sciences

COLLEGE OF NURSING

VIRGINIA POINDEXTER CRENSHAW, Ed.D. Dean

PEACE CORPS TRAINING CENTER

⁷ MARSHALL R. NASON, Ph.D. Director
 CLEON CAPSAS, M.A. Deputy Director
⁷ RICHARD W. POSTON, B.S. Coordinator, Community Development Training

COLLEGE OF PHARMACY

ELMON LAMONT CATALINE, Ph.D. Dean
 MONICA NOVITSKI, D.D.S. Director, Dental Hygiene Program

⁷ First semester only.

14 ADMINISTRATIVE OFFICES

SANDIA CORPORATION GRADUATE PROGRAM

CHARLES THERON GRACE, M.S.M.E. Director

UNIVERSITY COLLEGE

WILLIAM HENRY HUBER, JR., LL.B. Director

AIR FORCE R.O.T.C. UNIT

WILLIAM C. NAYLOR, Lt. Col., U.S.A.F., M.Ed. Commanding Officer

KENNETH JOHNSON, Capt., U.S.A.F., B.S. Executive Officer

NAVAL R.O.T.C. UNIT

ROBERT V. R. BASSETT, Jr., Capt., U.S.N., B.A. Commanding Officer

EDWARD DAVIS JONES, Cdr. U.S.N., B.A. Executive Officer

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JAMES HARMAN ABBOTT, B.S., University of Colorado; M.S., Southern Methodist University; Ph.D., University of Illinois. Associate Professor of Mathematics.

⁷ **MORONI TAYLOR ABEGG**, B.S., Ph.D., University of Utah. Visiting Assistant Professor of Chemistry (Part-time).

CLINTON ADAMS, B.Ed., M.A., University of California. Dean of the College of Fine Arts, Professor of Art.

NASIR AHMED, B.E., University of Mysore, Bangalore, India. Instructor in Electrical Engineering (Part-time).

HUBERT GRIGGS ALEXANDER, B.A., Pomona College; Ph.D., Yale University. Professor of Philosophy, Chairman of the Department of Philosophy.

⁷ **CARL ALBERT ANDERSON, JR.**, M.E., Stevens Institute of Technology; M.S., Ph.D., Massachusetts Institute of Technology. Lecturer in Nuclear Engineering (Part-time).

ROGER YATES ANDERSON, B.S., M.S., University of Arizona; Ph.D., Stanford University. Assistant Professor of Geology.

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⁸ **GEORGE WARREN ARMS**, B.A., Princeton University; Ph.D., New York University. Professor of English.

ARCHIE JOHN BAHM, B.A., Albion College; M.A., Ph.D., University of Michigan. Professor of Philosophy.

⁷ **LUNA BACHELOR BAHM**, B.A., Michigan State University; M.A., Texas Technological College. Instructor in Mathematics (Part-time).

ARTHUR PAUL BAILEY, B.S., James Millikin University; M.S., Iowa State University. Professor of Mechanical Engineering.

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⁴ **WILLIAM ERNEST BAKER**, B.S.M.E., University of Texas; M.S., University of New Mexico. Instructor in Mechanical Engineering.

ROBERT KNIGHT BARNEY, B.S., University of New Mexico. Instructor in Health, Physical Education, and Recreation, Varsity Swimming Coach.

JAMES RICHARDS BARTON, B.S., M.S., University of New Mexico; M.S., State University of Iowa; Ph.D., Colorado State University. Professor of Civil Engineering, Chairman of the Department of Civil Engineering.

⁹ **HARRY WETHERALD BASEHART**, M.A., Ph.D., Harvard University. Professor of Anthropology. Co-editor of the *Southwestern Journal of Anthropology*.

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⁷ **STOUGHTON BELL, II**, B.A., M.A., Ph.D., University of California. Lecturer in Mathematics (Part-time).

⁸ On sabbatical leave second semester.

⁴ On leave for the year.

⁷ First semester only.

⁹ On sabbatical leave second semester 1962-63, first semester 1963-64.

- DAVID THEODORE BENEDETTI, B.A., M.A., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Psychology, Acting Chairman of the Department of Psychology.
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⁷ First semester only.

¹¹ On sabbatical leave second semester 1963-64, first semester 1964-65.

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- NED J. DAVISON**, B.A., University of Utah; M.A., Ph.D., University of California at Los Angeles. Associate Professor of Spanish.

³ On sabbatical leave second semester.

⁴ On leave for the year.

⁷ First semester only.

⁸ Second semester only.

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- MARTHA deCASTRO, M.A., Columbia University; Ed.D., Ph.D., University of Havana. Visiting Associate Professor of Art.
- ⁷ GEORGE BERNARD DEFOE, B.S., Juilliard School of Music; M.A., Teachers College, Columbia University. Instructor in Music (Part-time).
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- ⁷ WILLIAM NIXON DEHON, B.A., Montana State University. Instructor in English (Part-time).
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- ³ HENRY CARLTON ELLIS, B.S., College of William and Mary; M.A., Emory University; Ph.D., Washington University. Associate Professor of Psychology.
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- WOLFGANG EUGENE ELSTON, B.S., City College of the City of New York; M.A., Ph.D., Columbia University. Associate Professor of Geology.
- ⁴ HAROLD LEROY ENARSON, B.A., University of New Mexico; M.A., Stanford University; Ph.D., American University. Academic Vice President, Associate Professor of Government.
- ROGER CHARLES ENTRINGER, B.S., State University of Iowa; M.S., Ph.D., University of New Mexico. Assistant Professor of Mathematics.

¹ On sabbatical leave for the year.³ On sabbatical leave second semester.⁴ On leave for the year.⁷ First semester only.

- BERNARD EPSTEIN**, B.A., M.S., New York University; Ph.D., Brown University. Professor of Mathematics.
- AHMED ERTEZA**, B.S., M.S., Calcutta University; M.S.E.E., E.E., Stanford University; Ph.D., Carnegie Institute of Technology. Professor of Electrical Engineering.
- WAYNE C. EUBANK**, B.S., West Texas State College; M.A., Northwestern University; Ph.D., Louisiana State University. Professor of Speech, Chairman of the Department of Speech.
- ⁸ **MELBOURNE GRIFFITH EVANS**, B.A., Reed College; M.A., Ph.D. University of California. Associate Professor of Philosophy.
- WILLIAM A. FAUCETT**, Lieutenant Commander, U.S.N.; B.S., United States Naval Academy. Assistant Professor of Naval Science.
- PELAYO HIPOLITO FERNANDEZ**, B.A., University of California; M.A., Wayne State University; Ph.D., Salamanca University, Spain. Assistant Professor of Modern Languages.
- ANNE LATHROP FESSENDEN**, B.A., Barnard College; M.A., Columbia University. Instructor in French.
- WILLIAM CARL FIEDLER**, B.S., M.S., Ph.D., Purdue University. Associate Professor of Pharmacy.
- ⁷ **JIM LAWRENCE FIFE**, B.A., Westminster College; M.A., State University of Iowa. Instructor in English (Part-time).
- JAMES SMITH FINDLEY**, B.A., Western Reserve University; Ph.D., University of Kansas. Associate Professor of Biology.
- MYRON FINK**, B.A., Cornell University; LL.B., LL.M., New York Law School; M.S. in L.S., Columbia University. Law Librarian, Associate Professor of Law.
- HOWARD VIVIAN FINSTON**, B.A., M.A., Ph.D., Stanford University. Dean of the College of Business Administration, Professor of Business Administration.
- ⁸ **GEORGE R. FISCHBECK**, B.A., M.A., University of New Mexico. Instructor in Secondary Education (Part-time).
- REGINALD HEBER FITZ**, B.A., M.D., Harvard University. Dean of the School of Medicine, Professor of Medicine.
- J. PAUL FITZSIMMONS**, B.S., Ph.D., University of Washington. Associate Professor of Geology.
- MARTIN WILLIAM FLECK**, B.S., M.S., University of New Mexico; Ph.D., University of Colorado. Professor of Biology.
- TROY SMITH FLOYD**, B.J., M.A., University of Missouri; Ph.D., University of California. Assistant Professor of History.
- FRANK PARKER FOWLER, JR.**, B.S., M.S., University of Colorado. Assistant Professor of Business Administration, Director of Data Processing.
- WALLACE EDMUNDT FRANCK, JR.**, B.S., Louisiana State University; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- ⁷ **HARVEY FRAUENGLASS**, B.A., University of Chicago; M.F.A., University of Iowa. Instructor in English (Part-time).
- KURT FREDERICK**, Graduate of the State Academy of Music and State College of Music in Vienna; B.S., University of New Mexico; M.Mus., Ph.D., University of Rochester. Professor of Music.
- MORRIS FREEDMAN**, B.A., City College of the City of New York; M.A., Ph.D., Columbia University. Professor of English.
- WILLIAM ROGERS GAFFORD**, B.S., University of New Mexico; M.S., University of Texas. Associate Professor of Civil Engineering, Special Adviser in the University College.
- WALTER ALVIN GATHMAN**, B. Arch., Yale University. Lecturer in Architecture (Part-time).
- BRUNO GEBA**, Diploma, National Institute for Physical Education (Vienna); Absolutorium; Doktorat an der Philosophischen Fakultät, University of Vienna. Assistant Professor of Health, Physical Education, and Recreation, Director of Student-Faculty Recreation and Intramurals.

⁸ On sabbatical leave second semester.

⁷ First semester only.

⁸ Second semester only.

- FRANK C. GENTRY, B.A., M.A., University of Oklahoma; Ph.D., University of Illinois. Professor of Mathematics.
- FITZGERALD ADOLPHUS GERARD, B.A., M.A., Ph.D., University of London. Professor of Mechanical Engineering.
- JAMES DARRELL GIBSON, B.S.A.E., M.S.A.E., Purdue University. Instructor in Mechanical Engineering.
- ⁷ ROBERT STANDISH GILLESPIE, B.A., University of Illinois; M.A., University of Iowa. Instructor in English (Part-time).
- GEORGE BERNARD GILMORE, B.S., State College, Slippery Rock; M.Ed., University of Pittsburgh. Instructor in Health, Physical Education, and Recreation, Varsity Gymnastics Coach.
- EVA ISRAEL GLAESE, B.A., University of New Mexico; M.A., Syracuse University. Assistant Professor of Business Administration.
- RUDYARD BYRON GOODE, B.A., Davis-Elkins College; M.A., Ph.D., University of Virginia. Associate Professor of Business Administration.
- BURTON LeROY GORDON, B.A., San Francisco State College; Ph.D., University of California. Associate Professor of Geography, Chairman of the Department of Geography.
- CHARLES THERON GRACE, B.S.M.E., University of Colorado; M.S.M.E., University of Illinois. Professor of Mechanical Engineering, Assistant to the Dean of the College of Engineering, Director of the Sandia Technical Development and Educational Aids Program.
- GERALD EDWARD GRAFF, B.A., University of Chicago. Assistant Professor of English.
- WAYNE WILLIS GRANNEMANN, B.S.E.E., M.A., Ph.D., University of Texas. Professor of Electrical Engineering, Director of the Bureau of Engineering Research.
- GRADY JACK GRAVLEE, B.A., Howard College; M.A., Ph.D., Louisiana State University. Assistant Professor of Speech.
- JOHN ROOT GREEN, B.S., Ph.D., University of California. Professor of Physics.
- ROBERT THURMAN GREGORY, B.A., College of the Pacific; M.Ed., Springfield College. Instructor in Health, Physical Education, and Recreation (Part-time).
- ROSEMARY COWARD GRIFFITH, B.A., University of Texas; Ph.D., Radcliffe College. Assistant Professor of Economics (Part-time).
- DANIEL LEROY GROGAN, Captain, U.S.A.F., B.A., University of Puget Sound. Assistant Professor of Air Science.
- RONALD LLOYD GROW, B.A., M.A., University of California at Los Angeles. Instructor in Art.
- MERCEDES GUGISBERG, B.S., M.S., University of Minnesota. Associate Professor of Health, Physical Education, and Recreation.
- ³ DAVID BOYCE HAMILTON, JR., B.A., M.A., University of Pittsburgh; Ph.D., University of Texas. Professor of Economics.
- MARILYN TAYLOR HANNA, B.S., Indiana State Teachers College; M.S., Indiana University. Instructor in Nursing.
- WILLIAM ROBERT HANRAHAN, B.S., Boston College; M.A., University of Wisconsin. Instructor in English.
- RUTH BRODERICK HARRIS, B.S., Cornell University; M.S., University of Tennessee. Assistant Professor of Home Economics.
- ⁷ THOMAS BERNARD HEAPHY, B.A., M.A., University of New Mexico. Instructor in English (Part-time).
- EDWARD HENRY HEATH, B.S., College of Idaho; M.Ed., University of Idaho. Assistant Professor of Recreation (Part-time).
- JOHN JAMES HEIMERICH, B.S., M.S., Kansas State College. Professor of Architecture, Chairman of the Department of Architecture.
- ⁸ LOUIS ROBERT HELLWIG, B.A., M.A., New Mexico State University. Visiting Assistant Professor of Psychology.

³ On sabbatical leave second semester.

⁷ First semester only.

⁸ Second semester only.

- MORRIS S. HENDRICKSON, B.S., Birmingham-Southern College; M.A., Ph.D., Ohio State University. Acting Dean of the College of Arts and Sciences, Professor of Mathematics.
- ⁸ WILLIAM HENTEL, B.S., New York University; M.D., University Basel, Switzerland. Associate Professor of Pathology.
- SIMON HERMAN, B.S., M.S., Ph.D., Wayne State University. Lecturer in Business Administration (Part-time).
- FRANK CUMMINGS HIBBEN, B.A., Princeton University; M.S., University of New Mexico; Ph.D., Harvard University. Professor of Anthropology, Director of the Museum of Anthropology.
- ⁷ RICHARD CHARLES HILDNER, B.S., College of Wooster; M.A., Ph.D., Ohio State University. Lecturer in Mathematics (Part-time).
- HAMLIN LEWIS HILL, JR., B.A., University of Houston; M.A., University of Texas. Assistant Professor of English.
- WILLARD WILLIAMS HILL, B.A., University of California; Ph.D., Yale University. Professor of Anthropology, Chairman of the Department of Anthropology.
- ⁹ CLARENCE CLAYTON HOFF, B.A., Bradley University; M.S., Ph.D., University of Illinois. Professor of Biology.
- ⁷ IRWIN LESLIE HOFFMAN, B.A., University of New Mexico. Instructor in English (Part-time).
- ⁷ ANNIE LAURA HOGAN, B.A., University of New Mexico. Instructor in English (Part-time).
- VIOLA ROSE HOLBROOK, B.S., M.S., Mankato State College. Instructor in Health, Physical Education, and Recreation (Part-time).
- ⁸ LLOYD ELLWOOD HOMME, B.A., M.A., Southern Methodist University; Ph.D., Indiana University. Associate Professor of Psychology (Part-time).
- HARVEY SHEELY HOSHOUR, B.A., Pomona College; B.Arch., Massachusetts Institute of Technology. Lecturer in Architecture (Part-time).
- ⁷ LISE MARIE HOSHOUR, B.A., Barnard College. Instructor in French (Part-time).
- ARTHUR VINCENT HOUGHTON, III, B.S., M.S., University of Illinois; Ph.D., Purdue University. Associate Professor of Mechanical Engineering.
- ⁷ JOHN LEE HOWARTH, B.A., M.A., University of Cambridge; B.S., M.S., University of London. Visiting Lecturer in General Studies (Part-time).
- EDWIN CHASE HOYT, B.A., Harvard University; LL.B., Harvard Law School; Ph.D., Columbia University. Associate Professor of Government, Chairman of the Department of Government.
- WILLIAM HENRY HUBER, JR., B.A., LL.B., Ohio State University. Director of the University College, Professor of Business Administration.
- ⁷ GEORGE WILLIAM HUDSON, B.S.E., University of Arkansas; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- GARY CLYDE HUFBAUER, B.A., Harvard College; Ph.D., University of Cambridge. Lecturer in Economics (Part-time);⁷ Assistant Professor of Economics.⁸
- ⁷ CLINTON F. HURLEY, JR., B.S., Abilene Christian College; M.A., Ph.D., University of New Mexico. Instructor in English (Part-time).
- RICHARD GEORGE HUZARSKI, B.S.C.E., University of Wisconsin; M.S., Texas Technological College. Professor of Civil Engineering.
- FRANK WILLIAM IKLÉ, B.A., Ph.D., University of California at Berkeley. Associate Professor of History.
- ⁷ HELEN MOYER INGRAM, B.A., Oberlin College. Lecturer in Government (Part-time).
- FREDERICK CLARENCE IRION, B.J., B.A., University of Missouri; M.A., University of Wisconsin; Ph.D., Syracuse University. Associate Professor of Government, Director of the Division of Government Research.

⁷ First semester only.

⁸ Second semester only.

⁹ On sabbatical leave second semester 1962-63, first semester 1963-64.

WILSON HOWARD IVINS, B.A., Western Michigan University; M.A., University of Arizona; Ed.D., University of Colorado. Professor of Education, Chairman of the Department of Secondary Education.

VIRGINIA SAUCIER JACKSON, B.A., University of Denver; M.A., University of Kansas City. Assistant Professor of Nursing.

WILLIS DANA JACOBS, B.A., M.A., University of New Mexico; Ph.D., University of North Carolina. Professor of English.

⁸ **DIETER W. JAHNS**, Instructor in Modern Languages (Part-time).

MELVIN FIVA JANOWITZ, B.A., University of Minnesota; Ph.D., Wayne State University. Assistant Professor of Mathematics.

FAITH ELIZABETH JENSEN, B.S., Bates College; M.N., M.S., Yale University. Associate Professor of Nursing.

LEONARD LEON JERMAIN, B.S., M.S., University of Oregon. Associate Professor of Journalism.

KENNETH OSWELL JOHNSON, Captain, U.S.A.F., B.S., Texas Technological College. Associate Professor of Air Science.

WILLIAM WAYNE JOHNSON, B.S., M.S., Ph.D., University of Minnesota. Assistant Professor of Biology.

EDWARD DAVIS JONES, Commander, U.S.N.; B.A., University of Missouri. Associate Professor of Naval Science.

MIGUEL JORRÍN, B.A., Colegio "De la Salle"; Dr. Pub. Law, Dr. Civ. Law, Universidad de la Habana. Professor of Government and Modern Languages, Director of the Division of Foreign Studies.

FREDERICK DSUIN JU, B.S., University of Houston; M.S., Ph.D., University of Illinois. Associate Professor of Mechanical Engineering.

CHARLES BURNET JUDAH, B.A., M.A., Ph.D., University of Illinois. Professor of Government.

MILTON KAHN, B.S., University of California; Ph.D., Washington University. Professor of Chemistry.

⁸ **MORRIS KANTOR**, Independent School of Art with Homer Boss. Visiting Professor of Art, Artist in Residence.

SHLOMO KARNI, B.S.E.E., Israel Institute of Technology; M.Eng., Yale University; Ph.D., University of Illinois. Assistant Professor of Electrical Engineering.

M. LUE KEEFFE, D. H., Marquette University. Clinical Instructor in Dental Hygiene (Part-time).

WILLIAM EARL KEEFFE, D.D.S., Marquette University. Instructor in Dental Hygiene (Part-time).

WALTER BURROUS KELLER, B.Mus., M.A., Indiana University; Juilliard Graduate School; Ph.D., Harvard University. Professor of Music.

DAVID OTIS KELLEY, B.A., M.A., University of Southern California. University Librarian, Professor of Library Science.

VINCENT COOPER KELLEY, B.A., University of California at Los Angeles; M.S., Ph.D., California Institute of Technology. Professor of Geology, Chairman of the Department of Geology.

RUBEN DAVID KELLY, B.S., M.S., Ph.D., Oklahoma State University. Associate Professor of Electrical Engineering.

GEORGE LEONARD KEPPERS, B.Ed., St. Cloud State College; M.A., Colorado State College; Ed.D., University of Colorado. Professor of Education, Special Adviser in the University College.

THOMAS OWEN KIRKPATRICK, B.B.A., M.B.A., North Texas State University. Assistant Professor of Business Administration.

HAZEL-MAE KLAR, B.S., University of Colorado; M.N., University of Washington. Assistant Professor of Nursing.

¹ **IGNACE I. KOLODNER**, Diplome d'Ingenieur, University of Grenoble, France; Ph.D., New York University. Professor of Mathematics.

¹ On sabbatical leave for the year.

⁸ Second semester only.

- ARNOLD HERMAN KOSCHMANN**, B.A., Valparaiso University; B.S.E.E., M.S., Ph.D., Purdue University. Professor of Electrical Engineering, Chairman of the Department of Electrical Engineering.
- WILLIAM JACOB KOSTER**, B.S., Ph.D., Cornell University. Professor of Biology.
- WALTER EGLE KUHLMAN**, B.A., University of Minnesota. Assistant Professor of Art.
- JOSEPH MARSHALL KUNTZ**, B.A., M.A., University of New Mexico; Ph.D., University of Denver. Associate Professor of English.
- ⁴ **ENRIQUE EUFRASIO LAMADRID**, B.A., Western Maryland College; M.A., New Mexico Highlands University; M.A.T.S., University of New Mexico. Instructor in Modern Languages.
- JOSEPH S. LAMBERT**, B.S., University of Pittsburgh; M.S., Ph.D., University of Michigan. Associate Professor of Electrical Engineering.
- ⁷ **HENRY PIERCE LAMPMAN**, B.S., M.S., Ph.D., University of Wisconsin. Associate Professor of Psychology (Part-time).
- ⁸ **MILDRED LATINI**, B.S., Mansfield State Teachers College; M.A., Pennsylvania State University. Lecturer in Dental Programs (Part-time).
- ⁸ **HOWARD C. LEACH**, B.A., University of California. Lecturer in Sociology (Part-time).
- CHRISTOPHER PRATT LEAVITT**, B.S., Ph.D., Massachusetts Institute of Technology. Associate Professor of Physics.
- ⁷ **JOSEPH FRANKLIN LEONARD**, B.Mus., Texas Wesleyan College; B.S., M.S., Juilliard School of Music; Certificat, École de Fontainebleau. Instructor in Organ (Part-time).
- JAMES VERNON LEWIS**, B.A., M.A., Ph.D., University of California. Associate Professor of Mathematics.
- RALPH WAYNE LEWIS**, B.F.A., M.A., University of New Mexico. Assistant Professor of Art.
- LESTER M. LIBO**, M.A., Ph.D., Stanford University. Associate Professor of Behavioral Science.
- WOLFRAM LIEPE**, B.A., Antioch College; M.A., University of Chicago. Associate Professor of Economics.
- ¹ **EDWIN LIEUWEN**, B.A., M.A., Ph.D., University of California. Professor of History, Chairman of the Department of History.
- AARON NORTH LONGFIELD**, B.A., University of North Carolina; M.D., Northwestern University; M.S., University of Colorado. Associate Professor of Medicine.
- ALBERT RICHARD LOPES**, B.A., M.A., Ph.D., University of California. Professor of Modern Languages.
- WILLIAM STEVENS LOVEKIN**, B.S., University of Arizona; M.D., Columbia University. Assistant Professor of Medicine.
- ALICE HENTZELT LUFT**, Pharmacological Institute of the University of Jena; Certificate, Ministry of the Interior, Thuringia. Instructor in Modern Languages (Part-time).
- PATRICK DANIEL LYNCH**, B.A., St. John's University; M.A., Ph.D., University of Minnesota. Assistant Professor of Education.
- RAYMOND RALPH MacCURDY, JR.**, B.A., M.A., Louisiana State University; Ph.D., University of North Carolina. Professor of Modern Languages, Chairman of the Department of Modern and Classical Languages.
- ⁷ **FRED IRA MAGEE**, B.S., University of Southern Mississippi; M.A., University of Mississippi. Instructor in Mathematics (Part-time).
- ⁸ **MIRIAM PITSCHNER MALM**, B.S., University of New Mexico. Instructor in Chemistry.
- WILLIAM CLARENCE MARTIN, JR.**, B.S., Purdue University; M.A., Ph.D., Indiana University. Assistant Professor of Biology.
- JOSÉ ELEAZAR MARTINEZ**, B.S. in C.E., University of New Mexico; M.S., State University of Iowa. Associate Professor of Civil Engineering.

¹ On sabbatical leave for the year.⁴ On leave for the year.⁷ First semester only.⁸ Second semester only.

- LAVERN EDWARD MARTINEZ**, B.S., University of New Mexico. Instructor in Health, Physical Education, and Recreation (Part-time).
- ALEXANDER SIMEON MASLEY**, B.S., University of Minnesota; M.A., Ed.D., Columbia University. Professor of Art Education, Chairman of the Department of Art Education.
- MARVIN CLARK MAY**, B.S. in C.E., University of New Mexico; M.S., Oklahoma State University. Professor of Civil Engineering.
- JORG WERNER PETER MAYER-KALKSCHMIDT**, Dipl.Math., Dr.Rer.Nat., University of Giessen, Germany. Associate Professor of Mathematics.
- ⁷ **SAMUEL McALEES, JR.**, B.A.E., M.A.E., Rensselaer Polytechnic Institute. Lecturer in Mechanical Engineering (Part-time).
- ¹⁰ **LEROY CLARENCE McCLAREN**, B.A., San Jose State College; M.A., Ph.D., University of California at Los Angeles. Professor of Microbiology, Chairman of the Department of Microbiology.
- DOUGLAS REEVE McEWEN**, B.S., Bowling Green State University; M.M.Ed., Indiana University; Ph.D., Colorado State College. Assistant Professor of Music.
- FRANCES MCGILL**, B.A., Mills College; M.S., University of Washington; Ph.D., Ohio State University. Assistant Professor of Health, Physical Education, and Recreation.
- DONALD ALEXANDER MCKENZIE**, B.A., University of New Mexico; Ph.D., Stanford University. Professor of Modern Languages.
- ⁷ **LOIS LaSHELLE McLEOD**, A. A., Stephens College; Instructor in Music (Part-time).
- JOHN WOOD McMAHAN**, B.S., M.S., Ph.D., University of Illinois. Lecturer in Business Administration (Part-time).
- BRUCE WHITTAKER McMULLAN**, B.A., Amherst College; M.F.A., Yale University. Assistant Professor of Dramatic Art.
- IMOGEAN HELENA McMURRAY**, B.S., Oklahoma College for Women; M.S., University of Tennessee. Assistant Professor of Home Economics.
- ⁷ **ROBERT LAVERNE McNEILL**, B.S.C.E., M.S.C.E., University of California at Berkeley. Lecturer in Civil Engineering (Part-time).
- DONALD CHRISTOPHER McRAE**, B.F.A., M.A., University of New Mexico. Assistant Professor of Music.
- VELMA RUTH MELLOTT**, B.A., Hamline University. Instructor in Dental Hygiene, Assistant Director of the Dental Assisting Program.
- JUDITH PHILIPP MEYERS**, B.S., Cornell College; M.A., University of Minnesota. Instructor in Art Education.
- HUGH MILTON MILLER**, B.A., University of Oregon; M.A., Ph.D., Harvard University. Professor of Music.
- VIRGINIA JUNE MILLER**, B.S., University of Minnesota; M.A., University of Chicago. Associate Professor of Nursing.
- GLADYS ELIZABETH MILLIKEN**, B.A., Bates College; M.A., New York University. Assistant Professor of Health, Physical Education, and Recreation.
- NAOMI LOUISE MILLS**, B.A. in Ed., Arizona State University. Instructor in Health, Physical Education, and Recreation.
- MERLE MITCHELL**, B.A., Southern Methodist University; M.A., University of New Mexico; Ph.D., George Peabody College for Teachers. Assistant Professor of Mathematics.
- AGNES CHARLINE MOLONEY**, B.S., Loyola University; M.A., University of Chicago. Assistant Professor of Nursing.
- MARION EDWARD MOORE**, B.S., West Texas State College; M.S., Texas Technological College. Instructor in Mathematics (Part-time).
- LEROY MORAIS**, B.A., Tulane University; M.F.A., Indiana University. Instructor in Art.

⁷ First semester only.¹⁰ April 1, 1964 to June 30, 1964.

- PERRY T. MORI**, B.S., B.A., M.B.A., Northwestern University; C.P.A. Associate Professor of Business Administration.
- BURT JULES MORSE**, B.S., City College of New York; M.A., Columbia University; Ph.D., New York University. Assistant Professor of Mathematics.
- HOWARD NAEVE**, B.S., University of Southern Illinois; D.D.S., University of Iowa. Lecturer in Dental Hygiene (Part-time).
- GERALD DAVID NASH**, B.A., New York University; M.A., Columbia University; Ph.D. University of California. Associate Professor of History.
- MARSHALL RUTHERFORD NASON**, B.A., M.A., Louisiana State University; Ph.D., University of Chicago. Associate Professor of Modern Languages, Director of the Peace Corps Training Center,⁷ Consultant in the Peace Corps Training Center.⁸
- IRENE MURPHY NAVARRE**, G.D.H., University of Minnesota. Clinical Instructor in Dental Hygiene (Part-time).
- WILLIAM C. NAYLOR**, Lieutenant Colonel, U.S.A.F.; B.S., East Central State College; M.Ed., Sul Ross State College. Commanding Officer of the Air Force ROTC Unit, Professor of Air Science.
- PAUL NELSON, JR.**, B.S., Alabama Polytechnic Institute; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- STANLEY STEWART NEWMAN**, Ph.B., M.A., University of Chicago; Ph.D., Yale University. Professor of Anthropology. Co-editor of the *Southwestern Journal of Anthropology*.
- RALPH DAVID NORMAN**, B.S., College of the City of New York; M.A., Teachers College, Columbia University; Ph.D., Ohio State University. Professor of Psychology.
- CATHERINE MARY NORRIS**, B.S., Boston University; M.A., Ph.D., Teachers College, Columbia University. Professor of Nursing.
- STUART ALVORD NORTHROP**, B.S., Ph.D., Yale University. Research Professor of Geology, Curator of the Geology Museum.
- MONICA NOVITSKI**, D.H., D.D.S., Marquette University. Associate Professor of Dental Hygiene, Director of the Dental Hygiene Program.
- ⁷ **PAUL DOUGLAS O'BRIEN**, B.M.E., University of Dayton; M.S., University of New Mexico. Lecturer in Nuclear Engineering (Part-time).
- EARL DAVIS OLIVER**, B.S., M.S., University of Washington; Ph.D., University of Wisconsin. Associate Professor of Chemical Engineering.
- WILLIAM VERN OWEN**, Ph.B., University of Chicago; Ph. M., University of Wisconsin. Lecturer in Business Administration (Part-time).
- CULLEN BRYANT OWENS**, B.A., Berea College; M.S., Northwestern University; Ph.D., Cornell University. Associate Professor of Speech.
- CARL ERICH PAAK**, B.A.E., School of the Art Institute of Chicago; M.A., Ohio State University. Associate Professor of Art.
- FRANK EDWARD PAPCSY**, B.S., Upsala College; M.A., New York University; A.C.S.M. Assistant Professor of Health, Physical Education and Recreation.
- SOLOMON PAPPER**, B.A., Columbia University; M.D., New York University. Professor of Medicine, Chairman of the Department of Medicine.
- WILLIAM JACKSON PARISH**, Ph.B., Brown University; M.B.A., D.C.S., Harvard University. Dean of the Graduate School, Professor of Business Administration.
- JAMES WALLACE PARK**, B.S.C., M.B.E., University of Mississippi. Assistant Professor of Business Administration.
- ⁷ **MARTHA ABBE LINE PARK**, B.A.E., M.A., University of Mississippi. Instructor in English (Part-time).
- SANG OH PARK**, B.A., M.A., Florida State University; Ph.D., University of North Carolina. Assistant Professor of Business Administration; Senior Research Economist, Bureau of Business Research.

⁷ First semester only.⁸ Second semester only.

- INGRID JUNGHANS PARKER, M.A.**, Texas Technological College. Instructor in Modern Languages.
- [†] **LEE FERGUSON PARMAN, B.A.**, Iowa State Teachers College; M.A., University of Iowa. Instructor in English (Part-time).
- ROBERT EDWARDS PARTIN, B.A.**, University of California at Los Angeles; M.F.A., Columbia University. Visiting Associate Professor of Art.
- [†] **NORMA ELIZABETH PAYNE, B.S.**, Morgan State College; M.Ed., Pennsylvania State University. Instructor in Speech (Part-time).
- THOMAS MATTHEWS PEARCE, B.A.**, University of Montana; M.A., Ph.D., University of Pittsburgh. Professor of English.
- ROBERT MARTIN PELZL, B.A.**, University of Kansas; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- SHERWOOD H. PERES, B.A., M.A., Ph.D.**, Ohio State University. Lecturer in Business Administration (Part-time).
- FRANCISCO ROMERO PEREZ, B.A., M.A.**, Texas Western College; Ph.D., University of Texas. Instructor in Spanish.
- GEORGE THOMAS PETROL, B.S.**, Albright College; M.A., University of New Mexico. Assistant Professor of Health, Physical Education, and Recreation, Varsity Baseball Coach.
- PAUL VERNON PETTY, B.S.E.**, Arkansas State Teachers College; M.A., Duke University; Ph.D., University of Texas. Professor of Education, Chairman of the Department of Educational and Administrative Services.
- PAUL ARMAND PHILLIPS, B.A.**, Princeton University; LL.B., Columbia University; LL.M., New York University. Visiting Lecturer in General Studies.
- CHARLOTTE LEWIS PIPER, B.A.**, Baker University. Instructor in Health, Physical Education, and Recreation.
- MICHAEL POLLAY, B.S., M.D.**, University of Wisconsin; M.S., University of Colorado. Instructor in Neurosurgery and Neurobiological Sciences.
- LOREN DAVID POTTER, B.S.**, North Dakota State Agricultural College; M.A., Oberlin College; Ph.D., University of Minnesota. Professor of Biology, Chairman of the Department of Biology.
- PETER PROUSE, B.A.**, Princeton University; M.A., University of New Mexico; Ph.D., Northwestern University. Assistant Professor of Education.
- CHARLES WILLIAM QUINLAN, B. Arch.**, Cornell University. Lecturer in Architecture (Part-time).
- KEEN RAFFERTY, B.A.**, University of New Mexico. Professor of Journalism, Chairman of the Department of Journalism.
- RAMAMOHAN KAMISSETTY RAO, B.E.E.**, University of Madras (India); M.S. in E.E., University of Florida. Instructor in Electrical Engineering.
- STANLEY ARBA RASMUSSEN, B.A.**, University of Nevada. Instructor in Health, Physical Education, and Recreation (Part-time).
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GENERAL INFORMATION

THE UNIVERSITY of New Mexico has as its primary responsibility the task of serving the citizens of the State of New Mexico by offering the opportunity of a well-rounded education at the higher level. The ultimate goal of college or university education is to equip the maximum number of citizens with the understanding and wisdom which will aid them in becoming useful and responsible members of a democratic society. The University also recognizes its duty to supply other services which foster the culture and welfare of the people.

GENERAL EDUCATION

PERSONAL DEVELOPMENT. There are skills, intellectual abilities, and standards of behavior which are essential to the educational and moral progress of every individual. Therefore, the University recognizes its responsibility to help each student toward the highest possible personal development through the attainment and maintenance of skills of communication, skills of reasoning and critical thinking, good habits of study and of independent investigation, and sound standards of behavior in matters of health and of social responsibility.

LIBERAL EDUCATION. The University proposes also to bring the student to an awareness of current problems and a desire to aid in their solution, and above all, to give him the enlarged perspective that comes through an understanding of the social, scientific, artistic, literary, religious, and philosophical traditions—the cultural heritage of mankind.

SPECIAL AND PROFESSIONAL EDUCATION

It is a further purpose of the University to provide opportunities for training in scholarly and technical fields. To serve the needs of the State and the welfare of its people, the University offers a variety of curricula for those students who desire and are capable of professional attainment. Training in the professions is intended to supplement the general education of the student and to equip him for a career.

SCHOLARSHIP AND RESEARCH

A prime responsibility of the University is to make its contribution to the total body of knowledge through original investigation. A special obligation to give due concern to the problems of the State and region is also recognized. To these ends the University encourages its students and faculty to engage in research, scholarship, and creative activity by providing suitable facilities in an atmosphere conducive to achievement.

The findings of research are made available to the public through various bureaus, a program of publications, and technical advisory services.

ADULT EDUCATION AND CULTURAL PROGRAMS

In order to extend its services to those not regularly enrolled as full-time students, the University offers extension, correspondence, and evening courses. In addition, by sponsoring exhibits, lectures, forums, and concerts on its campus and through the media of radio and television, the University seeks to make significant contributions to the cultural life of the State.

ACCREDITATION

The University has been a member of the North Central Association of Colleges and Secondary Schools since 1922. The Extension Division was approved by the National University Extension Association in 1930. Approval of the Association of American Universities was given to the University in 1933, and the American Association of University Women recognized the University in the same year. The College of Engineering was first approved in 1937 by the Engineers' Council for Professional Development. In 1948 the College of Pharmacy was accredited by the American Council on Pharmaceutical Education and in 1952 it was accepted into membership by the American Association of Colleges of Pharmacy. The School of Law was approved by the American Bar Association in February, 1948, and was admitted to membership in the Association of American Law Schools in December, 1948. In the same year, the College of Education was accredited by the American Association of Colleges for Teacher Education. In 1954 the Association transferred its list of accredited institutions to the National Council for Accreditation of Teacher Education. This accreditation is authorized for all programs at this institution for the preparation of teachers, school administrators, and guidance counselors through the doctor's degree. In 1959 the basic program of the College of Nursing, including public health nursing, was accredited by the National League for Nursing.

The University is approved for veterans' training under the several Public Laws governing educational benefits.

ACADEMIC PROGRAMS

The University is composed academically of eight undergraduate colleges, the Graduate School, the School of Law, and the School of Medicine. The undergraduate colleges include:

- University College, an administrative unit which supervises the programs of all freshman students
- College of Arts and Sciences
- College of Business Administration
- College of Education
- College of Engineering
- College of Fine Arts
- College of Nursing
- College of Pharmacy

Information about these colleges and their programs is contained in the individual college sections of this bulletin.

Summer and evening credit offerings are also a part of the University's academic program on the campus. Off-campus credit is offered by extension classes and correspondence courses and through off-campus residence centers at Gallup, and the Holloman and Los Alamos Graduate Centers.

SITUATION

The University is situated in Albuquerque, the center of a metropolitan area of 290,000 inhabitants. The campus lies a mile above sea level on a plateau

overlooking the Rio Grande, and about 12 miles from the lofty Sandia mountains. Albuquerque is noted for its dry and sunny climate. Although the weather undergoes the normal seasonal changes, temperatures are not extreme.

New Mexico is assuming a position of growing importance in the development of atomic and nuclear weapons and nuclear propulsion, and as a center for guided missile and rocket research and testing. The Los Alamos Scientific Laboratory, birthplace of the atomic bomb, is located 100 miles to the north; the Air Force Missile Development Center at Holloman Air Force Base and the Army's White Sands Proving Grounds are some 250 miles to the south; while in Albuquerque itself are the Air Force Special Weapons Center at Kirtland Air Force Base, the Field Command of the Armed Forces Special Weapons Project at Sandia and Manzano Bases, and one of the major research and development centers of the Atomic Energy Commission.

The city is on the A.T.&S.F. Railway and is served by transcontinental bus and air lines. U. S. Highways 66 and 85 intersect at Albuquerque.

Historic Santa Fe is approximately 60 miles to the north, and a number of Indian pueblos including picturesque Taos and Acoma are within easy driving distance.

HISTORY

The University of New Mexico was created by an act of the Territorial Legislature in 1889, opened as a summer normal school on June 15, 1892, and began full-term instruction on September 21 of the same year. Its development in the 74 years since its inception has been extraordinary. The 20 acres comprising the original campus have become more than 500; buildings have increased from a single structure to 64 permanent structures.

The development of new colleges and divisions has kept pace with the physical growth of the institution. The College Department became the College of Literature and Arts in 1898, later changing to its present title of College of Arts and Sciences. The College of Engineering opened in 1906, and the Graduate School in 1919. In 1928 the College of Education was created; in 1935 the General College; and in 1936 the College of Fine Arts. A unit of the United States Naval Reserve Officers Training Corps was established May 20, 1941. In 1945 the following new divisions became an active part of the University program: the College of Pharmacy, the Division of Government Research, and the Bureau of Business Research. In 1946 the Institute of Meteoritics was added to the University's research program. The College of Business Administration and the College of Law were organized in the fall of 1947. The title "College of Law" was changed to "School of Law" in 1960. An Air Force Reserve Officers Training Corps unit was established in 1949. Although extension work was offered as early as 1913, the Extension Division as a separate unit with a full-time director began operations in 1928. A reorganization took place in 1953 which combined the Division of Extension, the Summer Session, the credit and non-credit evening program, conferences, and short-course offerings under the single administrative unit, Division of Extension, Summer Session, and Community Services. This Division also administers the Community College (credit and non-credit sections). The College of Nursing was established in 1955, and in 1956 the Los Alamos Graduate Center and the

University College were created. Upon the establishment of the University College, the General College was abandoned. The Holloman Graduate Center was created in 1957. The Division of Foreign Studies was established in 1959. This unit had its origin in 1941 as the School of Inter-American Affairs. A two-year School of Medicine was established in 1961 by action of the Legislature. The University has 40 instructional departments; work leading to the master's degree is offered in 39 fields, and toward the doctor's degree in 14.

University administrators have for many years realized that the situation of The University of New Mexico provides it with a wealth of source material in the historical and archaeological background of the nation, and that its proximity to the Indian, Spanish, and Mexican cultures makes it a natural place for the study and appreciation of those cultures. They have, therefore, encouraged the development of Southwestern and Latin American studies and research. Some tangible evidences of this interest are found in the uniform architectural style (a modification of the Indian pueblo), which has been described as "the outstanding example of the effective use of regional architecture in the United States," the offering of a major in Latin American Studies, the annual Field Session in Anthropology, the presence on the faculty of outstanding Latin American artists and scholars, and the various examples of Indian, Mexican, and Spanish-American paintings, carving, and weaving to be found throughout the campus buildings.

GOVERNMENT AND SUPPORT

The government of the University is vested in the Regents and the Faculty. Five Regents are appointed by the Governor of the State for a term of six years; the Governor and the Superintendent of Public Instruction are ex officio members of the Regents.

The University is supported chiefly by appropriations made by the State Legislature, by income from the rental of lands granted to it by the Federal Government, by the income from royalties on the oil taken from these lands, and by student fees.

DEVELOPMENT OFFICE

The function of the Development Office is to encourage private support, both financial and non-financial, of The University of New Mexico, thereby enabling the University to increase its contributions to the State and to the Nation in terms of education, research, and service. Additional financial support obtained from private sources enables the University to incorporate into its program those features which are essential to educational leadership and distinction, but which are beyond the financial responsibility of the State. Non-financial support—that is, understanding and goodwill—is essential to the successful execution of the programs and policies of the University.

The major objectives of the Development Program are: (1) to promote a better understanding of The University of New Mexico and to interpret its programs, its progress, and its needs to the public; (2) to develop and enlist the active interest and support of individuals and groups in its behalf; and (3) to provide these individuals and organizations with the opportunity to support voluntarily the University.

Although it operates as a separate unit, the Alumni Office is a part of the Development Office. This makes it possible to coordinate Alumni Association activities with the promotional activities of the overall development program.

ALUMNI ASSOCIATION

The Association is maintained through cooperative efforts of the University and the alumni body. All graduates and former students of The University of New Mexico are members of the Association. Programs and policies of the organization are determined by a board of directors, whose members are chosen with respect to college, graduation year, and geographic location.

The Association coordinates and directs Homecoming activities, arranges class reunions, organizes alumni clubs throughout the State and Nation, promotes citizenship among undergraduates, assists with student recruitment, provides advice to the University administration upon request, assists in the University's legislative relations program, and in other ways encourages alumni interest in and support of the University.

The Greater U. N. M. Fund has recently been established to help provide through contributions from alumni and friends, certain features that are characteristic of a quality institution but which are often beyond the ability of the State to provide. These would include such benefits as scholarships, specialized equipment, library materials, and funds for faculty research.

The *Alumnus*, official organ of the Association, is published six times a year and is mailed to all members. Alumni Association file records include information on more than 30,000 persons who have attended the University since its opening. Master, geographical, and class files are maintained.

The Association's offices are located in the New Mexico Union, Suite 242.

CAMPUS AND BUILDINGS

The campus of The University of New Mexico is in the eastern section of the city of Albuquerque and comprises over 500 acres, landscaped with grass, giant cottonwoods, elms, and mountain evergreens. The 64 permanent buildings exemplify the University's distinctive architectural style, contemporary in treatment but with strong influence from the Spanish and Pueblo Indian cultures. The architecture is characterized by rectangular terraced masses, protruding vigas, patios, balconies, portals, and earth-color walls slightly inclined to recall ancient adobe houses. Within easy walking distance of the instructional and administrative center of the campus are the dormitories, an 18-hole golf course, two swimming pools, tennis courts, campus theatre, faculty residences, and sorority and fraternity houses.

The permanent campus buildings include: Administration Building, Alumni Memorial Chapel, Anthropology Building, Architecture Building, Art Building, Art Department Crafts Annex, Art Education Building, Bandelier Hall (departmental offices), Biology Building, Bureau of Business Research Building, Carlisle Gymnasium, Chemical Engineering Building, Chemistry Building (Clark Hall), Civil Engineering Building, Coronado Hall (men's dormitory), Counseling and Testing Building, Drama Building, Education Center, Electrical Engineering Building, Engineering Annex, Faculty Apartments, Fine Arts Center, Geology

Building, Golf Course Clubhouse, Heating Plant, Hodgkin Hall, Hokona Hall (women's dormitory), Home Economics Building, Hydraulics Laboratory, Industrial Arts Building, Johnson Gymnasium, Jonson Art Gallery, Journalism Building, Law Building, Lecture Hall, Marron Hall (departmental offices), Mechanical Engineering Building, Mechanical Engineering Shops, Medical Sciences Library, Mesa Vista Hall (men's dormitory), Meteoritics Building, Mitchell Hall (classrooms), New Mexico Union, North Hall (departmental offices), Nuclear Engineering Laboratory, Observatory, Oñate Hall (men's dormitory), Ortega Hall (languages), Pharmacy Building, Physics Building, President's Home, Research Center, Rifle Range, Santa Clara Hall (women's dormitory), Sara Raynolds Hall, Service Building, Speech-Television Building, Stadium Building, State Public Health Laboratory, Student Health Service, University Stadium, University Theatre (Rodey Hall), Yatoka Hall (Business Administration), Zimmerman Library.

THE ZIMMERMAN LIBRARY

BUILDING. The general University Library is housed in a pueblo-style building completed in 1938. It includes a 9-floor book stack tower, 109 study carrels in the stacks, a 3-wing reference and reading room, 2 other reading rooms, several special rooms including a rare book room, a vault for rare materials, and library offices and processing areas.

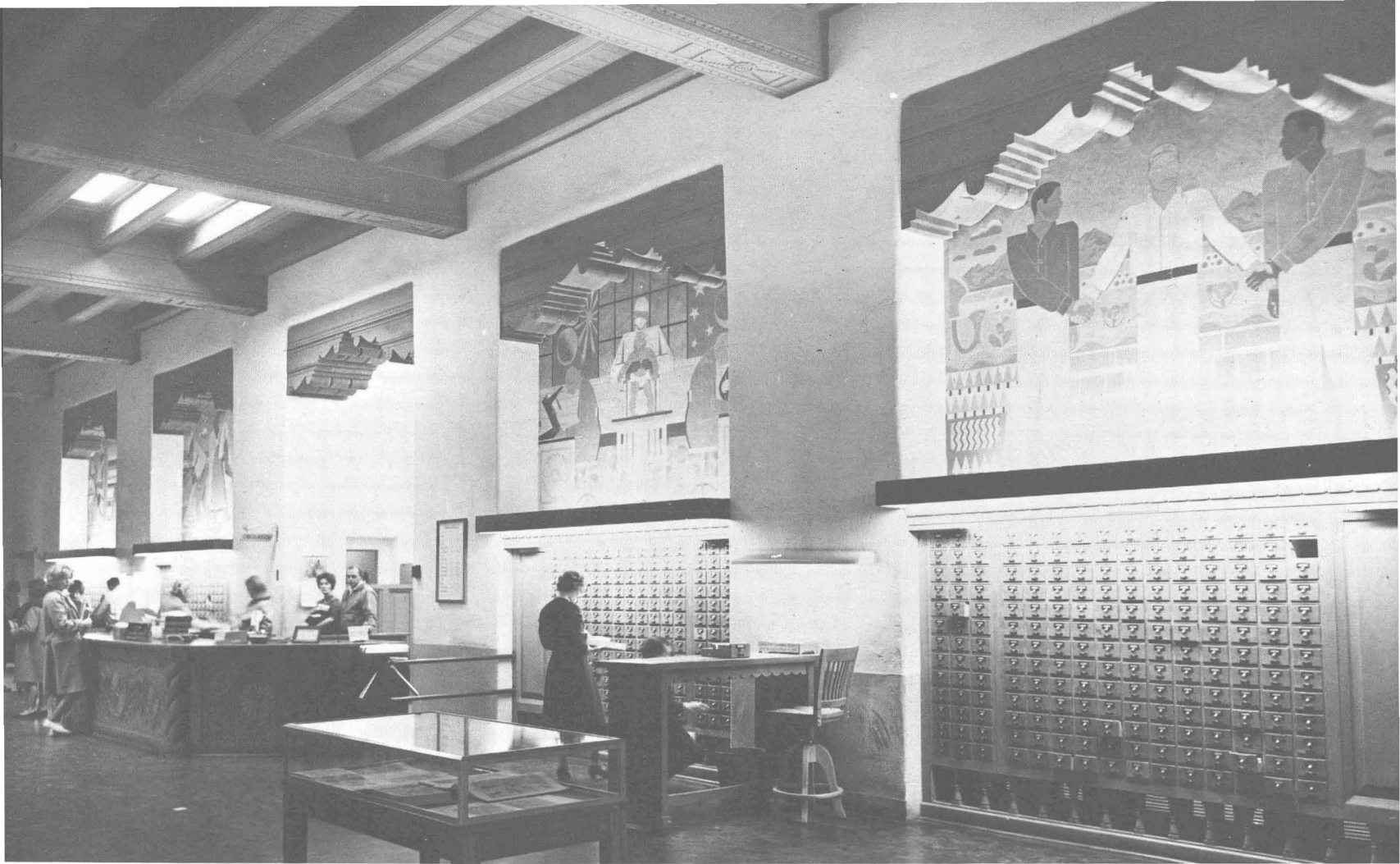
RESOURCES. Library collections include 362,315 cataloged and processed volumes, several thousand other cataloged serials and pamphlets, 135,165 government publications, 7,050 reels of microfilm, 92,782 microcards, 55,450 maps, several thousand pamphlets and pictures, 765 sound recordings, and a large collection of archival material. These resources provide adequate study and research facilities for undergraduate work and for the special fields in which graduate work is offered.

SPECIAL COLLECTIONS. The Coronado Room contains an extensive collection of books and other materials concerning the history and culture of the Southwest in general and New Mexico in particular. It contains State publications and books about New Mexico, several hundred bound volumes of photostats of the archives of Spain, Mexico, and New Mexico, letters, manuscripts, documents and state archival materials assembled by the U. S. Historical Records Survey.

The business history collection contains records of the First National Bank of Santa Fe, 1871-1926, the Ilfeld Company, 1865-1907, Gross, Kelly & Co., 1880-1940, Bond & Son, Inc., 1900-1940, and several others.

The Van de Velde Collection of Mexican Materials, consisting of 8,686 bound volumes, 93 maps, and 50 linear feet of pamphlets was purchased in 1939 by a special appropriation of the State Legislature. It contains much rare and valuable material dealing with history, archaeology, ethnology, geology, folklore, literature, and art of Mexico.

The Catron Collection, of 9,574 volumes, is an extensive and valuable library begun by Julia W. and Thomas B. Catron and given to the University Library by their sons, C. C. Catron, T. B. Catron, F. A. Catron and J. W. Catron. Outstanding items are several hundred Spanish and Mexican publications of the 16th to 19th



Main Lobby, Zimmerman Library

centuries, and 375 filing cases and boxes of letters and documents dealing with territorial New Mexico events, particularly the land grant system of the State.

The Otero Collection, given by former Governor and Mrs. Miguel A. Otero in 1939, contains 465 volumes on the Southwest and general fields, as well as a valuable manuscript and museum collection.

The Field Collection of old Spanish and Mexican Art, which includes 96 pieces of silver and 69 other art objects, was given by the estate of Will B. and Mary Lester Field in 1939.

USE OF THE LIBRARY. The Library is open to all students in all departments of the University. In addition to serving the students and faculty, and subject to their needs, the Library is available for use by citizens of the State, by permission.

Books withdrawn for home use may be kept one month. Reserved books may be used only according to rules posted at the Reserve desk; reference books may not be taken from the Reference room. Fines are charged for the late return of books.

HOURS. The Library is open from 8 a.m. to 10 p.m., Mondays through Fridays; from 8 a.m. to 5 p.m., Saturdays; and Sundays from 2 to 10 p.m.

FINE ARTS LIBRARY

The Fine Arts Library is located in the Fine Arts Center. This newly established library contains the library materials for art, music, drama and architecture. Reference service in these areas is handled by the Fine Arts Library staff. A special room houses rare books and other valuable resources. Two practice rooms, with pianos, are located in the library complex. Library patrons use these facilities to perform works from scores.

The Fine Arts Library maintains its own complete card catalog. Separate divisions are provided for approximately 15,000 books, 4,400 scores and 4,000 recordings and tapes. The audio materials, which include an excellent collection of the indigenous music of New Mexico, are available for use through specially designed listening facilities.

A reference collection of approximately 50,000 slides and 20,000 photographs and reproductions is maintained by the Fine Arts Library. The collections are particularly strong in American Indian art, Pre-Columbian art, Spanish Colonial art and architecture, and 20th-century art and architecture.

LAW LIBRARY

The School of Law Library, housed separately with the law school, received an auspicious start through donation of the Francis C. Wilson, Francis E. Wood and other private law library collections. It contains 59,000 volumes and is being augmented by approximately 250 volumes each month. The library includes comprehensive collections of British, Federal and State court reports, including special and annotated series, session laws, current State and Federal statutes, legal treatises, periodicals, encyclopedias and digests, administrative reports, and other classes of legal materials.

LIBRARY OF THE MEDICAL SCIENCES

The Library of the Medical Sciences, School of Medicine, housed at 900 Stanford Dr., N.E. also houses the Bernalillo County Medical Society Library. It subscribes to more than 1,000 biomedical serials and is rapidly building its collection. In one of the most highly mechanized libraries in the country, the library staff is engaged in research in medical communications and documentation.

MUSEUMS, COLLECTIONS, AND EXHIBITIONS

MUSEUM OF ANTHROPOLOGY

The collections and exhibits of the Museum of Anthropology are located in the new south wing of the Anthropology Building. Exhibits consist of textiles, dioramas of ancient life, and full scale exhibits of various cultures. Exhibits feature the life of the Palaeo Indians, Early Pueblo life, the Pueblo Golden age, and two exhibits on late pueblo culture. In the latter is a full scale reproduction of a section of one of the famous painted kivas at the site of Pottery Mound. Other exhibits in the new Museum of Anthropology Hall include those of Navajo, Northwest Coast, Eskimo, Plains and Andean Indians. In addition, a series of special anthropological exhibits are under construction which feature Navajo silver, the Gallina culture, Mimbres pottery, Mound Builder cultures, Mexican and Andean archaeology, Navajo and Pueblo weaving, evolution, races of Man, linguistics, archaeological and ethnological techniques, cultures of Oceania, African tribal art, and cultures of Australia. A complete series of exhibits showing the various prehistoric periods of Europe and the Old World is now complete. These exhibits are available to the public. The museum wing is open 9 a.m. to 5 p.m. Tuesday through Saturday. School groups and others may make special arrangements. Director: Frank C. Hibben. Curator: J. J. Brody.

UNIVERSITY ART GALLERY

The University Art Gallery, located in the new Fine Arts Center building, was opened in October, 1963. The gallery facilities, among the finest in the Southwestern States, are of a size to permit concurrent presentation of a continuing series of major exhibitions, together with selections from the University's permanent collections. The Gallery's inaugural event, **Taos and Santa Fe, the Artist's Environment: 1882-1942**, documented New Mexico's important contribution to the history of American art. Among the major exhibitions to be organized by the Gallery in 1964-65 are the **75th Anniversary Exhibition**, a survey of European and American painting, sculpture, drawing and prints from 1889 to 1964; and **The Painter and the Photograph**, an exhibition tracing the interrelationships of painting and photography in 20th-century art. The latter exhibition will be shown nationally, as well as in New Mexico. The gallery is open Tuesday through Friday, 12 to 5 p.m. and Sunday, 1:30 to 5:30 p.m.; for groups, other hours by arrangement; closed during academic holidays. Director: Van Deren Coke.

GEOLOGY MUSEUM

(Geology Building) The Geology Museum has a double purpose: it is designed to serve the general public and to supplement the instructional program. Exhibits include a systematic series of minerals, a stratigraphic series of fossil animals and plants, a paleontologic series of fossil and modern invertebrates, and systematic series of igneous, sedimentary, and metamorphic rocks.

Other notable features are an exhibit illustrating how fossils are preserved; an exhibit of New Mexico metallic and nonmetallic ores; rotating exhibits of various geological materials; a series of map displays; a geologic cross-section through Mount Taylor and the Sandia Mountains, together with numerous rock samples; and an unusually fine fluorescence-phosphorescence exhibit of minerals under both long-wave and short-wave ultraviolet light. The Albuquerque Gem and Mineral Club maintains a case with rotating exhibits of specimens, including gems and precious stones. Curator: Stuart A. Northrop.

HARWOOD FOUNDATION

The University of New Mexico maintains the Harwood Foundation in Taos, New Mexico. The Foundation has an excellent and extensive collection of paintings by artists who have lived and worked in New Mexico. Selections from the collections are frequently exhibited. Director: Mrs. Toni Tarleton.

JONSON GALLERY

This gallery on the campus at 1909 Las Lomas Road is open to the public daily from 10 a.m. to 6 p.m. The exhibition program features monthly one-man shows or group shows by New Mexico artists, with emphasis upon contemporary painting. During the summer, the gallery presents an annual exhibition of paintings by Raymond Jonson, Director of the gallery.

MUSEUM OF SOUTHWESTERN BIOLOGY

(Biology Building) The Department of Biology maintains the Museum of Southwestern Biology, the most important single source of New Mexican vertebrates and plants, including the J. Stokley Ligon bird collection. This is a research museum, maintained for the use of all serious students of Southwestern field biology, although priority in the use of materials is reserved for University students and staff. Curators: Mammals and Birds, J. S. Findley; Reptiles and Amphibians, W. G. Degenhardt; Fishes, W. J. Koster; Plants, W. C. Martin. Assistant Curator, C. J. Jones.

RESEARCH ACTIVITIES**THE OFFICE OF DIRECTOR OF RESEARCH SERVICES**

Harold L. Walker, Director

The Office of Director of Research Services is an administrative agency of the Graduate School of the University, to whom the director is responsible. The functions of the Office are carried out by the Director of Research Services.

The broad purposes of the Office of Director of Research Services are:

- (1) to foster a more effective and more extensive program in research and other scholarly pursuits within the University;

- (2) to make a continuing survey of the research and other scholarly and creative interests, activities, and needs, as well as of the human and physical resources, within the University; and to disseminate this information to departments, the University administration, and possible sponsors of research;
- (3) to coordinate, insofar as possible and desirable, the various research activities on campus;
- (4) to seek funds in support of research and other scholarly and creative activities and interests in the University, including faculty and student fellowships; and to disseminate to appropriate individuals, faculty, and administration information concerning application procedures for such financial aid;
- (5) to supervise University patent policy.

UNIVERSITY RESEARCH COMMITTEE

The University Research Committee is a standing committee of the Faculty which includes in its membership the Director of Research Services and the Dean of the Graduate School. The Committee is concerned with matters of research policy directly or indirectly affecting the Faculty and the University, administers the University's program of non-contract research, and supervises and allocates the University Research Fund.

THE BUREAU OF BUSINESS RESEARCH

Arthur A. Blumenfeld, Director; Ralph L. Edgel, Professor of Business Administration, Business Analyst; Rudyard B. Goode, Associate Professor of Business Administration, Statistician; Sang O. Park, Assistant Professor of Business Administration, Senior Research Economist; Robert D. Knepper, Assistant Research Economist; Peter J. LaLonde, Assistant Research Economist; Jacqueline J. Silverman, Research Assistant; Margaret I. Meaders, Editor; Shirley J. Huzarski, Data Processing Supervisor.

The Bureau of Business Research, established in July 1945, is an integral part of the College of Business Administration. Its purpose is to promote the economic welfare of the State through investigation and study of economic and business problems and through the dissemination of information. More specifically, its objectives are to promote the development and intelligent use of the State's resources and full employment for its people; to assist businesses in dealing with their problems of marketing, internal operations, and planning; to encourage the pursuit of business and economic research by students and faculty; and to provide a medium through which the skills and talents of the College of Business Administration and the University as a whole may be made of assistance to the community.

The basic activities of the Bureau consist of gathering, analyzing, and interpreting data concerning the economic life of the State—its population, natural resources, employment opportunities, income, business activities, and markets. Studies are initiated by the Bureau or are undertaken for business concerns, governmental agencies, or other interested organizations. So that the results of its studies may be used, information is disseminated through Bureau publications, the press, radio, and television. Bureau publications include:

New Mexico Business, a monthly journal which regularly carries more than 60 indexes of business activity in New Mexico, a short article summarizing recent business activity, and a feature article on some business or economic problem or area.

The Retail Food Price Bulletin, a quarterly report presenting the results of the Bureau's survey of food prices at representative food stores in Albuquerque.

The "**Business Information Series**," which consists of numerous releases incorporating results of small studies and collections of information of current interest.

The "**New Mexico Studies in Business and Economics**," a series in which research monographs on various subjects are issued at irregular intervals.

Other activities include the Southwest Management Development Program, which embraces several types of intensified adult-education programs, including special courses and conferences tailored to the needs of specific groups and a series of week-long advanced executive conferences offered several times each year at pleasant Bishop's Lodge in the foothills of the Sangre de Cristo Mountains north of Santa Fe.

The Bureau also acts as consultant to persons desiring to avail themselves of its services; in addition, it sponsors conferences at which businessmen, civic leaders, and scholars may meet to exchange information and pool their resources toward the solution of common problems.

THE BUREAU OF ENGINEERING RESEARCH

W. W. Grannemann, Professor of Electrical Engineering, Director.

Established in 1937 as an Engineering Experiment Station, the Bureau of Engineering Research is an integral part of the College of Engineering. Research activities in the College of Engineering are directed toward (1) maintaining an engineering faculty who are leaders in the discovery and development of new engineering knowledge, (2) supporting the engineering graduate program by affording graduate students high-level research opportunities, and (3) service to the citizens and industry of the State of New Mexico.

It is the purpose of the engineering research program not only to train future research workers, but also to carry out a program of research that assures both sound investigations of a fundamental nature in the engineering sciences and work devoted to the solution of State problems and to greater utilization of the State's natural resources. Through publications, cooperative activity with New Mexico industry, and the conduct of sponsored contract research projects, it is the purpose of the Bureau of Engineering Research to play a prominent role in the industrial and technical development of New Mexico.

THE DIVISION OF GOVERNMENT RESEARCH

Frederick C. Irion, Associate Professor of Government, Director.

Supervisory Board: David B. Hamilton, Professor of Economics; Charles E. Woodhouse, Assistant Professor of Sociology, Chairman; T. Phillip Wolf, Assistant Professor of Government.

The Division of Government Research, which was created by the University in

July 1945, has as its purpose the study of problems of government in New Mexico, including the economic and social as well as the political aspects of such problems.

The Division selects for study contemporary subjects of importance to the people of the State, publishes the completed studies, and makes them available to interested citizens and officials in New Mexico and elsewhere. Outside specialists as well as members of the faculty of the University are utilized as consultants and to make studies.

Other functions of the Division include the training in research of graduate students, advisory and consultant work, and the sponsoring of conferences.

No conclusions concerning University policies or views are to be drawn from published studies. Opinions expressed in studies are those of the authors, who accept responsibility for them. The Division does accept responsibility for giving them a chance to appear.

Over-all responsibility for the work of the Division is exercised by the Supervisory Board, under the administrative supervision of the Academic Vice President. The Director, who sits as a non-voting member of the Board, is responsible to it.

LECTURES

THE ANNUAL RESEARCH LECTURESHIP

The Annual Research Lectureship of the University, established in 1954, was authorized by the General Faculty in order to encourage, recognize, and honor research and creative work and to acquaint the University community and the public with the achievements of faculty members. The Graduate Committee and the University Research Committee, in joint sponsorship and with the approval of the University Administration, make the yearly nominations of the lecturer.

CARL GRABO MEMORIAL LECTURES

These lectures in memory of Carl Grabo, Visiting Professor at the University from 1947 to 1954, are offered each year under the auspices of the Department of English and are open to the public. They are supported by income from a fund established by friends of Carl Grabo.

JOHN FIELD SIMMS MEMORIAL LECTURES (1954)

These lectures are supported by the income of a gift to the University of \$25,000 by Albert Gallatin Simms, in memory of his brother, John Field Simms, a Regent of the University, Justice of the Supreme Court of New Mexico, creative thinker and diligent worker on various State and local public boards and commissions, eminent trial lawyer and counselor, and beloved citizen of Albuquerque, New Mexico, who died in Albuquerque February 11, 1954. As stated in the establishing document, the gift is to provide for "the annual presentation of a lecture or lectures by a distinguished and learned member of the legal profession, including practicing attorneys, jurists, and outstanding law teachers and scholars" to afford "students of the law, members of the legal profession, and the public in general an opportunity to hear and learn, at first hand from those learned in the law, the basic concepts and principles of law and ethics which have proved to be the bulwark of justice and liberty among civilized men." The document was later amended by Mr. Simms to permit the selection of any distinguished person.

MILITARY TRAINING

AIR FORCE ROTC

In August 1949 an Air Force Reserve Officers Training Corps Unit was established at The University of New Mexico. The purpose of Air Force ROTC is to select and train students who possess the character, intelligence, aptitude, and desire to become officers in the United States Air Force.

Air Force ROTC is a 4-year program. There is a possibility that a new shortened AFROTC program may be inaugurated in the fall of 1964. Interested persons should check with the Professor of Air Science. Veterans and students who have had previous ROTC or military school training may be exempt from part of the course depending upon the quality and amount of prior training. Students pursuing any baccalaureate degree are eligible. Upon successful completion of the Air Force ROTC course, cadets are commissioned as second lieutenants in the U.S. Air Force and are called to active duty within approximately 90 days for a minimum period of 4 years. Qualified graduates may attend Air Force flying schools as second lieutenants. Some selected students desiring advanced degrees may have their active duty delayed until they acquire a graduate degree.

Textbooks for the Air Force ROTC courses and uniforms are provided by the Air Force. Junior and senior Air Force ROTC cadets are paid approximately \$27 per month in 3-month increments. Cadets are required to participate in 4 weeks of summer training between their junior and senior academic years. Cadets receive approximately \$75 per month and room and board during summer training. Transportation to and from the training site is provided by the Air Force.

During the spring semester, freshman year, and fall semester, sophomore year, the Air Force ROTC student will attend a university class in lieu of attending formal AFROTC classes. The Department of Air Science has approved certain classes in the areas of mathematics, physical or natural sciences, foreign languages, humanities or social sciences, which are acceptable for this substitution. In the fall semester, freshman year, and spring semester, sophomore year, the AFROTC students will attend formal Air Science classes 2 hours a week.

All Air Science students will attend Leadership Laboratory 2 hours a week **every semester**, including the semester during which they are taking a university substitute course in lieu of Air Science.

Credit for Air Force ROTC courses may be applied toward an academic degree. The undergraduate colleges of the University have made arrangements whereby Air Science courses may be substituted for other elective courses. The College of Arts and Sciences and the College of Education offer a minor study in Air Science (18 semester hours necessary). The College of Fine Arts offers a minor study in Air Science in the combined curriculum leading to the B.A. in F.A. degree.

NAVAL ROTC

A Naval Reserve Officers Training Corps Unit, established by the Navy De-

partment is in operation at The University of New Mexico. The NROTC offers the opportunity for NROTC students to qualify for a commission in the U. S. Navy and Marine Corps and the U. S. Naval Reserve and Marine Corps Reserve upon completion of the baccalaureate requirements.

Two types of programs are included in the NROTC. Entering male freshmen who have been selected by the Navy Department after nationwide competitive examination are enrolled as Regular NROTC students. Regular NROTC students receive \$50 per month and have their tuition, books and fees, and uniforms paid for by the Navy. Examinations for the Regular Program are given each winter by the Navy Department. Additional information concerning the Regular Program can be obtained from high school principals, Navy recruiters, and the Professor of Naval Science in the University NROTC Unit.

The Contract NROTC program is open to all entering male freshmen. The Professor of Naval Science will select applicants based on the results of a written examination and a required physical examination, both of which are given at the University during July, August, and September. Contract NROTC students receive their Naval Science textbooks and uniforms without charge and are paid approximately \$27 per month during their junior and senior years. Additional information on the Contract Program can be secured from the Professor of Naval Science in the NROTC Unit.

Regular NROTC students are commissioned in the Regular Navy or Marine Corps, while Contract students are commissioned in the Naval or Marine Corps Reserve. Contract students may, however, be commissioned in the Regular Marine Corps, provided they so request and vacancies exist.

Students may enter the NROTC at other than freshman level provided their entry is approved by the Naval Science Department Chairman and they agree to "double up" in Naval Science courses in order to graduate in a total of 4 years of college-level work.

Naval Science courses are open to any student who is attending The University of New Mexico. Registration as a "Naval Science student" must be approved by the Chairman of the Naval Science Department. Students desiring to take Naval Science for credit need not be members of the NROTC Unit.

PEACE CORPS TRAINING

PEACE CORPS TRAINING CENTER FOR LATIN AMERICA

Marshall R. Nason, Ph.D., Director; Cleon W. Capsas, M.A., Deputy Director and Director of Training, Phase I; Richard W. Poston, B.S., Director of Training, Phase II and Coordinator of Community Development Training; Lester M. Libo, Ph.D., Chief Assessment Officer; James J. Stout, M.D., Medical Officer; Lee Joganic, M.A., Chief, Administrative Services; Florence Shoemaker, Chief, Trainee Services; Chester Brown, M.S., Coordinator, Technical Skills; Laura D. Calvert, M.A., Coordinator, Spanish; Edward Heath, M.Ed., Coordinator, Outward Bound and Physical Training; B. LeRoy Gordon, Ph.D., Coordinator, Area Studies and World Affairs; Charles Judah, Ph.D., Coordinator, U.S. Institutions; Albert R. Lopes, Ph.D., Coordinator, Portuguese; Vaughn Smith, Ph.D., Coordinator, Community Health Action.

In December 1962, under the terms of a contract with Peace Corps, The University of New Mexico undertook to establish a year-round training center to serve the needs of contingents destined for service in Latin America. The Center, the first of its kind, received a monthly input of approximately 65 volunteer trainees except in June and July when contingents exceeded 175 in number. Each contingent undergoes a vigorous program of preparation in languages, area studies, world affairs, U.S. institutions, Communist strategy and tactics, health and hygiene, physical training and psychological conditioning. Depending on the specifics of their projected field service, contingents are also given training in a variety of technical skills ranging from agriculture, construction and mechanics to health education and educational television. The principal emphasis, however, lies in the area of rural and urban community development. The first phase of the 13-week training program is devoted largely to the academic components and Outward Bound exercises; the second consists of theoretical study and field work in urban or rural communities in the Spanish-speaking areas of New Mexico. At the conclusion of the training and screening process, successful candidates are graduated as Peace Corps Volunteers ready for overseas assignment. Graduating volunteers may receive academic credit for those portions of the training program which equate to University catalog listings and are taught by University staff. Normally, the Peace Corps volunteer who successfully completes the program may expect a maximum of 15 semester hours of credit. While appointment of candidates to the Training Center will be made by Peace Corps' Division of Selections, the Center will receive and forward applications for Peace Corps service, administer placement exams at intervals prescribed by Peace Corps, Washington, and counsel with prospective applicants.

ADMISSION AND REGISTRATION

APPLICATION AND CREDENTIALS

ALL COMMUNICATIONS regarding entrance to the undergraduate colleges of the University should be addressed to the Director of Admissions. The University requires that each new student file an application for admission (form to be obtained from the Office of Admissions and Records). In addition, he must have his credentials sent directly to the Director of Admissions from the high school or college previously attended; transcripts in the possession of students are not acceptable for entrance purposes. A former student in the University who was not enrolled here for the previous regular semester is required to file an application for readmission, except that students who complete work in the summer session are not required to file an application to re-enter in the fall. Transcripts of any college-level studies taken since the last regular attendance at the University will be required. **Deadlines for the filing of application and credentials are August 15 for the fall semester and January 1 for the spring semester. The deadline for application to the Dental Hygiene Program is April 1, and to the Data Processing Program, April 15.**

Students are accepted for admission to the University (except in the first semester of Law, Medicine, or Dental Hygiene) for the second semester, which begins in February, as well as for the fall and summer sessions.

Applicants for the School of Law or for the School of Medicine are referred to "Transferring Students" on p. 66. Graduate School applicants should see the Graduate School section of this bulletin. Applicants for the Dental Hygiene, Dental Assisting, or Data Processing programs are referred to those respective sections of this catalog.

FRESHMEN

HOW TO APPLY

Each freshman is required to present an application for admission (see above), and to have a transcript of his high school record sent to the Director of Admissions by the principal or superintendent.

When the application and transcript have been received, the Office of Admissions will send to the applicant notice of eligibility or ineligibility for admission. An applicant who requires dormitory accommodations will also be sent a housing application form. The notice of admission will include an advisement and registration appointment, registration instructions, and a medical examination form.

WHEN TO APPLY

The University has an August 15 deadline for receipt of applications and all required credentials from students planning to enroll for the fall semester. The deadline for the spring semester is January 1. To accommodate students desiring an early determination, applications from high school students will be accepted as early as the first semester of the senior year. From the University's standpoint, the ideal time for a student to file his application is shortly after the beginning of

his final semester. At that time, the student should arrange to have his high school mail directly to the Director of Admissions a transcript complete for his first seven semesters and including a list of all courses in progress. This partial transcript will provide a basis for extending tentative admission to the apparently eligible applicant, subject to receipt of a final transcript showing grades and credit for the senior year, and the graduation date.

ADVISEMENT TESTS

All freshmen entering the University are enrolled in the University College (see p. 120). Since one of the purposes of the University College is to assist the student in his adjustment to college work and in his selection of an educational objective compatible with his desires and aptitudes, each freshman is required to take, for advisement and guidance purposes, a series of aptitude and placement tests. These tests are administered just prior to registration on the dates indicated in the Academic Calendar. No student entering the University in regular status for the first time may register until these tests have been completed. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.

ADMISSION BY CERTIFICATE

The standard of preparation for admission to freshman status in the University is the four-year high school course. High schools accredited by regional accrediting associations, state departments of education, or state universities, are recognized by The University of New Mexico.

Graduates of accredited high schools may be admitted to the University upon presentation of transcripts showing graduation from a 4-year high school with no fewer than 15 units (or graduation from a senior high school with a minimum of 11 units). The term "unit" means the completion of a course of study consisting of recitation periods of at least 40 minutes each, held 5 times a week during 36 weeks.

The minimum qualitative requirement for admission to the University is a grade average of C in previous academic work. The application of a student whose record does not meet this requirement may be subject to review by the Committee on Entrance and Credits.

Graduates of unaccredited or partially accredited high schools who present transcripts which meet admission requirements in all respects except accreditation may become eligible for admission upon validating the unaccredited high school work by successful scores on entrance examinations. Validation may be accomplished by scores which meet University standards on College Entrance Board Examinations, or the high-school-level General Educational Development Tests.

If the applicant is not a high school graduate but has completed a minimum of 15 required units in an accredited high school, has achieved an exceptional record, has satisfied the specified high-school-level subject-matter requirements of this University, and makes a score satisfactory to the University on a qualifying test, he may be admitted upon the unqualified recommendation of his principal or superintendent. The University does not encourage early admission.

The University recommends that freshmen be at least 16 years of age.

SUBJECT MATTER REQUIREMENTS. In determining admission status, it is the primary concern of the University that the applicant have adequate preparation for successful college work. As evidence of adequate preparation, it is required that the applicant's transcript show within the 15 required total units successful completion of a minimum of 13 units in specified subject-matter areas. Of these 13 units, 9 units must be distributed as follows:

English—3 units

Social Studies—2 units (including 1 unit in U. S. history)

Science—2 units, 1 unit of which must be in Biology, Chemistry, or Physics

Students intending to study nursing are advised to have completed at least 1 unit in chemistry.

Mathematics—2 units (Algebra, Geometry, Trigonometry)

The minimum 2-unit requirement may be satisfied with 2 units of algebra or 1 unit of algebra and 1 unit of geometry.

A student intending to study engineering or architecture will find it necessary, in order to complete his prescribed curriculum without loss of time, to have completed at least the following high-school mathematics: 2 units of algebra, 1 unit of plane geometry, $\frac{1}{2}$ unit of trigonometry. See "High School Preparation" in College of Engineering or Department of Architecture sections. These preparatory courses are also recommended for students planning to major in mathematics.

Students planning to enter the fields of pharmacy, pre-medicine, pre-dentistry, nursing, the sciences, or business administration are advised to include in their preparation at least intermediate algebra and plane geometry.

The remaining 4 units of the specified 13 must be chosen from the following list of restricted electives. Not more than 2 units in Group A and 2 units in Group F may be used to satisfy restricted elective requirements.

Group A—English, Journalism, Speech

Group B—French, Spanish, Latin, German, and other foreign languages

Group C—Algebra, Plane Geometry, Solid Geometry, Trigonometry

Group D—General Science, Biology, Chemistry, Physics, Physiology, Geology

Group E—History, Geography, Sociology, Economics, Government, Psychology, Social Science

Group F—Fine Arts (Music, Art, Drama)

The 2 or more additional units may be from any of the above categories or in any other courses for which credit is granted by the student's high school.

ADMISSION WITH ENTRANCE DEFICIENCIES

An applicant who otherwise qualifies for admission to the University may be admitted with a high school record which shows no more than 2 units in subject-matter deficiencies, except that admission to the Dental Hygiene Program is not granted when deficiencies exist. Time limitations in that program preclude deficiency removal after enrollment.

REMOVAL OF ENTRANCE DEFICIENCIES

Applicants admitted to the University with subject-matter deficiencies are urged, when time permits, to enroll in an accredited high school for the specific courses in which they are deficient and to complete these courses before actual enrollment in the University.

A student admitted to the University with deficiencies in English or mathematics may not enroll in a college-level course in these fields until he has satisfied the specified high school requirements. If he passes the English Proficiency Examination or qualifies on the Mathematics Placement Test for enrollment in College Algebra, he will be considered to have satisfied the admission requirements in these areas. Both of these tests are administered to each new student entering the University immediately in advance of his first registration. If the student does not achieve qualifying scores on these tests in English and mathematics, deficiencies in these areas must be removed by high school correspondence courses or non-credit courses offered by this University.

A student admitted with deficiencies in areas other than English or mathematics may remove deficiencies by satisfactory completion of regular college courses in the areas of deficiency. Although a grade of D in a college course may be used to satisfy a high-school-level deficiency, college credit will be granted only for courses in which the student earns a grade of C or better. A 3-semester-hour college course will remove a 1-unit entrance deficiency except in laboratory science in which 4 semester hours will be required.

ADMISSION BY EXAMINATION

A graduate of an accredited high school who is not eligible for admission because of excessive subject-matter entrance deficiencies, or a student 21 years of age or more who has not been graduated from high school, may be admitted if he has achieved a percentile score of 71 or above on the New Mexico State-wide Test, or a percentile score of 61 or better on the School and College Ability Test, or standard scores of 61 or above on the high-school-level General Educational Development Tests. The student admitted by examination will be held responsible for removal of deficiencies in the specified subject-matter areas. (See "Removal of Entrance Deficiencies" above.)

ADMISSION OF RECOMMENDED STUDENTS FROM
PILOT HIGH SCHOOLS IN NEW MEXICO

In accordance with an agreement between New Mexico colleges and certain approved "Pilot" high schools in the State, students recommended by such high schools for unconditioned entrance will be admitted by The University of New Mexico without regard to existing deficiencies in the specified subject-matter areas. Applicants planning to enter programs in engineering, pharmacy, business administration, mathematics or certain science fields will be required to demonstrate competence in mathematics indicative of the background knowledge necessary for registration in college courses in those fields.

ADVANCED PLACEMENT PROGRAM

The University participates in the Advanced Placement Program of the College Entrance Examination Board. Credit may be granted upon recommendation of

the academic departments concerned for advanced placement examinations completed with grades of 3, 4, or 5.

TRANSFERRING STUDENTS

HOW TO APPLY

Each new student who has attended other colleges or universities and who is seeking admission to an undergraduate college is required to file with the Office of Admissions and Records an application for admission (form to be obtained from that office). An applicant for admission to the School of Law will obtain the application form from the law school and will return it to that office. Similarly, an applicant for the School of Medicine will obtain an application form from the School of Medicine. In addition to the application, credentials of transferred credits are required according to the following schedule:

An applicant seeking admission to one of the undergraduate colleges of the University should request the authorities at each college-level institution attended to send an official transcript of his record to the Director of Admissions of the University.

An applicant for the School of Law should request the authorities at each college-level institution attended to send two official transcripts of his record to the Dean of the School of Law. (Students planning to apply for enrollment in the combined 6-year program in Arts and Sciences and Law are referred to the explanation of this program under "Beginning Students" in the College of Law section of this bulletin.) The law school applicant must also present scores on required tests (see "Admission" in the School of Law section). The applicant who has attended another law school must also have sent a certification from the dean of the law school last attended that the student is eligible to re-enter there.

An applicant for the School of Medicine will obtain from that office instructions regarding required credentials.

A student currently enrolled in another institution during the first semester and applying for admission to one of the undergraduate colleges or to the School of Law of this University for the second semester should arrange to have forwarded to the appropriate office an official transcript which includes a listing of courses in progress as well as all completed work. On the basis of these partial credentials, a determination of admission status will be made pending receipt of the final transcript, thus enabling the student to make definite his plans for transfer.

When the high school record has not been accepted and recorded on the transcript by an accredited college-level institution, or when the student has satisfactorily completed fewer than 26 semester hours in an accredited institution at the college level, a complete official transcript of the high school work will also be required.

The student must indicate on the application all previous college attendance. An applicant is not permitted to ignore previous college attendance or enrollment even though he may prefer to repeat all of his previous college courses. A student found guilty of non-disclosure or misrepresentation in filling out the ad-

mission application form will be subject to disciplinary action, including possible dismissal from the University.

Students seeking admission to the Graduate School of this University are referred for admission procedures to the section of this catalog entitled "Graduate School" or to the **Graduate School Bulletin**.

TRANSFER APPLICATION FEE. A Transfer Application Fee of \$5 is payable when the application for admission is submitted. This fee is not refundable. The application and credentials of students who apply for admission but do not enroll are kept on file for one calendar year after the beginning of the session for which application was made. The Transfer Application Fee paid with the original application will be extended to cover a reapplication made within that time-limit.

WHEN TO APPLY

The application and all required credentials must be on file in the Admissions Office not more than 6 months in advance of the session for which application is being made and not later than August 15 for the fall semester and January 1 for the spring semester.

UNIVERSITY COLLEGE

All students who have completed fewer than 26 semester hours of acceptable college credit will be required to enroll in the University College. (See p. 120.)

The student who has completed 26, but fewer than 64, semester hours of acceptable college credit and who is found admissible but who has not met the special admission requirements of the degree-granting college of his choice may be required to enroll in the University College until he has qualified for transfer to the degree-granting college. (See the respective college sections of this catalog for admission requirements.)

The University College will not accept students who have attempted 72 or more academic hours or who have earned 64 or more academic hours.

ADMISSION PROCEDURE

When the application, Transfer Application Fee, and all required credentials have been received, the Office of Admissions will send to the applicant a notice of eligibility, or ineligibility, for admission. An applicant who requires dormitory accommodations will be also sent a housing application form. The notice of admission will include an advisement and registration appointment, registration instructions, and a medical examination form.

An evaluation of the transferred credit will be completed as soon as possible after the admission status has been determined. In some instances it will not be prepared until after the notification of admission has been issued. If the student receives his evaluation prior to registration, he should retain it for use at that time.

Every new student is required to take the psychological and the English Proficiency examinations. These tests are administered just prior to registration on the dates indicated in the Academic Calendar. No student transferring to the University in regular status for the first time may register until these tests have been completed. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.

REGULATIONS

The minimum qualitative requirement for University admission is a grade average of C in all previous college work. The application of a student whose record does not meet this requirement may be subject to review by the Committee on Entrance and Credits. A student under suspension from any other college or university will not be considered for admission during the period of his disqualification.

A transferring student is required to meet the freshman entrance requirements (see p. 64.) except that if he has completed 2 semesters (26 semester hours minimum) of work of C average in an accredited collegiate institution, which institution has granted him regular status, his preparatory record will be considered cleared even though the credits do not meet our requirements in full.

Students from fully accredited institutions ordinarily will be given full credit for work transferred, insofar as the courses taken are the same as, or equivalent to, courses offered in the college in which the student enrolls in this institution. Grades of D transferred from other institutions are not acceptable for credit in The University of New Mexico.

Only an approximate evaluation can be made prior to registration, and all credit is tentative until the student has completed at least one semester of satisfactory work in residence.

Credits transferred from an accredited junior college will be accepted up to a maximum to be determined by the college in which the student is enrolled. In accepting junior college credits, no courses will be considered as above sophomore level.

No credit is accepted from technical institutes which are not members of regional accrediting associations. Only credit earned in non-technical subjects is accepted from technical institutes which are accredited by a regional accrediting association.

Applicants from unaccredited institutions must have the equivalent of a 2.5 University of New Mexico index to be eligible for admission by transfer. Credit earned in unaccredited institutions is usually accepted on the same basis as by the state university of the state in which the institution is situated. When acceptance of credit on a validation basis is indicated, the student will be required to validate such credit by at least a 2.0 index on his first 30 semester hours of residence study here. The maximum credit which will be allowed on a validation basis is 60 semester hours plus not more than 4 credits in physical education activity courses. Where it seems proper, examinations for the validation of credit may be required.

Correspondence and extension credit from institutions not accredited by regional accrediting associations is not accepted for transfer. A student who has completed such correspondence or extension work in a course comparable to one offered by this University has the privilege of establishing credit here under the regulations governing special examinations to establish credit.

CONCURRENT ENROLLMENTS. Credit will not be granted for college courses carried either through extension or correspondence, or in residence at another institution of college level, when a student is enrolled for residence credit in this

University, except upon specific written approval of the dean or director of the college in which the student is enrolled here.

UNCLASSIFIED STUDENTS. Students transferring from unaccredited or partially accredited institutions are unclassified until they have validated credit in accordance with the University regulations. This designation is also used temporarily when the evaluation has not been made and definite classification cannot, therefore, be determined.

READMITTED STUDENTS

A student who has previously enrolled in residence in the University but whose attendance has been interrupted by one or more regular semesters is required to file an application for readmission whether he plans to attend in degree or in non-degree status. The degree student who, during his absence from the University, has attended another collegiate institution, or has taken college-level courses by correspondence or extension, must provide complete official transcripts of such studies. The Transfer Application Fee is not required of students who have formerly attended the University in degree status.

A student currently enrolled in another institution during the first semester and applying for readmission to one of the undergraduate colleges for the second semester should arrange to have forwarded an official transcript which includes a listing of courses in progress as well as all completed work. An applicant for readmission to the School of Law or to the School of Medicine will have the required transcripts sent to the respective school. On the basis of these partial credentials, a determination of readmission status will be made pending receipt of the final transcript, thus enabling the student to make definite his plans for re-entry.

Credit earned during suspension from this University will not be accepted for transfer.

UNIVERSITY COLLEGE

The readmitted student in regular status who has not completed 26 semester hours of acceptable college credit will be required to enroll in the University College (see p. 120).

The readmitted student in regular status who has completed 26, but fewer than 64, semester hours of acceptable college credit and who is found readmissible but who does not meet the special admission requirements of the degree-granting college to which he is seeking readmission may be required to enroll in the University College until he has qualified for transfer to the degree-granting college. (See the respective college sections of this catalog for admission requirements.)

The University College will not accept students who have attempted 72 or more academic hours or who have earned 64 or more academic hours.

NON-DEGREE STUDENTS

Persons wishing to pursue credit courses, either evening or daytime, without meeting the full requirements for admission to undergraduate status, may apply

for non-degree status in the University's Community College provided the following qualifications are met:

The applicant must be at least 21 years of age, or must have been graduated from high school. (Students coming directly from high school should not enroll in non-degree status, but should file formal application for degree status in the University.)

A student who has exhausted his eligibility in the University College and who is not academically eligible to enter a degree-granting college of this University may not enroll in non-degree status.

It is not the policy of the University to permit students from other countries to register in non-degree status.

The applicant who wishes to register in non-degree status is required to file a short application form with the Office of Admissions. These forms may be obtained from that office.

Previous academic records are not required of applicants for non-degree status, but such applicants are required to certify that they are not under scholarship suspension from any college or university. It is urged, however, that non-degree students planning to enroll in advanced courses requiring prerequisites bring with them at registration some evidence that prerequisites have been fulfilled.

The student registered in non-degree status is subject to all University regulations governing registration, attendance, and academic standing. Undergraduate credit earned in non-degree status is recorded on the student's permanent record and may be applied in a degree program when the student has satisfactorily established degree status by meeting the entrance requirements of the University and of the degree-granting college of his choice. Credit earned in non-degree status may not be allowed for graduate credit or applied toward a degree in the Graduate School even though graduate status is subsequently established or re-established.

The student in non-degree status may not enroll for more than 7 semester hours during a regular session without special approval of the Director of the Community College.

No undergraduate college of the University will accept in a degree program in excess of 30 semester hours earned while the student has been registered in non-degree status, nor is a college obligated to accept any hours earned in non-degree status which do not fulfill college degree requirements. The student who is approaching this 30-hour limitation in non-degree status, and who wishes to continue taking courses for credit, should consult the Admissions Office concerning procedures required to establish regular degree status. Regular status must be attained prior to the student's next registration. If regular status is not attained, the student will be allowed to register in courses as an auditor only, receiving no credit.

GRADUATE STUDENTS

Refer to "Graduate School."

LAW STUDENTS

Refer to "School of Law."

MEDICAL STUDENTS

Refer to "School of Medicine."

STUDENTS FROM ABROAD

Students from abroad are admitted to the University as nearly as possible on the same basis as students who are citizens of the United States. The student from abroad is required, for visa purposes, to enter in regular status. He is, therefore, required to present, in addition to the application for admission, official certified transcripts from each secondary school attended; official certified transcripts from each college and university attended; official certifications of any state or national examinations taken; a certificate or statement from the American consul as evidence of a competent reading, writing, and speaking knowledge of the English language; and a statement which shows ability to meet financial responsibilities while in the United States.

To facilitate his admission procedure, the applicant should gather all credentials and send them in the same mail to the Director of Admissions. Applications for graduate-level study (beyond a first college-level degree) and all the credentials listed above (excepting only the secondary school credentials) should be mailed to the Dean of the Graduate School.

VETERANS

A veteran is defined as any person who served in the Armed Forces for a minimum of 90 days from September 16, 1940 to July 26, 1947, or who during a subsequent period of active duty, became eligible under one of the Public Laws governing educational benefits for veterans.

The veteran student should follow the requirements and procedures outlined in the "Admission and Registration" section of the catalog in seeking admission to the University. For certification of eligibility for educational benefits under one of the Public Laws, he should make application to the Regional Office of the Veterans Administration for his home state.

Credit for service training and experience is granted on the basis of measured educational achievement, in conformity with the procedures recommended by the North Central Association of Colleges and Secondary Schools and the American Council on Education. Students who were eligible for educational benefits under one of the Public Laws or who served on active duty during a period of at least 1 calendar year after July 26, 1947 must apply for such credit during the first semester of enrollment in regular status. Any credit tentatively allowed will become a part of the student's permanent record after he has completed a minimum of 12 semester hours at this University. Total semester hours of military credit to be accepted in a specific degree program will be at the discretion of the degree-granting college of this University in which the student is registered. A maximum of 8 semester hours elective credit is allowed for basic or recruit training

apportioned as follows: First Aid, 2 semester hours; Hygiene, 2 semester hours; Physical Education Activity, 4 semester hours. Eight semester hours, apportioned the same as credit granted for service in the U. S. Armed Forces, will be granted to foreign students who have completed military training, provided they can show official credentials in support of their statements. Credit earned in specialized army and navy programs conducted by college and university staffs is allowed in accordance with the recommendations of the administering institution. Credit for work done in formal training programs is allowed in accordance with the recommendations of the American Council on Education or on the basis of examinations here. U. S. Armed Forces Institute courses are acceptable if courses have been taken through university extension divisions accredited by regional accrediting associations. Other U.S.A.F.I. courses may be accepted if recommended by the American Council on Education and validated by successful scores on "End-of-Course Tests" or "Subject Standardized Tests." U.S. Armed Forces Institute correspondence courses not directly transferable or validated by these tests may be established by examination in this University. No credit is allowed for the College-Level General Educational Development Tests. The veteran has the opportunity to demonstrate his competence in any University subject, and to establish credit in that subject, by passing an examination as required by the Committee on Entrance and Credits.

MEDICAL EXAMINATIONS

A full-time student enrolling for the first time or returning to the University after an absence of one year or more is required to have a physical examination from his own doctor. This must be reported on the official University forms (provided at the time the student is notified of his admission) and must be filed with the Student Health Service prior to his registration. Students will be re-examined by the University physicians when such examinations are indicated. Health-seeking students are accepted at the University if, in the judgment of the University physicians, their admission does not endanger themselves or their associates. The University may refuse enrollment to, or cancel the enrollment of, any student who is physically unfit to carry on class work, or whose physical condition might be a menace to the health of other students.

REGISTRATION

ORIENTATION

At the opening of each semester a new-student testing and orientation period is conducted beginning with a new-student assembly (see the Calendar). The purpose of this program is to acquaint the new student with some of his fellows, to help him feel more at home in new surroundings, to permit him to meet advisers and counselors, and to familiarize him with University methods and life. In addition to the preliminary registration and the various tests, numerous recreational and educational events are held. New freshmen with less than 10 semester hours' credit are required to participate in the entire testing and orientation program. All other students entering the University for the first time in regular status (enrollees in the Graduate School excepted) are required to take the psychological

and English tests and are urged to attend the orientation events. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.

The testing program for freshmen consists of a series of aptitude and placement tests. The results of the tests are used by advisers for counseling and guidance and for placement of the student in courses of the proper level. Students who do not pass the English placement test because of serious weakness in spelling, punctuation, grammar, diction, or sentence structure are required to attend English Workshop. Results of the Mathematics and Language placement tests determine the proper courses for students enrolling in those fields.

Every freshman and transfer student entering the University is required to take a speech test administered by a Speech Department staff member. If this test shows significant defects, the student may be required to take Speech 103 or Speech 105, and to do additional work in the Speech and Hearing Clinic under staff direction.

After the student's arrival on the campus, the Student Council issues a **Freshman Handbook** which contains information on student organizations, library rules, campus regulations, suggestions for effective study, etc.

During his first registration, each new student is assigned by the dean or director of his college to a faculty adviser who assists him in planning his academic program. The adviser keeps a permanent file on each of his advisees and is available for consultation at any time.

TIME OF REGISTRATION

Students are urged to register on the days set aside for registration (see University Calendar). A late registration fee is charged to each student who does not complete his registration on the specified days. The term "registration" refers to the entire procedure, including payment of fees. Prompt registration is at all times encouraged. No student may enroll late in any course unless he has the permission of the instructor concerned and of the dean or director of the college in which he is enrolled. A student may not be admitted to the University more than two weeks after the opening of a semester.

REGISTRATION PROCEDURE

Details of the registration procedure are contained in a special notice issued by the Admissions and Records Office, and distributed to students with their appointments for advisement and registration.

SELECTIVE SERVICE REGULATIONS FOR EDUCATIONAL DEFERMENT

Selective Service regulations require that the University report the enrollment of all male students who have registered with Selective Service. Every male student 18 years of age or older must be prepared, therefore, to provide as a part of his University registration his Selective Service number and the name and address of his Selective Service Board. It is anticipated that under these regulations, considerable discretion will be left to individual boards in the matter of criteria used for educational deferment determination. It is suggested that students check with their respective boards to be sure of the requirements.

COMPLETION OF REGISTRATION

When the student has followed the prescribed registration procedure, and has paid his fees, his registration is complete. The University will hold the student responsible for completion of the courses for which he has been enrolled, unless he obtains approval for a change in his registration, or files an official withdrawal from the University.

CHANGE IN REGISTRATION

See "General Academic Regulations."

FEE PAYMENTS

Registration fees are payable at the time of registration. Students may, however, shorten the time spent in completing registration on the official day by paying the fees in advance of registration. New or readmitted students should have received official notice of admission or readmission before making payment. Fee payments may be made by mailing a check or money order, clearly designating the purpose for which it is sent and the name of the student involved, to the Cashier, The University of New Mexico, Albuquerque, New Mexico. Residents of the Albuquerque area may, if they prefer, pay in person at the Cashier's Office, Administration Building, University. Advance payments must be received by the Cashier at least two weeks before the first day of registration.

Note: The Student Residence Status Slip **must** accompany payment.

STUDENT EXPENSES

FEES (REGULAR SESSION)

FEEES ARE PAYABLE at the time of registration. Fees are charged according to the number of semester hours carried by a student; auditors (those enrolled in a course for no credit) pay the same fees as students enrolled for credit.

REGISTRATION FEES (undergraduate and graduate, and Law):

	Per Semester	
	N.M. Residents	Non-Residents
Students carrying 8 or more hours:		
Tuition*	\$138.00	\$273.00
Activities Fee*	12.00	12.00
Total Tuition and Fees	\$150.00	\$285.00
Student Group Health and Accident Fee (optional) ²	7.50	7.50
Total Tuition and Fees with Group Insurance	\$157.50	\$292.50
All students carrying 7 hours or fewer:		
Tuition, per semester hour	\$ 17.00	\$ 17.00

Graduate students will signify formal registration for **doctoral dissertation** only once. At this registration, they will be required to pay, in addition to tuition and other fees, the special fee for the doctoral dissertation (\$65.00—see special fees). Graduate students enrolling in any one semester for dissertation only will pay the proper special fee (unless previously paid) and \$5 tuition.

Graduate students who enroll for master's thesis only will pay regular tuition rates of \$17.00 per credit hour.

Applied music fees of \$16 per credit hour, in addition to regular tuition, will be charged all full-time University students enrolling for applied music courses beyond their curriculum requirements. Part-time students should consult the Music Department for a schedule of applied music fees.

REGISTRATION FEES (Medical School):

	Per Semester	
	N.M. Residents	Non-Residents
Tuition*	\$300.00	\$600.00
Activities Fee (optional) ¹	12.00	12.00
Student Group Health and Accident Fee (optional) ²	7.50	7.50
Total Tuition and Fees with Group Insurance	\$319.50	\$619.50

Students enrolling in the School of Medicine as non-residents will pay non-resident tuition during the full period of enrollment in the Medical School except that Western Interstate Commission on Higher Education Exchange Students will be charged the same tuition as a resident of the State of New Mexico.

* Tuition in the case of all new students includes a \$5 matriculation fee.

¹ Optional for Graduate, Law, and Medical School students. This fee is determined by the students with Regents' approval, and is, therefore, subject to change (changes are usually minor).

² The group health and accident insurance is available only to students enrolling for 8 or more semester hours. Participation is at the student's option. The fee indicated is approximate.

HOUSING FEES

See Catalog section "Student Housing."

OTHER FEES FOR SPECIAL SERVICES

Transfer application fee	\$ 5.00
Change in program after end of second week	1.00
Late registration fee	5.00
Removal of Incomplete grade, per course	2.00
Advanced Standing Examination, and examination to establish credit, per credit hour	2.50
Examination to validate credit†, per course	2.00
Other faculty-administered special examinations‡	2.00
Transcript of credit (per copy)	1.00
Deferred payment fee	5.00
Penalty for dishonored checks	2.00
Graduate Record Examination fee (Graduates only)	5.00
Handling fee, Air Force ROTC, per year payable in full Semester I**	8.00
Graduation fee, all bachelor's and master's candidates	10.00
Master's thesis binding fee	6.00
Architectural thesis fee	9.00
Doctor's dissertation fee	65.00
English 010	20.00
Mathematics 010	20.00
Home Economics 445L (Home Management)	50.00
Applied Music (see p. 75.)	
Use of practice rooms	
1 hour per day, per semester	4.00
Each additional hour per day, per semester	2.00

RESIDENCE FOR TUITION PURPOSES. A resident student, subject to the qualifications below, is defined as one who shall have maintained bona fide residence in the State of New Mexico for at least 12 consecutive months immediately preceding his or her registration or re-registration in The University of New Mexico and who can provide evidence satisfactory to the University of his or her intent to retain residence in New Mexico.

Any person unable to qualify as a resident for tuition purposes shall be required to pay the non-resident fee upon enrollment during any semester of the regular 9-month academic year in a course of study consisting of 8 or more semester hours, or upon enrollment in the Summer Session regardless of the number of hours of enrollment.

The following general rules govern:

A Minor Student is entitled to resident student status upon proof of the bona fide residence in New Mexico of his, or her, custodial parent or guardian for the one year immediately preceding the student's registration or re-registration.

An Adult Student is entitled to resident student status if her or she has maintained bona fide residence in New Mexico continuously for 12 months immediately preceding his or her registration or re-registration and if he or she

† Applies to college credit already earned in another college-level institution but not directly acceptable under University regulations.

‡ See definition of special examinations, p. 113.

** For students entering AFROTC for the first time in the spring semester, handling fee will be \$5.00.

can provide evidence satisfactory to the University of intent to retain residence in the State. The residence of a married woman is determined by the residence of her husband.

Teachers. Any person who has taught in a public or parochial school system in New Mexico on a full-time basis for a full school year of approximately nine months immediately in advance of his registration or re-registration may qualify as a resident of New Mexico for tuition purposes, provided such person can give evidence satisfactory to the University of intent to continue to make New Mexico his home.

Special Residence Problems. Persons who have special problems concerning residence should arrange for a conference with the Director of Admissions.

Changes in Residence Status. A change in status from non-resident to resident for tuition purposes can be made only after satisfactory evidence has been presented in writing to the Director of Admissions that residence requirements have been met.

BREAKAGE. The tuition provides for a nominal or "normal" amount of breakage in laboratory or other courses. Excessive breakage will be billed separately to the students responsible therefor.

INSURANCE PLAN. See p. 102 for explanation.

STUDENT ACTIVITIES FEE. The assessment of this fee is a voluntary action of the student body, through its organization, the Associated Students of The University of New Mexico. At registration the University collects this fee as an accommodation to the Associated Students. The activities fee is distributed to the student organizations as shown in the Constitution of the Associated Students. Copies of the Constitution may be obtained from the Personnel Office.

STUDENT ACCOUNTS. Students are required to pay all accounts due the University during one semester **before** registering for a new semester.

REFUNDS UPON WITHDRAWAL

When a full-time student withdraws voluntarily from the University during the 1st week of the semester, \$5 of his tuition will be retained as a service fee. The service fee will not be charged in the case of a student registered for 7 or fewer hours. After the 1st week, registration fees will be refunded (where the student withdraws voluntarily) to the end of the 5th week of the semester as follows:

- 80% refund during the 2d week
- 60% refund during the 3d week
- 40% refund during the 4th week
- 20% refund during the 5th week

Students withdrawing after the 5th week of a semester, or those withdrawing at any time under discipline or because of academic deficiencies, will not be entitled to any refund.

78 STUDENT EXPENSES

ESTIMATE OF TOTAL EXPENSE

The minimum amount necessary for expenses of resident students while attending the University is estimated as follows, per semester:

Tuition and fees	\$150.00
Student health and accident insurance	7.50
Books and supplies	50.00
Board and room	366.00
Clothing, laundry, misc.	187.50
Total, per semester	<u>\$761.00</u>

Non-resident students must add \$135 per semester to the foregoing tuition.
All charges are subject to change without notice.

STUDENT HOUSING

FACILITIES AND REGULATIONS

THE UNIVERSITY operates residence halls for male and female undergraduate students who are enrolled as regular students. All of these structures are modern, relatively new buildings with attractive living accommodations designed to meet the specific needs of University students. The convenience and economy of housing and dining facilities located on campus within easy walking distance of classroom and recreational facilities are welcomed by students carrying a full academic load.

The housing services are an integral part of the total educational experience provided by the University. Each hall is under the supervision of trained personnel who provide leadership, counsel, and a wealth of educational opportunities to the residents. Residents of each hall elect a governing body which plans and organizes a full program of cultural, intramural, and social activities. All residents are afforded the opportunity to enjoy and participate in a democratic type of group living.

Priority of space is extended to students whose homes are out of the city of Albuquerque. All University freshmen whose homes are not in Albuquerque are required to live in the University residence halls for the academic year regardless of social affiliations. All undergraduate women whose homes are not in Albuquerque are required to live in University residence halls or sorority houses and their enrollment is contingent not only upon academic acceptability but also upon availability of University housing. Reservations will be accepted under the procedures outlined below as long as space permits.

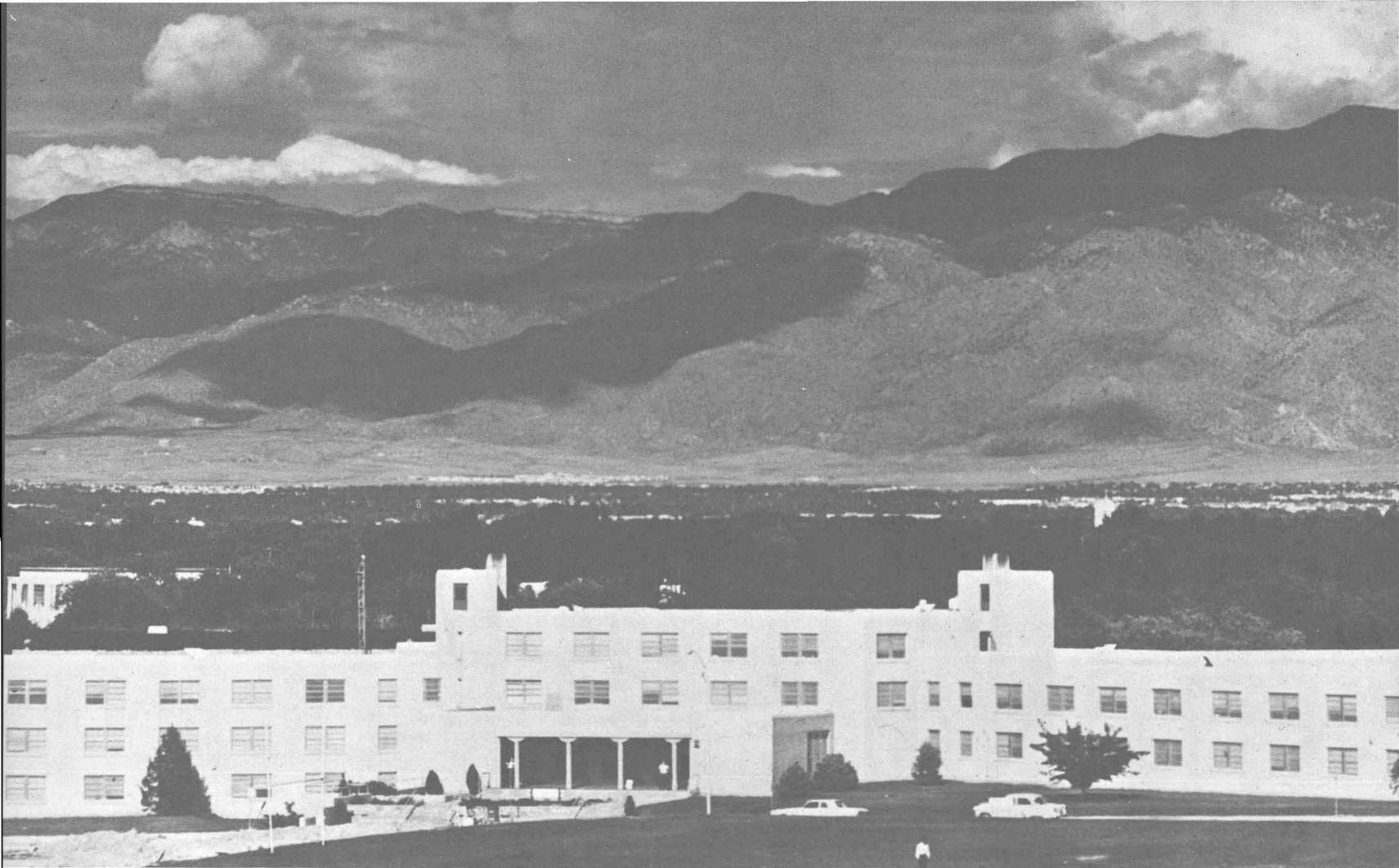
All students must register their correct addresses with the Personnel Office. Any change in address should be reported immediately to the Records Office which will in turn notify the Personnel Office and the dean or director of the college in which the student is enrolled.

RESERVATIONS

NEW AND READMITTED STUDENTS

The Director of Admissions will study each student's application for admission or re-admission and his high school or college transcript. When the applicant has been found admissible, the procedures will be as follows:

1. The student will be informed of his acceptance and if he is required to have, or desires, University housing, he will be sent a housing application which he should complete and return to the Housing Collections Office, Mesa Vista Hall.
2. When the student's housing application is received, a formal room and board contract will be issued according to room space available. The student should complete the contract (to include the signature of his parent or guardian if he is under 21 years of age), and return it with his advance housing deposit of \$25.00 to the Housing Collections Office.



Colorado Reformatory (Sandia Mountains in Background)

By the terms of this contract, the student agrees to reside in University housing for two semesters within an academic year.

3. When the student's remittance is received, housing space will be confirmed by the Housing Collections Office. Upon arrival at the University, students should report directly to the hall to which they have been assigned. Specific room assignments are issued only when a student checks into his hall. Both men and women students should plan to arrive between 8:00 a.m. and 10:00 p.m.
4. All questions concerning an exception to housing regulations should be addressed to the Dean of Men or to the Dean of Women.

HOUSING RESERVATION FEE

An advance deposit of \$25.00 is required of all students who desire University housing. The deposit is retained by the University against possible losses or damages incurred by the resident for as long as the student remains in the residence halls and renews his room and board contract for succeeding years.

This deposit is automatically forfeited if the student fails to give notice of cancellation, or if notice of cancellation is received later than August 15, in the case of a fall semester reservation, or January 5, if the reservation is for the spring semester.

STUDENTS CONTINUING IN ATTENDANCE

Students living in the residence halls are required to make housing reservations for the following year not later than May 15th of the spring semester. Student occupancy in residence halls is on a school-year basis. Unless a contract is renewed with the Housing Collections Office, living space will be assigned to another student and the deposit will be automatically refunded by July 15.

CHANGES IN STUDENT'S PLANS

Should an applicant for admission or re-admission to the University find it impossible to keep a reservation, he should notify the Director of Admissions. Returning students should notify the Housing Collections Office. The advance housing deposit is refunded if a cancellation is received by August 15 for the fall semester, or January 5, for the spring semester.

GENERAL REGULATIONS

Upon receipt of the housing contract and the \$25.00 advance housing deposit, a residence hall assignment will be made. Consideration will be given to the preference of the student when possible, but the University reserves the right to make room assignments and changes.

Married women students must have permission of the Dean of Women to live in residence halls.

The University reserves the privilege of closing its residence halls during the Christmas and spring recesses. When the halls are to be closed, they must be vacated by noon of the first day of the recess. They will be re-opened the day before classes resume.

All students who are not required to remain on campus for Commencement activities must vacate their rooms not later than 24 hours after their last final examination in the spring semester.

Dogs or other pets are not permitted in University buildings or on University premises for sanitary reasons.

ROOM AND BOARD CHARGES

All students occupying rooms in residence halls are required to take their meals at the University dining halls. Room and board charges are payable in advance to the Housing Collections Office, Mesa Vista Hall. Payment may be made in full or in three installments as described below.

Rates for Board and Room in Residence Halls

	Per Semester	Per Year
Single Room	411.00	822.00
Double Room (per person)	366.00	732.00

Rates include a \$3.00 residence hall social fee for each semester.

All rates for University room and board are subject to change whenever necessary to defray operating costs. These rates do not provide for meals during official recesses as listed in the Academic Calendar.

All the foregoing rates for University housing for men or women provide for University-supplied bed linens. All other personal linens, pillows, towels, and blankets are provided by the student. The use of electric blankets is not permitted.

PAYMENT OF ROOM AND BOARD

Room and board is payable on or before August 15 for Semester I, and January 5 for Semester II. Installment payments include a \$2.00 deferred payment fee and are due as follows:

	Double	Single	Semester I	Semester II
1st payment	\$168.00	\$213.00	August 15	January 5
2nd payment	\$100.00	\$100.00	September 20	March 15
3rd payment	\$100.00	\$100.00	October 25	April 25

A student moving into a residence hall during a semester will make payment on or before the date he occupies his room.

DINING HALLS

To the extent that facilities permit, students living off-campus or in fraternity or sorority houses are permitted to eat at the University dining halls. Information concerning rates and types of meal tickets can be obtained from the Housing Collections Office, Mesa Vista Hall.

MARRIED HOUSING

The University owns and operates some furnished one-bedroom apartments

for married students. An applicant for this type of housing must be enrolled in The University of New Mexico as a full-time student. Apartment residents may remain in University housing during the summer months if they plan to re-register for the fall semester. No dogs or other pets are permitted.

REFUNDS

ROOM REFUNDS

Refunds for room rent are calculated on the following basis:

If a student officially withdraws:

	Refund
During the first 2 weeks of classes	80%
During the 3rd and 4th weeks of classes	60%
During the 5th and 6th weeks of classes	40%
During the 7th and 8th weeks of classes	20%

A student who withdraws after the 8th week of classes will receive no rent refund.

BOARD REFUNDS

Board refunds are prorated on a weekly basis according to an established rate schedule.

FINANCIAL AID

EMPLOYMENT

THE PLACEMENT BUREAU is maintained to assist students in finding part-time employment to supplement their incomes while they are in school as well as to aid graduating students and alumni in finding suitable and satisfactory employment in permanent positions.

The part-time employment program is quite extensive, including work both on and off the campus. Campus jobs are located in the various offices of the University, in the dining halls, and in the dormitories. A few students obtain work in private homes where they may earn their room and board in exchange for a few hours of work a day. The Bureau also has many calls from business and private citizens in Albuquerque for students to fill part-time jobs.

Any student wishing part-time employment is requested to file an application with the Bureau. Applications for campus employment must be renewed each semester. In the Student Aid Program, the following principles are used as the basis of selection of candidates: (1) establishment of actual financial need of the student; (2) scholarship; and (3) reemployment based on satisfactory service and scholarship.

LOAN FUNDS

The University administers its own Student Loan Fund and cooperates in the administration of several others. Applications and information concerning all loan funds are available in the Personnel Office.

The maximum amount available from this fund is \$100. General rules applying to the University loan funds are:

1. Applicant must have been in residence at The University of New Mexico for at least one semester.
2. Applicant must be receiving grades of "C" or better in subjects carried at the time of application.
3. Applicants desiring loans from the student loan fund may be requested to have the signature of one substantial local citizen on the bank note.
4. In order for a student to be eligible to apply for a student loan, it will be necessary for him to have paid in full any previous loans which he has obtained.

Six other loan funds are available for small, short-term loans: The Mortar Board Loan Fund, the Khatali-Vigilante Loan Fund, the Joe L. Kramer Loan Fund, the Phikeia Loan Fund, the Donald R. Fellows Memorial Loan Fund, and the S. U. B. Club Loan Fund. These six funds are administered through the Personnel Office.

Other loan funds available to students at the University are: The American Association of University Women's Loan Fund; Revolving Loan Fund of the Ancient, Free and Accepted Masons of New Mexico; Educational Loan Fund of the Grand Commandery of Knights Templar of New Mexico; The McGaffey Memorial Loan Fund of the Albuquerque Rotary Club; The Women's Club Loan Fund; The Altrusa

Club Loan Fund; The G. Perry Steen Memorial Student Loan Fund; Zonta Club of Albuquerque Loan Fund; A. & L. Rosenbaum Loan Fund; The Pharmacy Scholarship Loan Fund; The Kiwanis-Milne Loan Fund; the State Bar of New Mexico Loan Fund; the Lois and Harry Bruch Memorial Loan Fund; and the Walter B. Fuente Memorial Loan Fund.

NATIONAL DEFENSE STUDENT LOANS

The National Defense Student Loan Program is one of the features of Public Law 85-864, the National Defense-Education Act of 1958. Under the terms of the act, funds are available for loans to qualified undergraduate and graduate students. The law provides that special consideration be given to students with superior academic backgrounds who express a desire to teach in elementary or secondary schools, or whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language. The deadline for filing a loan application is August 15 for the fall semester and December 15 for the spring semester.

UNITED STUDENT AID FUND LOANS

The University of New Mexico has established a reserve with United Student Aid Funds, so that students can obtain low-cost, long-term bank credit. This reserve enables United Student Aid Funds to endorse bank loans made to needy students by their hometown banks. To qualify for a loan, the student must have completed his freshman year of college and not be qualified for a conventional bank loan. The applicant applies to the loan officer at his hometown bank. Applications are available from either the bank or the University's Personnel Office, Room 157, Administration Building.

VOCATIONAL REHABILITATION

(For the Physically Handicapped Non-Veteran)

Through the New Mexico Division of Vocational Rehabilitation which operates under the supervision of the State Board for Vocational Education, the State and Federal Government offer financial assistance for payment of tuition to those students who have physical disabilities. Other assistance may also be given to these physically handicapped students who are financially unable to provide the services for themselves.

The following are some of the requirements for acceptance for service by the Program:

- (1) Applicant must be a resident of New Mexico and have a permanent physical disability, whether congenital or as a result of an accident or a disease, and
- (2) must be capable of carrying a course and maintaining at least a "C" average.
- (3) Training in the course chosen must offer an opportunity for employment for the individual without being injurious to his health and must be within his physical capacities.

Both men and women are eligible for the service. Those with military service who have acquired physical disabilities will be accepted only after their training under the Veterans Administration has expired.

The Rehabilitation Service is a part of our system of public education as are our grammar schools, high schools, colleges and universities. Those who can qualify should apply for this service.

HOW TO APPLY. Those students having disabilities who wish to apply should do so by writing to one of the New Mexico Rehabilitation Offices at 117 Richmond Drive NE, in Albuquerque, New Mexico; P. O. Box 881, in Santa Fe, New Mexico; 104 North Penn, Roswell, New Mexico; 128 South Water, Las Cruces, New Mexico, or P. O. Box 328, Las Vegas, N.M. A counselor will arrange an interview to discuss the program in detail with those who have applied. Application must be made and case accepted before obligation for tuition has been made.

SCHOLARSHIPS AND AWARDS

The University awards scholarships to a substantial number of its entering freshmen and upperclassmen each year. The qualifications expected of the recipients and the amounts of the awards vary. Some require that the student major in a specific field or carry some other stipulation, but the majority of awards require only a strong scholastic record and a need for financial assistance.

Announcements of awards for scholarships, prizes, medals, and certificates are made after approval by the Faculty Scholarships and Prizes Committee. Information on all scholarships and awards may be obtained from the Personnel Office in the Administration Building.

The Thomas S. and Louise Freeman Bell and the Daniel C. Jackling Scholarships are for students with outstanding academic records. The Bell and Jackling Scholarships vary in amount from \$300 to \$800, with a financial evaluation by College Scholarship Service used as the criterion for determining the amount of the award. "Tuition" scholarships of \$200 are awarded to students with outstanding academic records. Financial need is not so important a consideration as with the Bell and Jackling awards.

Achievement awards, with token stipends, are presented to graduating high school seniors in recognition of their outstanding high school records when there is no indication of need. A few scholarships are available for students who are not residents of New Mexico. These students are required to file statements with College Scholarship Service regardless of the award sought.

Scholarship applications and recommendation forms for freshman awards are available from New Mexico high school counselors or principals. Applications should be filed during the senior year in high school before April 15. A transcript of completed units from the ninth grade to the date of application, with a listing of units for which the applicant is currently enrolled, is to be forwarded from the secondary school when the scholarship application is filed.

Four primary factors are involved when a student is being considered for a scholarship, as follows: (1) the academic record; (2) scores on standardized tests; (3) the need of the student for financial assistance; and (4) the recommendation of the student's counselor or principal.

For information on scholarships in Latin American Studies, Law, Naval R.O.T.C., and Pharmacy, see those respective sections of this catalog.

Fellowships and Assistantships for graduate students are also available. Application for these may be made to the Dean of the Graduate School.

A complete listing of the scholarships and prizes available to University of New Mexico students follows.

SCHOLARSHIPS

Air Force Reserve Officers Training Corps Cadet Scholarship. A \$100 scholarship awarded annually to a sophomore or junior cadet in AFROTC. The award is based on academic ability, leadership, and financial need.

Albuquerque Chapter of the National Secretaries Association Scholarship. An annual award of \$150 made by the above group to a female student at the University. Selection of the recipient is made by the association.

The Albuquerque City Panhellenic Scholarships. Each year the Albuquerque City Panhellenic provides a number of scholarships for entering freshman women from the Albuquerque public high schools. The awards are based on recommendations from the high school principals, scholastic aptitude, participation in extracurricular activities, and financial need.

The Albuquerque Classroom Teachers Association Scholarship. A scholarship awarded annually by the Albuquerque Classroom Teachers Association to a student in the College of Education who is preparing to teach in the elementary schools of New Mexico.

The Albuquerque Downtown Lions Club Scholarship I. The award covers full tuition costs for an in-state student. Recipient must be a graduate of a New Mexico high school, show need for financial assistance and have demonstrated ability to do college work.

The Albuquerque Downtown Lions Club Scholarship II. The award covers full tuition costs for an in-state student. The recipient must be a graduate of a New Mexico high school, must signify his intention of taking, or must be pursuing, a course in the field of physical therapy. He must show need for financial help and have demonstrated ability to do college work.

The Albuquerque Gem and Mineral Club Scholarship. An annual scholarship of \$200 to be awarded to a deserving geology major with special interest in mineralogy.

The Allstate Insurance Company Foundation Scholarship in Nursing. The recipient is to be a first-year nursing student selected on the basis of financial need, interest in a nursing career, and scholastic ability. Preference will be given to students who have residence in New Mexico, or secondly, in the Rocky Mountain states.

The Alpha Delta Kappa—Gamma Chapter Scholarship. A \$50 annual scholarship. This is to be given to a woman who is training to become a teacher and who is in her junior or senior year.

The Alpha Delta Pi Alumnae Scholarship in Art. The Albuquerque Alumnae Club of Alpha Delta Pi sorority has established a scholarship to be awarded to a sophomore woman in the Department of Art who has attended the University at least one year and who is recommended by the faculty of the Department of Art on the basis of need and creative ability. The scholarship is paid to the recipient at the beginning of her junior year.

The American Association of University Women Scholarship. A scholarship of \$200 is granted by the Albuquerque branch of the A.A.U.W. to promote advanced training for women. It is given to a graduate woman student. Selection is made on the basis of scholarship, financial need, and ability as indicated by recommendations from professors.

The American Foundation for Pharmaceutical Education Scholarships. These scholarships are awarded to fourth- or fifth-year students in the College of Pharmacy who rank in the upper quarter of their classes scholastically and who can demonstrate need. The scholarships vary in value and are made possible by an annual grant from the American Foundation for Pharmaceutical Education.

The American Institute of Architects Scholarship. A scholarship and a book on architecture are awarded to an outstanding junior student in Architecture, the scholarship to be applied toward the student's tuition in his senior year.

American Legion Auxiliary Department of New Mexico Scholarship. A \$100 scholarship is given to the finalists in the American Legion Department Oratorical Contest.

The American Ordnance Association—Albuquerque Chapter Scholarship. Awarded each year to one of the members of the ROTC units on the University of New Mexico campus. The award

is for \$100 and is made at the beginning of the second semester. The recipient is selected from recommendations received from the ROTC units on campus.

The American Petroleum Institute Scholarships. The Institute each year awards a number of scholarships of \$500 to outstanding students.

The American Society for Quality Control Scholarship. A scholarship of \$200 established by the Albuquerque Section of the American Society for Quality Control is awarded annually to a junior or senior in the College of Engineering on recommendation of the Dean of that college. The scholarship has been established to promote interest in the application of statistical methods and quality control in the engineering field.

The Archaeological Society of New Mexico Scholarship. A scholarship of \$260 is awarded by the Archaeological Society of New Mexico to a student majoring in archaeology. The recipient of this scholarship will be selected by the members of the Department of Anthropology.

Architectural Design Scholarship. A tuition scholarship in the amount of \$250 is awarded annually to an outstanding student in architectural design.

Army Nurse Corps Candidate Program. An effort by the Army to train nurses for the Army Nurse Corps. The Army pays the tuition, fees, room, board, books, and supplies. Application is made through the Dean of the College of Nursing.

Art Fund Scholarships. The Art Department receives a limited amount of funds each year from projects it sponsors. This income is used for scholarships for students in the Art Department.

The Associated General Contractors of New Mexico Scholarships. The Associated General Contractors of New Mexico present a number of scholarships yearly to Civil Engineering students. These scholarships are in the amount of \$200 per year for 4 years and may be granted to freshmen at The University of New Mexico or at New Mexico State University.

Associated Women Students' Scholarship. A \$50 award made annually by A.W.S. to a female foreign student to assist her in furthering her education at the University. Selection of the recipient is made by the scholarship committee of the group.

The Ballut Abyad Scholarship. The interest from a trust fund of \$2,500 is given annually to either a man or woman student at The University of New Mexico who is in need of financial assistance.

Band Grant-In-Aid. Awards of \$100 made to students selected by the Music Department to participate in The University of New Mexico "Pep" Band.

Bandelier Parent-Teacher Association Scholarship. Awarded for the second semester to a junior or senior in the College of Education. The recipient shall have indicated a sincere desire to enter the teaching profession, be of high moral character, have a high academic standing and financial need.

The Clayton C. and Agnes May Barber Memorial Scholarships. A trust fund established in 1956 by the wills of the late Clayton C. Barber, former employee of the University, and of his wife, Agnes May Barber, provides scholarships for children of the employees of the physical plant.

The Thomas S. and Louise Freeman Bell Scholarships. Income from a trust fund is used for scholarships for worthy students. The purpose of this gift is solely to help promote and encourage among the students a higher grade of scholarship and application to studies.

The Irene B. Bennett Nursing Scholarship. A scholarship to be given to an Indian student in the College of Nursing.

The Philo S. Bennett Scholarship. The income from a trust fund of \$1,200 is awarded annually to a woman student, at the beginning of the second semester of her freshman year, who is most worthy, who has resided in New Mexico for at least the preceding 4 years, and who will continue as a resident student in the University.

The Bernalillo County Council of Parent-Teacher Association Scholarship. A tuition award established by the Bernalillo County Council of Parent-Teacher Association for a junior or senior in the College of Education preparing to teach in the elementary schools of New Mexico.

The Bernalillo County Medical Association Scholarship. A scholarship in the amount of \$300 given to a first-year medical student who must be a resident of Bernalillo County.

The Burkhardt-Parsons Memorial Scholarships. The income from a trust fund established by the late Mrs. Miriam P. Burkhardt provides approximately \$800 for scholarships to be awarded annually to men and women freshmen students who are graduates of the public high schools of Albuquerque.

The Caroline Thornton Carson Memorial Scholarship. The income from a trust fund of \$20,000 established by Mr. James G. Oxnard and Mr. Thornton Oxnard in memory of their mother provides a scholarship for a freshman engineering student who has high academic record, and who is of high moral character and in need of financial assistance. There shall be no restrictions as to race, color, religion, or sex.

The Carter Scholarships. Income from a trust fund established by Mr. and Mrs. Rufus H. Carter, Jr., provides scholarship awards for qualified students in the Colleges of Engineering and Nursing. Recipients are selected on the basis of financial need and scholarship.

The Chi Omega Alumnae Scholarship. A scholarship equal to one semester's resident tuition given each year by the Chi Omega Alumnae to a woman student who has earned a minimum of 30 semester hours at The University of New Mexico, who has creditable scholarship, and who has need of financial assistance.

Class of 1961 Scholarship. The 1961 graduating class of The University of New Mexico has set up a scholarship to cover 4 years. The award of \$100 each year is made to a student from abroad who is in need of financial assistance to continue his education at The University of New Mexico.

Lena C. Clauve Scholarship of the Maia Chapter of Mortar Board. A scholarship established in honor of Lena C. Clauve by the Maia Chapter of Mortar Board. It is to be awarded to a woman student who has completed 3 semesters of creditable work at the University and is in need of financial assistance. The recipient is selected by a special Mortar Board Committee.

The Contractors' Equipment & Supply Company Scholarship. A tuition scholarship established by the above company for an entering freshman who intends to major in engineering. Selection of the recipient is based on scholastic ability and need for financial assistance.

Council of American Indians Scholarship. A scholarship of \$300 is awarded annually to an Indian student in the Albuquerque area by the Council of American Indians.

The Credit Women's Breakfast Club of Albuquerque Scholarship. This scholarship of \$50 is awarded to a woman student in the College of Business Administration upon recommendation of the Dean of that College.

The Lou Beverly Damron Memorial Scholarship. At least \$100 of the proceeds from a trust fund established by the parents of Lou Beverly Damron, Class of 1952, as a memorial to their son, is awarded annually to a member of Sigma Chi Fraternity above the rank of freshman who has the highest scholastic record during the year.

Bernalillo County Medical Society Women's Auxiliary Scholarship. A \$300 award made every other year to a student in the College of Nursing. It was established to assist a student to further academic pursuits in nursing, the preference being given to students from Bernalillo County.

Beta Sigma Phi Scholarship in Music. A \$250 scholarship established by the Albuquerque chapters of Beta Sigma Phi for a woman student majoring in music who is a resident of Albuquerque. The recipient must be of high moral character, have a satisfactory academic record, and have genuine financial need. Preference will be given members or relatives of members of Beta Sigma Phi. The scholarship is renewable each year.

The Eva Boegen Newman Center Memorial Scholarships. Two scholarships of \$50 each are awarded annually by the Aquinas Hall Newman Center in memory of Mrs. Eva Boegen, one to a student who maintains at least a B average and has financial need and one to a student who maintains at least a C average and has financial need. (See also the Eva Boegen Newman Center Prize listed below.)

The Clarence Milton Botts, Jr., Memorial Scholarship. The income from a trust fund of \$5,000, given by Dr. W. R. Lovelace as a memorial to Lieutenant Colonel C. M. Botts, Jr., who was killed in action near Manila, Philippine Islands, May 15, 1945, is awarded each year to a premedical student of junior or senior rank who is outstanding in scholarship and who gives promise of being a good medical student.

The Barbara Hunt Bresenham Memorial Scholarship in Nursing. An annual scholarship in the amount of \$300 established by Jack Bresenham, an alumnus of the University, as a memorial to his late wife, Barbara Hunt Bresenham, a former student in the College of Nursing. The recipient shall be a female student in the College of Nursing who has completed her freshman year, who has indicated a desire to follow a career in nursing, and who is a member of the Student Nurse's Association.

The Craig Elton Bresenham Memorial Scholarship in Engineering. An annual scholarship in the amount of \$300 established by Jack Bresenham, an alumnus of the University, as a memorial to his late son, Craig Elton Bresenham. The recipient shall be an undergraduate student in the College of Engineering who has displayed an active interest in the engineering profession through participation in one or more student professional organizations.

The Daughters of Penelope Memorial Scholarship. An annual scholarship in the amount of \$50 established in memory of all deceased members of the Helen of Troy Chapter 19, Daughters of Penelope, to be awarded to a man or woman student who is a resident of New Mexico and who plans to teach in the elementary or secondary schools. Scholarship and need are determining factors.

Delta Kappa Gamma Grant-in-Aid in Education. A scholarship of \$75 awarded for the spring semester by the Albuquerque Chapter of Delta Kappa Gamma Society, an international honorary for women educators. The recipient must be a junior or senior in the College of Education who needs financial assistance.

The James M. Doolittle Memorial Scholarship. The interest from a trust fund of \$1,000 established by Mrs. J. M. Doolittle in memory of her husband, Mr. James M. Doolittle, is awarded each year to a student who has made a high scholastic average in a New Mexico high school, who enters The University of New Mexico as a freshman, and who is in need of financial assistance.

The Maude Doyle Memorial Scholarship. A scholarship of \$200 established by the Duke City Business and Professional Women's Club as a memorial to their late member Miss Maude Doyle is awarded annually to a sophomore or junior woman student in the College of Business Administration or the College of Education on the basis of scholarship, need, and the recommendation of the dean of the college involved.

The Faculty Women's Club Scholarships. One or more scholarships of \$135 are awarded to senior or junior women on the basis of need and scholarship. The awards are made in May of each academic year.

The Eva M. Farone Memorial Scholarship. A scholarship of \$500, established in memory of the late Eva M. Farone by her husband, is awarded annually to a qualified and deserving student in the College of Pharmacy. Preference will be given to women students.

The Joe Feinsilver Student Assistance Fund. Mr. Feinsilver set up a \$36,000 trust, income from which is to be used to help students in financial need. The program is administered through the Personnel Office at the University.

The Forty and Eight Grand Voiture of New Mexico Scholarships in Nursing. A \$135 scholarship is awarded each year to a freshman in the College of Nursing and is renewable for the recipient's four years of college if a high academic standard is maintained and the student continues towards a degree in nursing. The student is selected by the Dean of the College of Nursing on the basis of New Mexico residence, high school record, and references.

The Forty and Eight Voiture 703 Scholarship in Nursing. A scholarship sponsored by Voiture 703 in Albuquerque for a student in nurse's training. The award pays \$135 per year for 4 years.

The Forty and Eight Voiture 1377 Scholarship in Nursing. The Los Alamos Voiture of the Society of Forty and Eight provides a scholarship of \$100 to be awarded to a student in the College of Nursing upon recommendation of the faculty of that college.

The General Motors Scholarship. A scholarship sufficient to supplement fully the resources of the student so that he will be assured of 4 years of college is made available annually to an entering freshman by the General Motors Corporation. The award is made by the University.

The Edward Grisso Memorial Scholarship Fund. A trust fund established by Mr. W. D. Grisso of Oklahoma City as a memorial to his son provides a scholarship each fall for a junior male student who has made the most improvement in grades during his sophomore year over his freshman year. The recipient is selected by a special advisory board.

The Alfred and Miriam N. Grunsfeld Scholarships. The income from a \$10,000 trust fund provides two scholarships for men and two for women. The conditions governing the Grunsfeld Scholarships are as follows: (1) recipients must be legal residents of the State of New Mexico; (2) recipients must have been in full-time attendance at the University during their sophomore year; (3) recipients shall not have completed more than 66 semester hours by the end of the semester in which they are awarded the scholarships; (4) at least three of the four scholarships shall be awarded to students who declare at the time of application their intention to major in the Department of History or the Department of Government and Citizenship (A subsequent change in the

major from either of these two departments to another department may terminate the award); (5) in selecting the recipients, consideration shall be given to their general scholarship and to their financial need.

The Dr. Eric P. Hausner Memorial Scholarship. The income from a trust fund established by the Santa Fe Chapter of the Heart Association is awarded annually to a junior or senior student who has been accepted for admission to an approved medical college.

The Gwinn Henry Memorial Scholarship Fund. A \$500 fund established by the University of New Mexico Alumni Letterman's Association as a memorial to the late Coach Gwinn Henry is used to assist in the education of a worthy student athlete who is regularly enrolled at The University of New Mexico.

Benjamin K. Horton Scholarship. An award of \$1,000 which is made to a regularly enrolled student who is participating in intercollegiate track and field. Selection will be made by the Faculty Committee on Scholarships and Prizes, based on recommendations from the Director of Athletics.

The Interfraternity Council Scholarship. The Interfraternity Council of The University of New Mexico provides an annual scholarship which is awarded to a member of a social fraternity on the basis of scholarship, leadership, and need.

The Portia Irick Nursing Scholarship. A fund established under the joint sponsorship of the Altrusa Clubs and Business and Professional Women's Clubs throughout New Mexico in honor of Portia Irick, who was an outstanding public health nurse in New Mexico.

The Ives Memorial Scholarships. These scholarships were established in memory of Mrs. Julia Louise Ives and Mrs. Helen Andre Ives. The income from a \$15,000 fund provides three scholarships for women students. Candidates must be residents of New Mexico, preferably living in Albuquerque, in good health, of good moral character, of high scholastic standing, and they must intend to teach. The scholarships are awarded by the President of the University in July of each year.

The Daniel C. Jackling Scholarships. Income from a trust fund is used for scholarships for worthy students. The purpose of this gift is solely to help promote and encourage among the students a higher grade of scholarship and application to studies.

The Kappa Kappa Gamma Memorial Scholarship. A scholarship of \$150 is given each year by Kappa Kappa Gamma Fraternity, to a woman student who has earned a minimum of 30 semester hours at The University of New Mexico, who has creditable scholarship, and who has need of financial assistance.

Kappa Kappa Iota—Beta Conclave Scholarship. An annual scholarship of \$50 to be given to a worthy senior from the College of Education, upon recommendation of the Dean of the College.

The Kappa Omicron Phi Scholarship. Pi Chapter of this national professional honorary in home economics provides a \$50 scholarship for a senior who is a major in home economics. It is awarded on the basis of scholarship and financial need.

The George A. Kaseman Memorial Scholarship. A trust fund established by Mrs. George A. Kaseman as a memorial to her late husband, to perpetuate his interest in the development of New Mexico by aiding young people in obtaining a university education, provides an annual scholarship of \$750 or more to be awarded to a student in the College of Arts and Sciences, preferably a resident of New Mexico, who shall rank in the upper one-fifth of his high school graduating class and who shall have economic need for this scholarship.

The Kennecott Copper Corporation Scholarships. The Chino Mines Division of the Kennecott Copper Corporation provides a number of scholarships of \$500 each to students in New Mexico institutions. Two of these scholarships are awarded to students who are sophomores or upperclassmen at the University, who are majoring in certain specified fields, who have acceptable scholarship and financial need, and who are recommended to the Chino Mines Scholarship Committee by the University through the Scholarships and Prizes Committee.

The John F. Kennedy Memorial Scholarship. Income from a trust fund is awarded to a student or students engaged in original and scholarly research in the humanities or social sciences, preferably in the history of New Mexico and the Southwestern United States. Recipients shall be designated by the Scholarships and Prizes Committee upon recommendation by the chairmen of the humanities and social science departments. Neither race nor creed is a factor in the selection of recipients. Two distinguished citizens of New Mexico, Calvin P. Horn and Senator Clinton P. Anderson, were instrumental in the establishment of this fund which is financed by private contributions and by the income derived from the sale of a book written by Mr. Horn entitled *New Mexico's Troubled Years*.

The Frederick Herbert Kent and Christina Kent Scholarships. Three scholarships are awarded annually to high school students, residents of the State, on the basis of high school grades, recommendation of the principal, and financial need.

The Khatali of Blue Key Scholarship. Khatali of Blue Key, Senior Men's Honor Society, provides a scholarship to a male student above freshman rank on the basis of need, campus leadership, and scholastic achievement.

Kinney Brick Company Scholarship in Architecture. The Kinney Brick Company of Albuquerque, New Mexico, has established two awards of \$250 each for students in the Architecture Department who have completed at least 2 years. The scholarship is renewable, and the recipient is selected by the Scholarship and Prizes Committee of the University based on recommendations received from the Chairman of the Architecture Department.

The Don Kirby Forensic Scholarship. A scholarship of \$100 established by Mr. Kirby because of his belief that participation in forensic activities is of extreme importance to college students. Selection of the recipient is based on forensic excellence, good scholarship, and need. The award is made by the University Scholarships and Prizes Committee upon the recommendation of the Department of Speech.

The Kirtland Air Force Base Officers' Wives Scholarships. Two tuition scholarships awarded to children of Armed Services personnel assigned to Kirtland Air Force Base or to children of retired Air Force personnel living in the immediate area. The recipients are selected on the basis of their academic achievement, recommendations, and citizenship. The award is renewable if the student's academic achievement is outstanding. Selection is made by the Scholarships and Prizes Committee of The University of New Mexico.

The Kiva Club Scholarships. A few tuition awards are made to Indian students each year by the University of New Mexico Kiva Club.

The Kiwanis Club of Highland Scholarship. The Kiwanis Club of Highland each year awards a year's tuition scholarship to a deserving student who is a resident of Albuquerque.

Kiwanis Club of Sandia Scholarship. A scholarship awarded by the Sandia Kiwanis Club to a member of the Highland High School Key Club. The award is for \$300 and goes to a young man who has shown leadership ability, good citizenship, and has established a good high school record.

The Carlisle Kruger Memorial Scholarship. A \$500 scholarship is awarded annually to a male student who is in good academic standing and who participates in intercollegiate track.

Pueblo of Laguna Scholarship. The governing body of the Pueblo has established a scholarship fund to assist students who are members of the pueblo to obtain their college education. The size of the award varies according to the student's needs. Final selection is in the hands of a committee set up by the Governor of the Pueblo. Applications can be obtained directly from the Pueblo Governor's Office.

The Harry and Mable F. Leonard Scholarship Fund. This is a scholarship established by the Leonards for an undergraduate student in engineering or geology. The recipient must be a resident of the State of New Mexico. The need for financial aid is the primary factor in selection and scholarship is the second.

The Marjorie Little Memorial Scholarship in Nursing. A scholarship of \$100 established by District 12, the New Mexico State Nurses Association, to be awarded annually to a student recommended by the Dean of the College of Nursing.

Marshall Scholarships. These are offered by the British Government in gratitude for the Program for European Recovery. Graduating seniors and graduate students of either sex under 26 years of age are eligible for the 24 new awards made annually. The scholarships are for two years, and may be extended for a third year. They are tenable in any university in the United Kingdom for study leading to a degree in any field. The stipend covers tuition fees, transatlantic passages, and a maintenance grant of \$1,540.

The Reverend Uvaldo Martinez Memorial Scholarship. A scholarship provided by the New Mexico Health Foundation as a memorial to the late Reverend Uvaldo Martinez is awarded to a student who desires to enter the field of public health nursing in New Mexico, is Spanish-speaking, needs financial assistance, and shows creditable scholarship.

Charles May Memorial Scholarship Fund. A memorial scholarship fund established by Mr. May's wife. The interest from a \$5000 trust fund is awarded each year to a pre-medical student with outstanding scholarship and the promise of being a good medical student.

The Kathleen McCann Memorial Scholarship of Pi Lambda Theta. Alpha Mu Chapter of Pi Lambda Theta, women's honorary society in education, has established a scholarship of \$100 as a memorial to the late Professor Kathleen McCann. The scholarship is awarded to a woman student above freshman rank who is preparing to teach.

The Alonzo Bertram McMillen Memorial Scholarship. The Occidental Life Insurance Company established this scholarship as a memorial to the late Alonzo Bertram McMillen, a founder of the company, to cover the cost of room, board, and tuition. The scholarship is awarded annually to a student in the College of Business Administration who is a resident, is of excellent character, shows active interest in good citizenship and in general student activities, has an average academic record, and is in need of financial assistance.

Military Order of World Wars Scholarship. A \$50 scholarship that is rotated between the Navy and Air Force ROTC Units. The recipient is recommended to the organization by the respective ROTC units.

The Phillip D. Miller Memorial Scholarship. The Miller and Smith Manufacturing Co., Inc. has established a scholarship in memory of Mr. Phillip D. Miller. The scholarship is given annually to an entering freshman interested in a career in engineering, with the opportunity of having it renewed if his academic work is satisfactory. The award is for \$350 and is made to a senior in an Albuquerque high school.

The John Milne Memorial Scholarship Fund. A trust fund of \$5,000 established as a memorial to the late John Milne, Superintendent of Albuquerque Schools for 45 years, provides scholarships for students who plan to be teachers.

The Abraham Lincoln Mitchell Scholarship. Miss Dorothy Coulter of Albuquerque has established a trust fund in the amount of \$4,000 in honor of Abraham Lincoln Mitchell. The income from this fund is to be awarded to a man or woman student of The University of New Mexico who has completed the freshman year of college. First consideration will be given second or third-year students in the School of Law. Students interested in the field of race relations will be given special consideration.

Mu Phi Epsilon Scholarship, Albuquerque Alumnae Chapter. A scholarship of \$75 awarded each spring, to be applied toward tuition for the following fall semester, by the Albuquerque Alumnae Chapter of Mu Phi Epsilon, national professional music sorority. The recipient, who must be a music major, is selected by a committee from the Music Department and Mu Phi Epsilon.

The Music Performance Awards. From the proceeds of departmental concerts, the faculty of the Department of Music in 1956 established a number of awards to be given freshman students on the basis of auditions conducted among New Mexico high school seniors in piano, voice, stringed instruments, and wind instruments respectively, the judges to be faculty members of the Department of Music. The scholarships are paid in two installments; in order to receive the second half of his scholarship a recipient must maintain creditable grades as defined by the Department of Music. Interested high school seniors may obtain information about auditions from the Department of Music.

National Merit Scholarship. A supplemental grant to the public colleges attended by National Merit Scholars for assistance to students who are not Merit Scholars. For National (unsponsored) Merit Scholars the grant is \$100 a year, up to a maximum of 20 annual grants at any one college.

Navy Nurse Corps Candidate Program. An effort by the Navy to train nurses for the Navy Nurse Corps. The Navy pays the tuition and fees, room and board, and books and supplies. Application is made through the Dean of the College of Nursing.

The Neely Enterprises Scholarships. These scholarships are open to electrical engineering students above the rank of freshman who are residents of California, Arizona, Nevada, or New Mexico.

The New Mexico Allied Drug Travelers Association Scholarship. A scholarship of \$300 is awarded annually to a junior or senior student in the College of Pharmacy who has creditable scholarship and who has need of financial assistance.

The New Mexico Allied Pharmaceutical Scholarship. A scholarship of \$300 a year for five years is awarded on the basis of scholarship, ability, and need to a graduate of a New Mexico high school who enrolls in the pharmacy program. This scholarship was established and is maintained by the contributions of New Mexico pharmacists.

The New Mexico Art League Scholarship. A scholarship of \$100 provided by the New Mexico Art League to promote art education is awarded on the basis of scholarship, need and ability to a junior or senior student on recommendation of the faculty of the Art Department.

The New Mexico Association of Home Extension Clubs Scholarship. One scholarship of \$125 is awarded annually to an upperclassman who is a major in home economics or agriculture in one of the colleges in New Mexico. It is based on financial need and former membership in a 4-H Club in New Mexico.

The New Mexico Bookmen's Association Scholarship. A scholarship of \$150 a year for four years is awarded on the basis of need, ability, and the recommendation of the high school principal to a graduate of a New Mexico high school, who intends to become a teacher and who is enrolled in an accredited institution of higher education in New Mexico. The New Mexico Bookmen's Association has established this scholarship to aid a student who might otherwise be denied a college education.

New Mexico Chapter of The American Institute of Architects' Scholarship. A scholarship and a book on architecture are awarded to an outstanding junior student in Architecture, the scholarship to be applied toward the student's tuition in his fourth year.

New Mexico Congress of Parents and Teachers Scholarships. Two scholarships awarded to majors in the College of Education on an annual basis. The recipients must be graduates of a New Mexico high school, have the potential to become outstanding teachers and leaders, high moral character, financial need, and be at least sophomores.

New Mexico Nurses Association District Number 1. A scholarship of \$100 is awarded by the Nurses Association of District No. 1 to a student in Nursing. Selection is based on academic achievement, nursing aptitude, and the recommendation of the Dean of the College of Nursing.

New Mexico Nurses Association District Number 9 of Los Alamos. A scholarship of \$200 is awarded to a student in the College of Nursing. Selection is based on the recipient's academic record, interest in nursing, and references.

The New Mexico Petroleum Industries Scholarships. Each year the N.M.P.I.C. awards two scholarships for \$250 to students of the six state institutions.

The New Mexico Philosophical Society Tuition Scholarship Essay Contest. New Mexico high school students may win a tuition scholarship for one year at one of five state institutions of higher learning by writing an essay on "the doctrine of human equality." The contest is sponsored jointly by the Philosophical Society and the five schools.

The New Mexico Society of Certified Public Accountants Scholarship. Awarded on basis of a competitive examination. Information available at Personnel Office.

New Mexico State Medical Society Women's Auxiliary Scholarship in Nursing. This scholarship of \$250 is awarded annually to a student in the College of Nursing upon recommendation of the Dean of that College.

The Jean Norris Scholarship in Nursing of the Progress Women's Club of Albuquerque. This scholarship provides \$240 for a student in the College of Nursing upon recommendation of the Dean of that College. It was established to honor Jean Norris who was a nurse and a past president of the club.

Hal Patton Memorial Scholarship. A scholarship established by the Phidelity Educational Foundation in memory of Hal Patton. The income from a trust fund is awarded to a male undergraduate student who has established a good scholastic record and is in need of financial assistance to continue his college education.

The Women's Pharmaceutical Auxiliary Scholarship. A scholarship of \$300 established by the Women's Pharmaceutical Auxiliary in New Mexico to cover the cost of tuition and books is awarded annually to a student in the College of Pharmacy upon the recommendation of the Dean and the approval of a committee of the Auxiliary.

Pharmacy Alumni Association Scholarship. The Pharmacy Alumni Association of New Mexico annually awards a scholarship to a pharmacy student of junior or senior rank. The award is for resident tuition for one academic year as well as payment of the health insurance. The recipient is selected by a committee composed of Pharmacy Alumni Association members.

The Piggly Wiggly Scholarship. The Piggly Wiggly Stores of Albuquerque award biennially a scholarship which includes a full year's tuition and all necessary textbooks.

The Pilot Club of Albuquerque Scholarships in Nursing. Scholarships of \$260 each have been established by the Pilot Club of Albuquerque to be awarded to students in the College of Nursing upon recommendation of the faculty of that College on the basis of residence, grades and ability, and need.

The Presser Foundation Scholarship in Music. A scholarship of \$400 is awarded by The Presser Foundation of Philadelphia to a student in music upon recommendation of the President of the University and the Chairman of the Music Department.

The Retired Officers' Association Scholarship, Albuquerque Chapter. A scholarship given by the above association to a member of an ROTC unit on the University of New Mexico campus. It rotates between the Air Force and the Naval units. The award is for \$50 and goes to an outstanding cadet who will benefit from the assistance.

The Retired Officers' Association Scholarships, New Mexico Chapter. Scholarships of \$50 are awarded annually to a deserving sophomore midshipman and cadet of the NROTC and AFROTC. They are selected on the basis of demonstrated professional interest, motivation, academic excellence, and financial need. The recipients to be selected by the Professor of Naval Science and the Professor of Air Science respectively.

Reynolds Metals Company Competition. An annual award of \$200 to the student submitting the best original design for a building component in aluminum.

The Rhodes Scholarship. The trustees of the will of Cecil Rhodes provide for a maximum of 32 scholars each year, each scholar to receive an honorarium of \$2,000 per year and to study 2 or 3 years in Oxford University, England. Early in the fall semester a representative of the University nominates candidates to the state committee for selection. This committee may select 2 men to represent the State of New Mexico before the district committee, which in turn selects no more than 4 scholars to represent the 6 states which compose a district.

The Millicent A. Rogers Foundation Scholarship in Education. This scholarship of \$500 is awarded annually to a resident above the rank of freshman in the College of Education, on the basis of need and scholastic achievement. The Millicent A. Rogers Foundation has been established by the sons and friends of the late Mrs. Millicent A. Rogers, who was for many years a resident of Taos and who was deeply and actively interested in the people and the culture of the region.

Millicent A. Rogers Foundation Scholarship in Nursing. An award of \$500 is made to a student in the College of Nursing.

The Rust Tractor Company Scholarship. The Rust Tractor Company has established a scholarship of \$500 to go each year to a sophomore in Civil Engineering. The award is open to residents of New Mexico and can be renewed each year until graduation if the recipient's academic work is good and he continues to progress satisfactorily toward a degree in Civil Engineering.

The Dora Lewis Sanders Scholarship. An annual scholarship of \$100 established by the New Mexico Federation of Garden Clubs in 1951 is awarded to a junior or senior student majoring in botany.

Sandia Base Woman's Club Scholarships. The Sandia Base Woman's Club awards two \$250 tuition scholarships. One scholarship is for an entering freshman student and the other for a second-year student. The awards are to be made by the Sandia Base Woman's Club on the basis of financial need and scholarship. Students applying for the scholarships must be legal dependents or wards of Armed Forces personnel attached to Sandia Base, or of personnel employed at Sandia Base by the Sandia Corporation, or of personnel employed at Sandia Base by A.E.C.

Sandia Mountain Lodge No. 72 Scholarship. A \$150 scholarship awarded by the Lodge to a Sandia High School student to assist the student in the continuation of his or her education. The scholarship is renewable to the same person for succeeding academic years, if his record warrants.

Sandia Savings and Loan Association Scholarship in Architecture. The Sandia Savings and Loan Association Scholarship in Architecture in the amount of \$2,000 is awarded to fourth-year Architectural students on the basis of an architectural design competition.

The San Juan County Branch of the American Association of University Women Scholarship. A scholarship of \$300 is awarded to a girl graduating from a high school in San Juan County, on the basis of her high school record, her financial need, and her moral character. The student may elect to attend any institution she prefers and the scholarship therefore is not always awarded to a University student.

The Santa Fe Motor Company Scholarship. This scholarship is awarded to a child of an employee of the Santa Fe Motor Company. It covers tuition, fees, and board and room.

Dr. Joseph Franklin Schoen Scholarship. A tuition scholarship established by the Contractors' Equipment and Supply Company in honor of Dr. Schoen. The award goes to an entering freshman in any of the professional colleges of the University. Selection of the recipient is based on scholastic ability and need for financial assistance.

The Wilma Loy Shelton International Fellowship for Women. This annual fellowship, established in 1951 by The University of New Mexico Chapter of Mortar Board, senior women's honorary society, to promote international understanding through the education of women leaders, awards \$400 provided by the active chapter of Mortar Board plus tuition and fees provided by the University to a foreign woman student, preferably in the Graduate School, to be chosen by a special committee.

The Sigma Alpha Iota Alumnae Scholarships in Music. The Albuquerque Alumnae Chapter of Sigma Alpha Iota will make available one or more tuition scholarships to qualifying applicants in the field of music. There will be an alumnae scholarship committee appointed yearly to organize and review qualifications with the University of New Mexico Scholarships and Prizes Committee.

The Sigma Alpha Iota Patroness Scholarship. The Albuquerque Patroness Chapter of Sigma Alpha Iota has established an annual scholarship of \$50 to be awarded to a member of the Alpha Sigma Chapter of Sigma Alpha Iota, national honorary music fraternity.

Sigma Chi Mothers Club Scholarships. Two scholarships of \$120 each have been provided by the Sigma Chi Mothers Club. One of the scholarships is to be awarded in the spring semester and one in the fall. They are to be awarded to members of the Sigma Chi Fraternity who are above the rank of freshman, have financial need, and have satisfactory scholarship.

The Sigma Delta Chi Scholarship in Journalism. A scholarship of \$100 or more established by the New Mexico Chapter of Sigma Delta Chi, journalism society, is awarded to a male student majoring in journalism on the recommendation of the faculty of the Department of Journalism.

The Albert Gallatin Simms Music Scholarship Fund. A trust fund established by music lovers who have enjoyed the June Music Festivals for many years has been established as a means of expressing their gratitude to Mr. Simms. The income from the fund will provide one or more scholarships for students majoring in music and studying stringed instruments.

The Elizabeth P. Simpson Scholarship. A scholarship equal to one semester's resident tuition given each year by Chi Omega Alumnae of Albuquerque in honor of Mrs. Elizabeth P. Simpson, Professor Emeritus of Home Economics and Chi Omega member. The award is granted to a woman student who has earned a minimum of 30 semester hours at The University of New Mexico, who has creditable scholarship, and is in need of financial assistance.

The Southern Union Gas Company Scholarships. Two scholarships of \$400 each are provided by the Southern Union Gas Company, one for a student in the College of Business Administration and one for a student in the Department of Mechanical Engineering. Recipients must be male students, preferably juniors or seniors, and residents of one of the New Mexico counties served by Southern Union Gas Company. They shall be of good character and proven ability and shall be in need of financial assistance.

The Department of Speech Forensic Scholarship for Freshmen. A scholarship awarded annually to a worthy freshman. The basis for awarding the scholarship is forensic excellence, good scholarship, and need. The Department of Speech is to make recommendations to the Scholarships and Prizes Committee.

The Spurs Sophomore Scholarship. Fifty dollars provided by Spurs, sophomore women's honorary organization, is given to a woman student in the second semester of her freshman year. Selection is made on the basis of scholarship, leadership, and participation in campus activities.

The Standard Oil Company of Texas Scholarship in Chemical Engineering. A scholarship of \$500 established by the Standard Oil Company of Texas is awarded to a junior or senior in the Department of Chemical Engineering on recommendation of the faculty of that department on the basis of scholarship, extracurricular activities, and good citizenship. A matching grant of \$500 is made to the Department of Chemical Engineering. Available periodically on a rotational basis.

The Theta Sigma Phi Scholarship in Journalism. This scholarship of \$100 or more provided by the Alumnae Chapter of Theta Sigma Phi is awarded to a promising member of or pledge to the undergraduate chapter.

The Toppino-Golden Scholarship in Journalism. A scholarship of \$100 which was established to encourage students to pursue a career in journalism is awarded in the fall of each year by the Journalism Department.

Town Club Alumnae Scholarship. A scholarship given by the Town Club Alumnae to a second-semester sophomore or junior who is an active member of the Town Club. Recipient must have creditable scholarship and need of financial assistance. The award is made in March of each year by a committee selected by the alumnae group.

The United Daughters of the Confederacy Scholarship. The Nora Mitchell McDowell Chapter of Albuquerque awards a \$100 scholarship for the second semester of each academic year to a male or female student who is the lineal descendant of a Confederate soldier.

The Universal Constructors Scholarship. Universal Constructors of Albuquerque established several annual scholarships of \$700 each for sons and for daughters of weekly employees. The scholarships may be renewed to the original recipients each semester until graduation, provided that they maintain a satisfactory academic record and have financial need.

University Dames Club Scholarship. A full tuition scholarship is awarded annually by the University Dames Club to a member or the husband of a member of the Dames Club who has attended The University of New Mexico and who has attained a 2.5 grade average. The recipient must be a full-time student working for a degree and must have financial need.

University Golfer's Association Scholarship. A \$375 scholarship is given to a student participating in the intercollegiate golf program of the University. The recipient will be selected by the coach of the golf team, who will make his recommendation to the Scholarship and Prizes Committee of the University.

The University Theatre Training Scholarship. The Department of Dramatic Art provides a scholarship of \$150 each semester which is awarded in the spring of each year upon recommendation of the faculty of the Department on the basis of need, scholarship, and suitability for the training involved.

The Berta Hurt Van Stone Memorial Scholarship. Mr. and Mrs. Walter M. Mayer of Santa Fe, New Mexico, have established a scholarship of \$100 to be given annually in memory of Mrs. Berta Hurt Van Stone, Mrs. Mayer's mother, to a student majoring in the field of music.

Western Electronic Educational Funds Scholarships. Two scholarships of \$250 to electrical engineering majors of sophomore or higher rank. Selection is based on academic achievement, financial need. The University Scholarship and Prizes Committee will make the final selection based on recommendations received from the Electrical Engineering Department.

The Thomas M. Wilkerson Memorial Scholarship. The income from a trust fund of \$5,000 established by Dr. W. R. Lovelace in honor of Major Thomas M. Wilkerson, who was killed January 29, 1946 while in the service of his country, is awarded each year to a junior or senior premedical student who is outstanding in scholarship and who gives promise of being a good medical student.

Eric L. Williams Memorial Scholarship. The University of New Mexico Golf Course has established in memory of Eric L. Williams an annual scholarship consisting of a tuition and fees award to a student active in the collegiate golf program.

Helene Wurlitzer Foundation of New Mexico Arts and Sciences Scholarship. An annual \$250 scholarship awarded by the Wurlitzer Foundation is made to a Taos High School graduate who will enroll in the College of Arts and Sciences here at the University. The recipient is recommended to the Foundation by the principal of Taos High School.

Helene Wurlitzer Foundation of New Mexico Fine Arts Scholarship. The foundation offers a scholarship of \$250 to a student in the College of Fine Arts at the University of New Mexico. Selection of the recipient will be made by the Governing Board of the Foundation in connection with the College of Fine Arts.

The Zonta Club Scholarship in Business Administration. The Zonta Club of Albuquerque, a service organization of women executives, provides an annual scholarship of \$200 to be awarded, upon recommendation of the faculty of the College of Business Administration, to a junior or senior woman in that College who is a resident of New Mexico.

PRIZES

The ACF Industries Prizes in Technical Writing. Prizes of \$50, \$30, and \$20 are provided by ACF Industries for winners in a University-wide competition in technical writing.

Achievement Award. Awarded to entering freshmen on the basis of high school scholastic achievement and recommendations of high school teachers and the high school principal.

The Allied Arts Competition of the Illuminating Engineering Society. Prizes of \$25, \$15, and \$10 are awarded to students in Architecture for the winning entries in a competition in illumination design.

The Student Branch of the American Pharmaceutical Association Sophomore Award in Pharmacy. The University of New Mexico Branch of the American Pharmaceutical Association annually awards an appropriate book and certificate to the sophomore student in the College of Pharmacy who ranks highest in scholarship in his class.

American Society for Testing Materials Membership Awards. Two student memberships in the American Society for Testing Materials are awarded to two outstanding senior students in architecture.

Evelyn Duffett Ancona Prize (Music). A \$25 prize is awarded each April to an active member of Alpha Sigma Chapter of Sigma Alpha Iota who has made a valuable contribution to the group through her active interest and participation.

The Architectural Design Faculty Awards. Three prizes, each consisting of a current architectural book, are awarded annually to the outstanding sophomore, junior, and senior student in Architecture.

The Eva Boegen Newman Center Prize. An annual prize of \$50 is awarded to the student who renders outstanding service to the Newman Center.

The George E. Breece Prize in Engineering. A cash prize consisting of the income from a \$600 trust fund is awarded to a graduating senior in engineering, who is enrolled for a full time course of instruction, upon the basis of character, general ability, and excellence of scholastic record as shown during the last 2 consecutive years of residence in the University.

The Chemical Rubber Company Handbook Award in Physics. A current copy of the *Handbook of Chemistry and Physics* will be awarded annually to the student in Physics 260, 261, or 262 selected most capable by the Chairman and staff of the Physics Department.

The Chi Omega Prize in Economics. Twenty-five dollars is awarded each year to the regularly enrolled woman student (Chi Omega members excepted) who has done the best work in economics during the academic year. Selection is made on the basis of scholarship.

The Charles Florus Coan Prize. The income from a trust fund donated by faculty and friends as a memorial to Charles Florus Coan, Ph.D., Professor of History and Political Science, is awarded annually, for excellence in scholarship, to a worthy student whose major field of study is history.

The Marian Coons Prize. A memorial prize consisting of the interest from a \$750 trust fund is given each year to the regularly enrolled senior in the Department of Home Economics who is voted the most kind by her classmates and teachers in that department.

The Harry L. Dougherty Memorial Prize in Engineering. A cash prize consisting of the income from a trust fund contributed by colleagues, students, and friends, as a memorial to Mr. Harry L. Dougherty, Assistant Professor of Civil Engineering, is awarded each year to the student in the College of Engineering who has made the highest scholastic average in residence during his freshman and sophomore years while carrying a normal course of study.

Faculty Award in Pharmacy. The Faculty of the College of Pharmacy annually makes an appropriate award to the graduating senior in the College of Pharmacy who has attained the highest grade average for the entire course in pharmacy.

The Charles LeRoy Gibson Memorial Prize. The interest from a trust fund created by students and colleagues of Charles LeRoy Gibson, Ph.D., Associate Professor of Chemistry, is given to the senior student, major or minor in chemistry, who is judged most outstanding by the faculty of that department.

Robert P. Goodkin Prize. An annual prize of \$25 to be awarded to an Indian student majoring in Sociology. The award was established by Mr. and Mrs. R. P. Goodkin to recognize outstanding achievement in this area.

Carol M. Goodkin Prize. An annual prize of \$25 to be awarded to an Indian student in the College of Nursing. The award was established by Mr. and Mrs. R. P. Goodkin to recognize outstanding achievement in this area.

The H. J. Hagerman Prize. An annual \$50 cash prize was established by the New Mexico Taxpayers Association in 1938. This is awarded to the regularly enrolled undergraduate student who presents the best original study in the field of taxation and public finance in New Mexico. The study should be submitted by December 1st to the faculty of the Department of Economics.

The Hamilton Watch Award. Each year the Hamilton Watch Company presents a watch to an outstanding senior in the College of Engineering. The recipient is selected by the College of Engineering Scholarship and Awards Committee.

R. E. "Jake" Haverstock Award in Art. An award of \$150 will be made each year to a student in the Art Department who has demonstrated some form of unusual ability or progress in any field of that Department.

The Telfair Hendon, Jr., Memorial Prize. The interest from a trust fund of \$500 established by John F. Hendon in memory of his brother, Mr. Telfair Hendon, Jr., Instructor in English, is given to the graduating senior who has achieved the highest scholastic record as a major in the Department of English.

The H. E. Henry Award in Pharmacy. A pocket watch appropriately engraved is presented annually to a male student in the graduating class of the College of Pharmacy on the basis of scholarship, ability, and promise in the field of pharmacy.

The Kappa Kappa Gamma Alumnae Memorial Prize for Poetry. An annual prize of \$25 to be awarded as a first prize for poetry in the undergraduate literary contests in the English Department. This prize was established by the Kappa Kappa Gamma Alumnae Association in memory of all deceased members of the Association and of the New Mexico Chapter of Kappa Kappa Gamma.

Law Prizes, see School of Law section.

New Mexico Home Builders Competition. Prizes of \$100, \$75, \$50, and \$25 are awarded annually to students in the Department of Architecture who are winners in a competition for the best residential designs.

The New Mexico Section of the American Society of Civil Engineers Award. A certificate of merit with entrance dues paid for junior membership in the A. S. C. E., together with a membership badge is given to a graduating student in civil engineering who excels in scholarship, holds membership in the student section of the engineering society, is active in student engineering organizations, and who, in the opinion of his professors, shows promise of becoming a successful engineer.

The New Mexico Society of Professional Engineers' Wives Award. The Women's Auxiliary of the New Mexico Society of Professional Engineers awards each spring to a graduating senior in the College of Engineering a cash prize equivalent to the registration fee for the New Mexico Engineer-in-Training Examination. The prize is awarded on the basis of need, scholarship, and interest in Professional Engineering Registration.

Phi Sigma Kappa Prize in Creative Play Writing. Phi Sigma Kappa has established an award of \$30 annually for the best one-act play submitted in the creative writing contest.

The Phi Kappa Phi Freshman Prizes. Cash prizes of \$25 are awarded to the man and woman who, while carrying a full-time course of study, rank highest in general scholarship for the freshman year.

The Phi Kappa Phi Senior Prize. Fifty dollars is given each year by the local chapter of Phi Kappa Phi to the graduating senior of any of the colleges of the University who makes the highest scholastic record of his class.

Carl Redin Memorial Prize for Drawing. An award of \$25 to be made for the best creative work of art submitted in the annual student art show.

Reynolds Metals Company Competition. An annual award of \$200 to the student submitting the best original design for a building component in aluminum.

The Rose Rudin Roosa Prize. The income from a \$1,000 trust fund is awarded each year to the upperclassman or graduate student in the Department of Government and Citizenship who has indicated in the opinion of his professors, the most positive interest in the development of good citizenship. A paper is required.

The George St. Clair Memorial Prize. The interest from a trust fund established by colleagues, students and friends of George St. Clair, Professor of English, Department Head and Dean of the College of Fine Arts, is granted to the student who has made the greatest contribution in acting, stage design, lighting, or production in the Department of Dramatic Art.

The Katherine Mather Simms Memorial Prize. A \$50 prize as a memorial award is made each year to a regularly enrolled undergraduate, who has been in residence at least one semester preceding the time of the contest, on the basis of excellence in prose composition and on the quality of a competitive essay.

The Smead Manufacturing Company Prize. For outstanding achievement in business education a student is annually awarded a prize consisting of membership in the United Business Education Association, a subscription to the U.B.E.A. Forum, and a binder embossed with the student's name.

The Tile Council of America Award in Architectural Engineering. Prizes of \$25, \$15, and \$10 are awarded by the Tile Council of America to the winning students in a competition in architectural design.

The Lenna M. Todd Memorial Prize. The interest from a trust fund of approximately \$2,000 is available annually to be awarded to the student or students doing the best work in creative writing in the Department of English. This endowment was created by the will of Dana Paul Todd, as a memorial to his mother, Mrs. Lenna M. Todd. Dana Todd, Class of '33, served in the United States Army in the Philippines and died in a Japanese prison camp at Osaka, on or about August 15, 1943.

The Vemco Prize in Architectural Engineering. A prize consisting of a set of Vemco drawing instruments and Vemco Tec pencil is awarded to the outstanding regularly enrolled freshman in engineering drawing upon recommendation of the faculty of the Department of Architecture.

The Wall Street Journal Award. A prize consisting of a one year's subscription to the *Wall Street Journal* and a suitably engraved medallion are made annually to the graduating senior in the Finance Concentration of the College of Business Administration who has the highest scholastic average.

MEDALS AND CERTIFICATES

The Beta Alpha Scholarship Key in Accounting. A certificate of achievement and a gold key are awarded annually by Beta Alpha, honorary accounting fraternity, to the graduating senior in the College of Business Administration with the highest grade in all his accounting courses.

Delta Sigma Pi Scholarship Key. This key is awarded annually by Delta Sigma Pi, national professional fraternity in business administration, to that male senior who upon graduation ranks highest in scholarship for the entire course in commerce and business administration.

The C. T. French Medal. The medal is awarded to a graduating senior of the College of Arts and Sciences who has obtained, during his last two years of continuous residence, the highest general average for scholarship in a program of not less than 14 credit hours a semester.

The Kappa Psi Award in Pharmacy. A certificate is awarded annually to the male student who has the highest scholastic average in the senior class of the College of Pharmacy. If the student is a member of Kappa Psi, a key is awarded in addition to the certificate.

The Kappa Psi Junior Award in Pharmacy. Gamma Rho Chapter of Kappa Psi pharmaceutical fraternity annually awards an appropriate book and certificate to the junior student in the College of Pharmacy who ranks highest in scholarship in his class.

The Kappa Psi Scholarship Honors Certificate. The Grand Council of Kappa Psi pharmaceutical fraternity awards annually a certificate to each member of Kappa Psi who completes the full junior and/or senior year (last two years of the professional curriculum) with a minimum grade-point average of 3.0 for each year. A member may qualify for a certificate for each of the two years.

The New Mexico Pharmaceutical Association Award in Pharmacology and Other Biological Sciences. The New Mexico Pharmaceutical Association annually awards an appropriate book, or books, and certificate to the graduating senior in the College of Pharmacy who ranks highest in scholarship in the required courses in Pharmacology and other biological sciences.

The College of Pharmacy Alumni Association Award in Pharmaceutical Chemistry and Chemistry. The Alumni Association of the College of Pharmacy annually awards an appropriate book, or books, and certificate to the graduating senior in the College of Pharmacy who ranks highest in scholarship in the required courses in pharmaceutical chemistry and chemistry.

The Phi Gamma Nu Scholarship Key. This key is awarded annually to the senior woman student, not necessarily a member of the fraternity, who upon completion of seven semesters of college work ranks highest for the entire course in Business Administration or Commercial Education. The award is made by the Dean of the College of Business Administration and the Dean of the College of Education.

The Phi Sigma Certificates in Biology. Each year the National Society of Phi Sigma awards a certificate to a regularly enrolled undergraduate student and another certificate to a graduate student in The University of New Mexico for excellence in biology and promise of future achievement.

Pickett and Eckel Slide Rule Prize. A prize consisting of a slide rule is awarded annually to an outstanding freshman student in architecture.

STUDENT SERVICES

ALL divisions of the University concerned with student welfare and activities are under the coordinating supervision of the Dean of Students. There follow descriptions of some of the services and programs the purpose of which is to supplement the University's educational program and to assist the student in his academic and personal development.

Information in regard to Admission and Registration, Student Housing, and Financial Aid will be found in those respective sections of this catalog. An explanation of the orientation and advisement program is given on p. 72.

PERSONNEL OFFICE

The Deans of Men and of Women and their staffs are responsible for most of the personal counseling of individual students.

The administration of direct student aid, in the form of loans and scholarships, is concentrated in this office. Records of the extracurricular activities of students are compiled.

The Deans are responsible for the counseling programs in the residence halls and for the supervision of social fraternities and sororities. They serve as advisers to the student honorary organizations.

COUNSELING AND TESTING SERVICES

The University of New Mexico recommends its Counseling and Testing Services to all University students. Counseling and vocational guidance are available to University students without cost. Counseling and testing are provided for such student problems as selection of an occupation or profession, appropriate majors and minors, and development of reading and study skills. Students with personal, social, and emotional, or any other problems in which professional psychological assistance can be of value, may come for consultation. Standardized tests of occupational and scholastic aptitudes, interests, achievements, reading and study skills, and personality and personal adjustment inventories are utilized by the Services. Students may arrange for these services by direct application to the Director of the University Counseling and Testing Services.

The Counseling and Testing Services offers remedial reading assistance through the administration, scoring, and interpretation of reading and vision screening tests and individual attention to those students who most need help in reading and establishment of effective study habits.

In addition to providing individual guidance, the University Counseling and Testing Services supervises the administration, scoring, and interpretation of testing programs including the entrance and placement examinations, the English Proficiency Test, some departmental examinations, the Graduate Record Examination for graduate students and seniors, the state-wide testing of high school juniors, and special placement tests for colleges in the University.

The University Counseling and Testing Services also acts as consultant to the various high schools of the state.

HEALTH SERVICE

The Student Health Service provides facilities for medical advice, treatment, and if necessary, bed care for acute illnesses of relatively short duration. The Student Health Service is not a teaching department and is staffed by experienced physicians and graduate nurses. Consultation with the physicians is available at regular morning and afternoon office hours, and the Service is open for emergency care 24 hours a day.

The Student Health Service is supported by a budgeted allocation from fees paid by all students carrying eight or more semester hours. Beyond this there is no charge for medical services rendered. It should be noted, however, that drugs ordered on prescription must be purchased by the student from any drugstore. Should the services of a specialist be required, the student will be referred for treatment at his own expense.

Each student enrolling for the first time, or re-enrolling after an absence of a year or more, is required to arrange for a physical examination by his own physician prior to enrollment or re-enrollment. The examination is to be reported on a form prepared by the Health Service. Evaluation of the health of a student whose physical examination reveals a condition affecting his eligibility, or his ability to perform satisfactorily, is the responsibility of the Health Service. A student whose physical condition indicates the need of a limitation of activity in physical education, or an excuse from the physical education requirement, may obtain such an excuse from one of the University physicians. The Health Service is authorized to exclude from residence halls or classrooms a student suffering from contagious or communicable disease.

The Health Service maintains constant supervision over sanitary conditions in residence halls, dining halls, swimming pools, and classrooms.

Full information is contained in the brochure, "This Is Your Health Service," which is issued at registration and should be preserved for reference.

INSURANCE PLAN

The University, after study and consultation with representatives of insurance companies, has adopted an insurance plan designed to protect students against those burdensome expenses which may result from unexpected severe illness, injury, or major surgery. Participation is optional on the part of the student.

The University plan provides low-cost coverage, through a national insurance company, while the student is in school and while he is away during interim vacation periods. It provides for medical, surgical, and hospital benefits to apply against expense incurred for necessary care beyond that provided by the Student Health Service. Benefits under this plan are payable in addition to those the student may receive from any other policy.

Any student enrolled during a regular semester for eight or more semester hours is eligible to participate in the plan during that semester upon payment of a special fee (see Student Expenses). Arrangements may also be made for protection during the summer session or summer vacation period.

Details of this insurance plan, including a schedule of benefits, are mailed to new and readmitted students as a part of the admissions procedure.

PLACEMENT BUREAU

The Placement Bureau is maintained to assist students in finding part-time employment to supplement their incomes while they are in school, and to aid graduating seniors and alumni in finding suitable and satisfactory employment in permanent positions.

The Bureau acts as a general clearing house for registrants seeking employment and for employers and school administrators seeking college-trained personnel. Seniors who are graduating, alumni who are seeking a change, and students who are seeking part-time employment are urged to register with the Bureau, Building T-10, Roma Avenue.

The Bureau keeps on file a complete record of each registrant's scholarship, employment experience, activities, and personal qualifications and seeks the proper placement of the individual, commensurate with his training and background. The Bureau maintains constant contact with the conditions and trends of the nation's job market. Representatives from industry and school administrators are urged to visit the campus to interview seniors for possible employment.

No fee is charged for services rendered. Graduates are invited to use the services of the Bureau in the years following their graduation.

DIVISION OF VETERANS AFFAIRS

The University of New Mexico is fully approved for the training of students under the several Government educational programs for veterans and war orphans. The Division of Veterans Affairs was established to provide every possible service to these students, and to aid in the solution of any problems that might arise in the students' relations with the University and the Veterans Administration. The student is given assistance in obtaining a certificate of eligibility from the Veterans Administration, certification of his registration so that training allowance may start, proper withdrawal or interruption of his educational program, and information of any changes in procedures and regulations of the University and the Veterans Administration. This Division also has the authority to provide educational or vocational counseling to veterans and war orphans to assist them in the selection of an objective and in the development of a program of education. All documentary forms necessary for these government programs are available in this office.

NEW MEXICO UNION

The New Mexico Union is well planned to provide a focal point for the cultural and recreational activities of the University. It is the center of a consolidated program enlisting the joint efforts of student government, program directorate committees, student organizations, and staff to bring about a balance of activities providing the greatest values and benefits for students and staff. All students are members of the Union, and their cooperation and contributions are depended upon to assure its total success. Control of the Union operation is vested in a board made up of students, faculty, alumni, and administrative representatives. The Program Directorate, working under the Student Council of the Associated Students and with the Union staff, has the responsibility of planning and executing a program of activities for the Union.

The Associated Students' Bookstore, the Alumni Offices, and the Activities Center, the hub of out-of-class activities at the University, are located in the Union. A feature of the Activities Center is the master calendar, which lists all campus events of student interest and provides a clearing house for these events. Union food services include a fountain, cafeteria, dining room, catering facilities, and a recreation lounge which converts to a commuters' room over the noon lunch period. Also included are a hobby-crafts area, an outdoor sports lounge, music listening rooms, barber shop, a 200-seat auditorium, and complete games facilities including bowling, table tennis, and billiards. Eight guest rooms are available to campus visitors. Lounges, a ballroom, and many meeting rooms round out the facilities which enable the Union to serve the University campus.

ATHLETICS

The University's intercollegiate athletic program is conceived to be an extension of the work offered in the Physical Education Department, which, in turn, shares a responsibility with all other segments of the University to maintain general academic standards of high quality. Athletes are expected to participate, first and primarily, as full members of the student community. The faculty of the University, within its powers, assumes responsibility for keeping the environment conducive to these objectives.

Intercollegiate athletics are governed by regulations of the Western Athletic Conference, the general athletic policy of the University, the North Central Association of Colleges and Secondary Schools, and the National Collegiate Athletic Association.

Varsity sports include football, basketball, track and field, baseball, tennis, golf, swimming, wrestling, and gymnastics.

The University also sponsors an intramural program designed to supplement the prescribed courses in physical education. The intramural program includes swimming, tennis, handball, golf, cross-country, track and field, volleyball, touch football, bowling, baseball, lacrosse, softball and basketball. A parallel program of sports appropriate for women is sponsored by the Women's Recreational Association.

Indoor sports are centered in Johnson Gymnasium, which includes an indoor pool, two large arenas, handball courts, and other specialized areas. Outdoor recreational facilities maintained by the University include a golf course, a swimming pool, rifle range, tennis courts, and numerous playing fields.

CULTURAL OPPORTUNITIES

A number of concerts and lectures are presented by distinguished artists in the University Program Series. The Series is financed by the Associated Students with funds from the activity fee and is open without charge to all students holding activity tickets. The University Theatre presents a series of plays produced by the Drama Department. The Music Department presents a number of orchestra, chorus, and wind ensemble concerts during the year. Thursday afternoon student recitals are open to the public. In addition, students may purchase season tickets, in some instances at reduced rates, for the Community Concert series, the

Albuquerque Civic Symphony concerts, and the productions of the Albuquerque Little Theatre.

RELIGIOUS ACTIVITIES

Practically all religious denominations are represented in the city of Albuquerque. The churches all welcome the University students and invite them to share in their religious life and services. The University maintains a policy of non-sectarianism, but encourages its students to affiliate with the religious organizations of their choice and to attend services regularly.

The following religious organizations hold regular meetings on the campus: Baha'i Student Association, Baptist Student Union, Canterbury Club, Christian Science Organization, Christian Student Center, Deseret Club, Hillel Counsellorship, The Islamic Society, Jefferson Club, Lobo Christian Fellowship, Lutheran Student Association, Newman Club, Presbyterian University Fellowship, United Campus Christian Fellowship, and Wesley Foundation.

STUDENT ORGANIZATIONS

ASSOCIATED STUDENTS

All undergraduate students enrolled for eight or more semester hours are affiliated as "The Associated Students of The University of New Mexico." The Associated Students function under a constitution approved by student referendum, by the Faculty, and by the Regents of the University. The government of the Associated Students has three principal branches: the executive, consisting of the President and elected Council; the legislative, which is the Student Senate, made up of representatives of all recognized student organizations; and the judicial, which is the Student Court. Various boards and committees governing enterprises of the Associated Students have student representation.

ASSOCIATED WOMEN STUDENTS

The Associated Women Students is composed of all regularly enrolled women students of the University. The purpose of the organization is to govern conduct and standards of women students of the University and to promote broad social interests. It is governed by a council, the members of which are representatives of all women's organizations on the campus.

PROFESSIONAL, HONORARY, AND SERVICE ORGANIZATIONS

The following organizations are active: Alpha Kappa Psi, Alpha Phi Omega, Blue Key, Campana, Chakaa, Chi Epsilon, Delta Sigma Pi, Economics Club, Kappa Mu Epsilon, Kappa Omicron Phi, Kappa Psi, Mortar Board, Phi Alpha Theta, Phi Delta Kappa, Phi Gamma Nu, Phi Kappa Phi, Phi Sigma, Phi Sigma Iota, Pi Lambda Theta, Pi Sigma Alpha, Pi Tau Sigma, Sigma Alpha Iota, Sigma Delta Chi, Sigma Gamma Epsilon, Sigma Xi, Sigma Tau, Spurs, Tau Kappa Alpha, Theta Sigma Phi, Vigilante.

SOCIAL GROUPS

Fraternities: Delta Sigma Phi, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, Phi Sigma Kappa, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Chi, Sigma Phi Epsilon, Tau Kappa Epsilon.

Sororities: Alpha Chi Omega, Alpha Delta Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Kappa Alpha Theta, Kappa Kappa Gamma, Pi Beta Phi.

Fraternity and sorority relations are controlled by the Interfraternity Council and the Panhellenic Council respectively. These organizations also take prominent places in student activities.

Other social groups: Town Club.

For information in regard to other student organizations and activities, see the **Student Handbook**.

STUDENT PUBLICATIONS

The **New Mexico Lobo**, the campus newspaper, is published three times each week, and **The Mirage** is the campus yearbook issued at the end of the spring semester each year. **The Thunderbird**, a literary magazine issued twice during each semester, carries literary contributions submitted by students.

The publications are edited and managed by students under the supervision of the Student Publications Board comprised of both student and faculty members, the majority of the Board, however, being student members.

The student editors and managers of these publications are elected by the Publications Board for a period of two semesters.

GENERAL ACADEMIC REGULATIONS

THE STUDENT is advised to familiarize himself with the academic regulations of the University. He is solely responsible for complying with all regulations of the University, of his respective college, and of the departments from which he takes courses, and for fulfilling all requirements for his particular degree.

CLASS HOURS AND CREDIT HOURS

A class hour consists of 50 minutes. One class hour a week of recitation or lecture, throughout a semester, earns a maximum of one credit hour. One class hour a week of laboratory, orchestra, chorus, or physical training, throughout a semester, earns from one-third to one-half credit hour.

GRADES

The grades awarded in all courses are indicative of the quality of work done. Their significance is as follows:

A, Excellent. 4 grade points per credit hour.

B, Good. 3 grade points per credit hour.

C, Average. 2 grade points per credit hour.

D, Barely Passed. 1 grade point per credit hour.

F, Failed. F is also given in any course which the student drops after the fourth week of a semester or second week of a summer session, while doing failing work.

I, Incomplete. The grade of I is given only when circumstances beyond the student's control have prevented his completing the work of a course within the official dates of a session. (See grade of PR.) The I automatically becomes an F if not removed (I) within the first 12 weeks of the next semester of residence, (2) within the next 4 semesters, if the student does not re-enroll in residence. The student may change the I to a passing grade by satisfactorily performing the work prescribed by the instructor. The student obtains from the office of his dean or director a permit to remove the I, pays the \$2 fee, and takes the card to the instructor, who completes it and returns it to the college office. That office forwards this permit to the Office of Admissions and Records where official entry on the student's record is made. A student may re-enroll in a course for which a grade of I still stands on his record only upon petition to, and approval by, the Committee on Entrance and Credits for change of the Incomplete grade to a grade of W.

W, Dropped Without Discredit. W is given in any course which the student drops officially after the fourth week of the semester or second week of the summer session, while doing passing work, subject to the regulations for dropping a course or for withdrawal from the University. These regulations appear under "Change in Program of Studies" on p. 108, and under "Withdrawal from the University" on p. 110.

CR, Credit. CR is used to report satisfactory completion of a master's thesis or doctor's dissertation.

NC, No Credit. NC is used to report unsatisfactory completion of master's thesis or doctor's dissertation.

PR, Progress. This grade is used to indicate that a thesis, dissertation, or a graduate problem, is in progress but not complete. When the problem is complete, a regular grade is reported. When the thesis or dissertation is complete, CR or NC is reported.

The mark of NR, No Report, is used only in reports prepared by the Records Office for release to students and parents, to indicate that the instructor has not reported a grade.

CHANGE IN GRADE. No grade except I can be raised by a special examination. A grade of I can be changed to a passing grade in a manner to be determined in each case by the instructor concerned with the approval of the dean or director of the college. (See I above.)

Any other change in grade, after the grade is on record in the Office of Admissions and Records, may be made only after reasons for such change have been submitted in writing by the instructor concerned, and approved by the Committee on Entrance and Credits.

GRADE REPORTS

At mid-semester (normally the end of the eighth week of the semester), and at the end of the semester, grades are reported for all courses to the Admissions and Records Office.

Copies of semester grades are mailed to parents of undergraduate students, with the exception of married students and students over 21 years of age.

SCHOLARSHIP INDEX

A student's academic standing is referred to in terms of a scholarship index obtained by dividing the total number of grade points earned at The University of New Mexico by the total number of hours attempted at The University of New Mexico.* Hours given a mark of W or I will be excluded in this computation, but hours of F will be counted. All honors and prizes depending upon scholarship are determined by ranking students according to this index.

REGISTRATION

CHANGES IN REGISTRATION

CHANGE IN PROGRAM OF STUDIES. The student who desires to add a course to, or drop a course from, his program of studies should obtain from his college office a petition for change in program of studies. The student obtains signatures called for in this form and returns it to that office. The college sends the form to the Office of Admissions and Records where official entry is made on the student's record. A course may not be added to a student's program after the second week of the semester or the first week of the summer session (see the Academic Calendar). No grade is assigned when a student officially drops a

* Exclusive of hours in nonprofessional physical education and ensemble music.

course during the first 4 weeks of the semester or the first 2 weeks of the summer session, except that a grade of F assigned by an instructor on the basis of University regulations relating to student dishonesty will be shown. When a student drops a course officially after the first 4 weeks of the semester or the second week of the summer session, he will receive a grade of W or F according to his standing in the course at the time of withdrawal, except that no student may withdraw after the twelfth week of the semester or the sixth week of the summer session with a grade of W without petition to, and approval by, the dean or director of his college. For regulations governing withdrawal from all courses for which a student is enrolled, refer to "Withdrawal from the University" on p. 110. In the School of Law, a student desiring to drop a course after the first 8 weeks must petition the faculty of that School in writing to drop the course and receive a grade of W therein.

The student is responsible for the completion of every course for which he has registered; if he drops a course at any time without filing the official change of program form, he will receive a grade of F in the course. A fee of \$1 is charged for any change made in the student's program of studies after the end of the second week of the semester or after the end of the first week of the summer session.

Transfer from one section to another section of the same course is effected by application to, and approval by, the department chairman involved. By use of the Section Change Authorization form, the department chairman notifies the instructors concerned and the Records Office of the approved change. No withdrawal grade is assigned in a section change.

CHANGE IN COLLEGE. A student who desires to change his registration from one college to another within this University shall petition the dean or director of the college in which he is currently enrolled. This petition requires approval of both colleges and is then filed in the Office of Admissions and Records.

CHANGE IN ADDRESS. Each student is expected to keep the University authorities informed as to his address. Any change in address should be reported immediately to the Office of Admissions and Records.

ADDITION OF CORRESPONDENCE OR EXTENSION COURSES TO PROGRAM. A resident student may enroll for correspondence and extension courses only when the addition of such courses does not cause his program to be in excess of the maximum load allowed, and only after permission has been given by the dean or director of his college.

REPETITION OF COURSE

A student may repeat a course without special permission (but may receive credit only once), except for one in which a grade of Incomplete was earned (see p. 107). When a student repeats a course in which he has previously made a D or F, hours and points for all attempts will be counted in his scholarship index. Hours and points for repetition of a course in which the student has previously earned a grade of C or better will not be counted in his scholarship index.

AUDITED COURSES

A student may register for a course as an auditor, without credit, provided

he obtains the permission of the instructor concerned and of the dean or director of the college having jurisdiction over his program of studies. The fee for audited courses is the same as for credit courses.

A student may not change from audit to credit basis after the first 2 weeks of the semester or the first week of the summer session.

He may change from credit to audit basis within the first 4 weeks of the semester or the first 2 weeks of the summer session regardless of his grade at the time the change is made. Change from credit to audit between the end of the fourth week and the end of the twelfth week of the semester or between the end of the second week and the end of the sixth week of the summer session can be made only if the undergraduate student is earning a passing grade. The student enrolled for graduate credit may change from credit to audit after the fourth week of the semester or the second week of the summer session only if he is earning a grade of A or B. After the twelfth week of the semester or the sixth week of the summer session, a student enrolled for undergraduate credit may, subject to approval by the dean or director of his college, change from credit to audit only if he is earning a grade of C or better.

CLASSIFICATION

A student admitted to one of the degree-granting colleges from the University College will be classified on entry into the degree-granting college as a sophomore. Classification beyond sophomore status will be determined by the college on the basis of the student's progress toward his chosen degree.

WITHDRAWAL FROM THE UNIVERSITY

When an undergraduate student wishes to withdraw from all the courses in which he is enrolled during the semester, he should secure a withdrawal card from the Personnel Office; the graduate student should secure the withdrawal card from the Dean of the Graduate School; and the non-degree student, from the Community College Office. Any unmarried undergraduate student under 21 years of age must have a letter of permission from parents to withdraw from the University. No grades are assigned when a student withdraws officially from the University during the first 4 weeks of the semester or the first 2 weeks of the summer session, except that grades of F assigned on the basis of University regulations relating to student dishonesty will be shown. Grades of W or F are shown on the student's record if he withdraws officially from the University after the first 4 weeks of the semester or first 2 weeks of a summer session, except that no undergraduate or non-degree student may withdraw from the University after the twelfth week of the semester or the sixth week of the summer session with a grade or grades of W except upon petition to, and approval by, both the dean or director of his college and the Personnel dean. The graduate student withdrawing under these conditions must petition to and secure approval from the Graduate Dean. When a student leaves the University during a semester and does not carry out his withdrawal according to this regulation, he becomes liable for a grade of F in all of his classes, even though he is passing his courses up to the time of leaving.

SCHOLASTIC REGULATIONS

The standing of all students (including those who withdraw from the University during the session) with respect to scholarship is checked at the end of each semester and summer session (or at the time of withdrawal). At such times, all students who are deficient in scholarship are placed on probation, or suspended, in accordance with the following regulations. A student placed on probation at any time will remain on probation until the next final examination period.

PROBATION

UNIVERSITY COLLEGE. The minimum scholarship index to remain in good academic standing in the University College is 1.40 through the semester or summer session in which a student has equaled or exceeded the limit of 30 hours attempted. Thereafter the minimum scholarship index required shall be 1.70. A student is placed on academic probation at the end of any semester or summer session in the University College if his scholarship index falls below the applicable minimum indicated above.

DEGREE-GRANTING COLLEGES AND NON-DEGREE STATUS. A student in a degree-granting college or in non-degree status is in good academic standing if his academic record shows either: (1) a scholarship index (as defined in this catalog) of 2.0 or better, or (2) a grade-point average of 2.0 or better on all work taken while enrolled in a degree-granting college or in non-degree status. A student will be placed on academic probation at the end of any semester or summer session when his academic record fails to equal one of the two minimums set out above. (The student is reminded that the grade-point average required for graduation from some colleges may be, in certain individual cases, higher than the grade average necessary to avoid probation.)

SUSPENSION

UNIVERSITY COLLEGE. A student is subject to suspension at the end of any semester or summer session in which he was carried on academic probation as defined above, unless he has succeeded in removing himself from such probation by acquiring the minimum scholarship index. No student, however, is subject to suspension or dismissal because of his grade-point index until the end of the semester or summer session in which the cumulative number of hours attempted exceeds 16.

DEGREE-GRANTING COLLEGES AND NON-DEGREE STATUS. A student in a degree-granting college or in non-degree status whose name has appeared on a probation list at the end of any semester or summer session is subject to suspension at the end of his next semester or summer session if he has not qualified for removal from probation status by that time.

A student who has been suspended is not eligible to re-apply for admission for a period of one calendar year from the date of suspension. The readmission of a suspended student to the University after the expiration of the suspension period is contingent upon the approval of the dean or director of the college to which he is seeking admission or readmission. A student who is suspended for

poor scholarship or who, after having been placed on probation, fails to re-register for the following semester, shall be considered as on probation upon his return to the University. The same regulation applies to a student who withdraws from the University while on probation (unless his withdrawal grades make him subject to suspension). A dean may require a student who is on probation at the time of registration to enroll for the minimum number of hours, and he may at any time require a student on probation to drop as many hours as seem to be in excess of the student's ability.

College of Business Administration: For additional regulations, see section "College of Business Administration."

College of Nursing: For additional regulations, see section "College of Nursing."

College of Pharmacy: For additional regulations, see section "College of Pharmacy."

SUSPENSION BY SCHOLARSHIP COMMITTEES OR DEANS. Regulations on probation and suspension as described above apply only at the end of a semester or summer session. However, during the progress of any semester or summer session the dean of a college may refer the case of a delinquent student to a college committee on scholarship; and such committee may recommend to the dean probation or suspension from the University for such student.

Attention is called also to the possibility of suspension as a result of excessive absence. See below.

GRADUATE SCHOOL DISQUALIFICATION

See the **Graduate School Bulletin**.

ATTENDANCE

Students are expected to attend all meetings of the classes in which they are enrolled. No extensions of the vacation periods are given to any students, regardless of the location of their homes. Non-attendance at classes due to late registration is considered the same as absence incurred after registration.

Instructors will keep a record of class attendance, and will report all absences to the dean or director of the college concerned. A student with excessive absences may be dropped from a course with the grade of F, by the dean or director of the college upon recommendation of the instructor. The dean or director may suspend a student from the University, on the grounds of neglected duty, when he has thus been dropped from two courses.

Absences due to illness, field trips, athletic trips, etc., are to be reported by the student to the instructor and to the Personnel Office. Such report does not relieve the student of responsibility for lost work. It is the duty of the student to take the initiative in arranging with his instructors to make up work missed.

Students who are absent and unexcused from final examinations, or other closing exercises of the classes in which they are enrolled shall be given the grade of F. A grade of I may be given when there is a valid reason for absence from the examination.

DISHONESTY IN ACADEMIC MATTERS

Every student is expected to abide by the highest standards of honorable

conduct in academic matters. Dishonest action in connection with tests, quizzes, or assignments, whether in the classroom or out, generally will be cause for dismissal from the University.

Non-disclosure or misrepresentation in filling out applications or other University records will make a student liable for disciplinary action, including possible dismissal from the University.

TRANSCRIPTS OF CREDIT

A student is entitled to one official transcript without charge at undergraduate and at graduate level prior to graduation. He is entitled to a second transcript without charge after graduation. A student who has not requested a free transcript before graduation is entitled to two transcripts without charge after graduation. After a student has secured the transcripts to which he is entitled without charge, additional transcripts are charged for at the rate of \$1 each. No charge will be made for transcripts submitted to the New Mexico State Department of Education for teacher certification purposes. Transcripts of credits cannot be issued until all accounts with the University are settled.

If the student requires special statements to be made concerning his record, or if special forms are to be filled out, the transcript fee of \$1 will be charged for such service.

SCHOLASTIC STATUS. An undergraduate student has the status: "in good standing," "on probation," or "under suspension." The University's period of suspension is one calendar year. At the expiration of the suspension period, the student may apply for readmission; but re-enrollment requires the approval of the college dean or director.

HONORABLE DISMISSAL. The status "in good standing," or "on probation," entitles the student to honorable dismissal, and on transcripts no separate statement of honorable dismissal is necessary. Whether he completes a semester, or withdraws with permission before the end of the semester, a student is entitled to honorable dismissal provided that he has the necessary scholastic status and is in good standing regarding conduct and financial obligations. Honorable dismissal implies that the University will permit the student to re-register in the next session.

EXAMINATIONS

REGULAR EXAMINATIONS. Examinations in each course are held at the close of each semester, and at intervals during the semester at the discretion of the instructor. All students, including graduating seniors, are required to take semester final examinations, which are held according to a notice issued by the Schedule Committee.

GRADUATE RECORD EXAMINATION. See p. 116.

SPECIAL EXAMINATIONS. A special examination is one taken at a time other than regularly with the class. Classified as special examinations are: examinations given to make up missed regular course examinations, Advanced Standing examinations, examinations to establish credit, examinations to validate unac-

credited, or otherwise unacceptable, credit earned at other college-level institutions, examinations to remove a grade of I, examinations for the removal of entrance deficiencies.

Entrance examinations for students deficient in entrance units, or for graduates of unaccredited or partially accredited high schools who must validate their unaccredited work, are given at the beginning of each semester to each student who desires to take them. These examinations to clear admission status are not to be confused with the aptitude and placement tests which are required of all freshmen.

A fee is charged for all special academic examinations administered by the faculty. Examinations for Advanced Standing and all examinations to establish credit are charged for a per-credit-hour basis. (See p. 76.) Other types of special examinations have a per-course fee (see p. 76). There is no charge for certain examinations administered by the University's Counseling and Testing Service. The latter include the University's entrance examinations, required placement and aptitude tests and the A.C.E. Psychological Examination.

Before the student is admitted to a special examination, he must present to the instructor a permit signed by the dean or director of his college. The Director of Admissions issues permits for entrance examinations. For those examinations where a fee is required, the permit must show the Comptroller's receipt of the fee.

EXAMINATION FOR ADVANCED STANDING. A student in residence in an undergraduate college shall have the privilege of passing a course in the University by special examination without attendance upon the course, and receive undergraduate credit therefrom, such privilege to be subject to the following restrictions:

1. He shall not have been previously registered in the course in any division of any college or university.

2. The applicant shall have a scholarship index of 3.0 or more in a normal program of studies completed during the last semester (or last 2 summer sessions) in residence, and he shall be doing superior work at the time of taking the examination.

3. The examination shall have the approval of the dean or director of the college, the chairman of the department, and the instructor concerned.

4. The applicant shall obtain from the dean or director of his college a permit for the examination, and shall pay in advance the required fee of \$2.50 per credit hour.

5. The student shall obtain in the examination a grade not lower than C, and shall show a mastery of the course acceptable to an examining committee of three, appointed by the dean or director, including the instructor and the chairman of the department concerned.

6. Credits earned through advanced standing examinations do not apply to residence requirements.

DEGREE REQUIREMENTS

The student may graduate under the catalog requirements for the year in

which he was enrolled for the first time in the degree-granting college of The University of New Mexico from which he is seeking a degree, provided he completes graduation requirements within a continuous six-year period. If a student interrupts his attendance, or transfers from one degree-granting college to another within the University, he must graduate under the catalog in effect at the time of his readmission or transfer.

For information concerning the various degrees offered, and for course and scholastic requirements leading to these degrees, students should refer to those sections of the catalog devoted to the colleges.

The student is solely responsible for knowing the rules and regulations concerning graduation requirements and for registering in the courses necessary to meet specifications for the degree.

TWO UNDERGRADUATE DEGREES. Two undergraduate degrees may not be granted a student until he has earned the equivalent of 5 years' college work (as represented by a minimum of 30 semester hours above the requirements for the first degree) and has fulfilled all requirements for both degrees. A transferring graduate should notify the Director of Admissions when applying for admission if he plans to work for a second undergraduate degree.

SCHOLASTIC REQUIREMENT. The minimum University requirement for a bachelor's degree is at least a 2.0 cumulative grade-point average on the last 124 semester hours of degree work or such greater number as is required for the degree sought. The individual colleges, however, have the privilege of requiring for their respective degrees an average higher than this minimum. The student is referred to the various college sections for individual college requirements.

SPECIFIC COURSES REQUIRED. Four semester hours of nonprofessional activity physical education shall be completed by all undergraduate students in the University. Veterans, NROTC and AFROTC students, students over 30 years of age, and handicapped students excused by the University Physician are exempted from the physical education requirement. Exemption for ROTC and for medical excuse is on a semester-by-semester basis. Not more than 1 semester hour per semester nor more than 4 total hours of nonprofessional physical education may be credited toward a degree.

For specific requirements leading to degrees in the various curricula, students should refer to the courses of study outlined in the listings of the different colleges.

DIVIDENDS AND PENALTIES. For every 15 semester hours of A, or for every 30 semester hours of B, the hours required for graduation are reduced by one. The maximum of such dividends allowed is four. For every 15 semester hours of D, the hours required for graduation are increased by one. No dividends or penalties are given in the Colleges of Business Administration, Engineering, Fine Arts, Nursing, and Pharmacy. Dividends and penalties are assessed only on work done in residence at The University of New Mexico.

SENIOR RESIDENCE REQUIREMENTS. Residence credit is defined as credit earned by attendance in regular classes on the University of New Mexico campus or in

one of its field sessions. Credits earned through the Extension Division or by examination are not counted toward the residence requirement.

Students who have done less than 60 semester hours in residence previous to senior status (see "Classification") shall earn 30 semester hours in residence in the senior year.

Students who have done 60 semester hours, but less than 90, in residence previous to senior status, shall earn 24 semester hours in residence in the senior year.

Students who have done 90 or more semester hours in residence previous to senior status shall earn 15 semester hours in residence in the senior year.

In no case is the number of hours specified to be earned in the senior year to be interpreted as necessarily the last hours.

Students may fulfill part or the whole of this residence requirement by summer session attendance.

RESIDENCE REQUIREMENTS IN MAJOR AND MINOR. At least one-half of the minimum number of credit hours required for major study and one-fourth of the minimum number of credit hours required for minor study must be class or laboratory work earned in residence in the University. When a senior transfer student plans to complete a major by presenting credit hours earned in residence at another institution, the major department, or the director of the interdepartmental major, may modify this ruling, not, however, below one-fourth of the total minimum hours required for the major (or the interdepartmental major).

GRADUATE RECORD EXAMINATION. All seniors are required to take the Graduate Record Examination during the last term of residence.

All graduate students who are candidates for an advanced degree and who have not taken the Graduate Record Examination prior to admission must do so during their first term of residence.

EXTENSION AND CORRESPONDENCE HOURS ALLOWED TOWARD DEGREE

1. Credit is allowed for correspondence and extension courses completed at this University or through other colleges and universities accredited by regional accrediting associations.
2. As many as 40 semester hours in correspondence and extension courses will be allowed toward the bachelor's degree provided that at least 10 of the 40 have been earned in extension courses taught by regular resident instructors of the University. Of this 40-hour maximum, no more than 30 hours will be allowed in correspondence work.
3. Credit for extension and correspondence courses completed in institutions not accredited by regional accrediting associations is not accepted for transfer. A student who has completed such correspondence or extension work in a course comparable to one offered by the University has the privilege of establishing credit here under the regulations governing special examinations to establish credit.
4. Courses taken from other institutions must correspond to those offered at The University of New Mexico.

5. Any graduating senior not in residence who expects to offer credits earned by correspondence toward fulfillment of degree requirements must have prior approval of the dean of his college.

For regulations governing the addition of correspondence or extension courses to the student's program while he is in residence, refer to p. 109.

6. No credit will be given for a course taken by correspondence if the student has previously received a grade of F in the course at this University. Exceptions to this rule can be made only upon petition to, and approval by, the Committee on Entrance and Credits.
7. The student is solely responsible for complying with all regulations stated in the current **Correspondence Bulletin**.

COMMENCEMENT

Normally, commencement exercises are held at the end of Semester II. Students who complete their requirements in an off-session receive their diplomas at the next regular commencement.

Students must participate in the commencement exercises at the time of receiving diplomas, unless excused by the dean of the college concerned.

HONORS WORK AND GRADUATION WITH HONORS

It is possible for a student to graduate with General Honors (Honors in General Studies), or with Departmental Honors, or with both. The designations for the various levels of Honors in General Studies are as follows: **cum laude** in General Studies, **magna cum laude** in General Studies, **summa cum laude** in General Studies. The student becomes a candidate for Honors only; the level of Honors with which he is graduated is determined by the General Honors Council. Designations for graduation with Departmental Honors are as follows: **cum laude**, **magna cum laude**, and **summa cum laude**. In Departmental Honors also the student is a candidate for Honors and the level of Departmental Honors with which he graduates is determined by his department (or college, in colleges which are not departmentalized).

Graduation with Honors, either General or Departmental, is in no sense automatic. The student is required to make application for candidacy. Information regarding Honors in General Studies and the method of gaining admission to this program can be obtained in the office of the Director of General Honors. Information regarding the Honors Program in a specific department or college can be obtained in the main departmental or college office.

THE GENERAL HONORS PROGRAM. The General Honors Program (leading to graduation with Honors in General Studies) is available to students in any degree-granting college or division of the University except the Graduate School and the School of Law. Normally, the student enters this program in his freshman year. Requirements for graduation with Honors in General Studies are as follows: (a) an over-all grade point average of 3.2; (b) completion of 15 to 21 hours in courses listed under "General Studies" in the section of this catalog entitled "Courses of Instruction," including normally the program for the junior and senior

years; (c) certification by the General Honors Council; (d) completion at The University of New Mexico of all of the last 60 hours of the work for the bachelor's degree. In addition to these minimal requirements, the General Honors Council may set such additional qualitative requirements as are approved by the University Faculty. Completion of the required General Studies courses does not necessarily mean that the student will graduate with General Honors.

The major purposes of the program of General Honors are as follows: (1) to supply additional breadth to the student's general education; (2) to put the able student more directly into competition with other able students so that his achievement may be more nearly in line with his potentialities; (3) to give the able student full opportunity to express himself in writing and in vital discussions in small groups; (4) to thrust the abler student into an environment that will offer improved intellectual opportunity and a greater challenge.

Performance and the level of achievement in the General Honors Program will not be judged by mechanical quantitative standards. The student will be under constant surveillance in small groups by a variety of faculty members. The program, in short, is designed to offer the student an opportunity; and the student is expected to respond with liveliness, imagination, and complete conscientiousness.

The candidate for General Honors may be dropped from the program at any time when his performance shows that he is not responding fully to the opportunities being offered him.

Special advising is available to all students who are candidates for General Honors. Information about advising of Honors students can be obtained in the office of the Director of General Honors.

Students in General Honors will be constantly encouraged to undertake also Departmental Honors.

THE DEPARTMENTAL HONORS PROGRAM. A Departmental Honors program is available to the qualified student in many departments of the University and will ultimately be available in nearly all departments. The student should inquire of the chairman of his major department (or the dean of the college in colleges which are not departmentalized) as to the availability of a program. Normally, the student enters a Departmental Honors program in his junior year. He should at least make his intention of graduating with Departmental Honors known to his chairman or dean early in his junior year. Admission to Departmental Honors candidacy can in no case be granted later than the beginning of the student's senior year.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all grade point average of 3.2; (b) not less than 6 credit hours in independent study, senior thesis, or special courses open only to candidates for graduation with Honors in the department (or college, if the college is not departmentalized).

Departments or colleges may have differing additional quantitative and qualitative requirements. The prospective Departmental Honors student should confer with the chairman of the department (or the dean of the college) regarding the requirements above the minimum requirements set forth just above.

The purposes of departmental honors programs are as follows: (1) to intensify and deepen the student's knowledge in his major field; (2) to put this specialized knowledge into better relationship with knowledge in related fields and in the larger general area of the student's specialization; (3) to bring the student under closer guidance of, and into closer acquaintance with, teachers in his field.

Graduation with Departmental Honors shall never be a matter solely of performance in standard courses or of grade-point averages in either the field of specialization or the entire program of the student. Continuance in departmental honors programs and the level of honors at which the candidate shall be graduated are both *in the discretion* of the department.

SCHOOL OF LAW GRADUATION HONORS

The LL.B. degree may, in the discretion of the Law School faculty, be awarded with the honors indicated to graduating students who have successfully completed two seminars prescribed by the faculty and who have achieved the following over-all grade-point averages in their law school work: 3.4, **cum laude**; 3.6, **magna cum laude**; 3.8, **summa cum laude**.

GRADUATION WITH DISTINCTION

Students graduating with a scholarship index which ranks them in the upper 5 per cent of the graduating class of the University will automatically receive the degree "with Distinction." Ranking will be based only upon work taken by the student at The University of New Mexico. Eligible senior students who have taken all of their work at this University will automatically receive this honor. Transferred students must present a minimum of 45 semester hours earned at this University in order to be eligible for the "Distinction" list; however, their transfer records shall be subject to review by the Scholarships and Prizes Committee for the purpose of determining the quality of their over-all academic accomplishment.

UNIVERSITY COLLEGE

ALL FRESHMEN entering the University are enrolled in the University College. The primary purpose of the College is to give each student the maximum opportunity to select the course of study best suited to his needs and aptitudes. To this end the College plans an individual program of testing, counseling, and guidance for each student.

A freshman who has decided to prepare for admission to a specific degree-granting college of the University will be assigned an adviser from the faculty of that college. With his adviser's approval, he should undertake a program of courses recommended by his chosen college for the freshman year. These programs are described in the sections of this catalog devoted to the several colleges.

A freshman who has not decided on a specific college should develop, with the aid of his adviser, a program of first-year courses designed to help him discover areas of interest and special competence. He should also request vocational guidance. The student who uses this exploratory approach should be advised that if he later chooses to enter one of the colleges having a very specific freshman program, he may require more than the usual 4 years to earn a degree.

Students who fail to meet the admission requirements of a degree-granting college at the end of the freshman year, or who wish further to adjust themselves to degree work, may remain in the University College through the sophomore year, subject to the scholastic regulations of the College.

Many students, for one reason or another, do not find a 4-year course leading to a degree advisable. For them the University College can provide a variety of 2-year programs leading to a certificate of completion.

ADMISSION REQUIREMENTS

For admission requirements to the University College, see the "Admission" section of this bulletin. The University College will not accept students who have attempted 72 or more academic hours or who have earned 64 or more academic hours.

No student may enroll in the University College after he has been admitted to any degree-granting college of The University of New Mexico.

CONTINUATION IN UNIVERSITY COLLEGE

No student will be permitted to re-enroll in the University College if at the end of his previous semester or term of enrollment he had attempted a total of 72 or more hours or earned a total of 64 or more hours.

SCHOLASTIC REGULATIONS

See p. 111.

ADMISSION TO A DEGREE-GRANTING COLLEGE

The **minimum** requirements for transfer from the University College to any degree-granting college are:

1. Twenty-six hours of earned credit.

2. (a) A scholarship index of at least 2.0 on all hours attempted;

or

(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.

3. (a) A satisfactory score on the English Proficiency Examination (administered by The University of New Mexico);

or

(b) A grade of C or better in a remedial English course offered on a non-credit basis by The University of New Mexico English department.

For additional admission requirements of a particular degree-granting college, refer to the admission regulations set forth in the section of this catalog devoted to that college.

CERTIFICATE OF COMPLETION

Upon application to the University College Office, a University College Certificate will be awarded to any student who meets the following requirements: (1) completion of 60 semester hours of college work with a passing grade, of which at least 30 hours have been earned in The University of New Mexico with 15 of these 30 hours earned in the University College of The University of New Mexico; and (2) a cumulative average of 1.70 on all work attempted through the semester or session in which the total of college credits earned first becomes 60 or more. (Nonprofessional courses in physical education may not be counted in these totals.)

Students seeking the University College Certificate may pursue courses in the Department of Naval Science or the Department of Air Science only with the permission of the Director of the University College and the chairman of the department of military science concerned.

TWO-YEAR SECRETARIAL PROGRAM

Students who want two years of secretarial training combined with a solid background in the liberal arts may wish to enroll in this curriculum. Successful completion of the 60-hour program will enable the student to obtain a certificate.

Freshman Year

First Semester		Second Semester	
Engl 101 Wrtn g w/Rdgs in Expos	3	Engl 102 Wrtn g w/Rdgs in Lit	3
Hist 101 Western Civ	3	History 102 Western Civ	3
BA 112 Interm Typ	3	BA 114 Begin Dicta	3
BA 113 Shorth Theory	3	BA 262 Adv Typ	3
Spch 101 or 225 Fund of Spch or Pub Spkg	3	Elective	3
Physical Ed	1	Physical Ed	1
	<u>15 + PE</u>		<u>15 + PE</u>

Sophomore Year			
BA 105 Prin of Acctg	3	BA 254 Speed Dicta	3
BA 117 Off Mach & Filing	2	BA 265 Bus Communication	3
Econ 200 Prin of Ec	3	Electives	9
BA 253 Transcription	3	Physical Ed	1
Electives	4		
Physical Ed	1		
	<u>15 + PE</u>		<u>15 + PE</u>

Electives would be taken from the following areas as determined by the student's major adviser:

Government	Fine Arts
English	Mathematics
Psychology	Sociology
Data Processing	

A student who has had business subjects in high school would be advised to omit BA 112, BA 113, and BA 114. This arrangement would enable the student to select 9 more hours from the list of electives.

COLLEGE OF ARTS AND SCIENCES

THE COLLEGE OF ARTS AND SCIENCES offers instruction in subjects or fields which relate to man's cultural, social, and scientific achievements, with more regard to historical and philosophical backgrounds and developments than to immediate practical use. Although the fields of study offered in the College underlie the more specialized work of the graduate, professional, or vocational school, the degrees and courses of study are designed as ends in themselves, supplying knowledge of mankind's and the student's own potentialities which will enable him to live better and later to perform better in his chosen field.

DEGREES

Upon the recommendation of the faculty and the President of the University, the degree of Bachelor of Arts or Bachelor of Science is conferred by the Regents upon those candidates who have completed all specified requirements. Differing requirements are specified for the Bachelor of Arts degree and for the Bachelor of Science degree if chemistry, geology, or psychology is the subject of major study; the student must choose beforehand the degree for which he wishes to work. A candidate who completes the requirements for a major in biology, dietetics, mathematics, or physics will receive the degree of Bachelor of Science unless special request is made for the Bachelor of Arts degree. (Bachelor of Science in Medical Technology is the only choice of degree in that field.) A candidate who completes requirements with a major in any other subject will receive the Bachelor of Arts degree.

RELATION TO PROFESSIONAL AND VOCATIONAL COURSES

Courses preparatory to law, medicine, and the other professions are planned and taught as cultural subjects and do not infringe upon the work of the professional school. Concerning the limited acceptance of work in business administration, education, engineering, law, medicine, pharmacy, and fine arts, see "Electives" and "Special Curricula."

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements is in the "Admission" section of this catalog.

ADMISSION FROM UNIVERSITY COLLEGE

Requirements for transfer from the University College into the College of Arts and Sciences are as follows:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;

or

- (b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.

3. Completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or a grade of C or better in a remedial English course offered on a non-credit basis by the University's English Department.
4. Of the 26 hours mentioned in "1" above, 23 hours must be acceptable towards graduation from the College of Arts and Sciences.

TRANSFERS

Transfer to the College of Arts and Sciences from another degree-granting college of The University of New Mexico requires a scholarship index of 2.0 on all work attempted while the student was enrolled in the other degree-granting college(s).

A student seeking to transfer to the College of Arts and Sciences from another accredited institution must meet the general University admission requirements for transfer and, in addition, must present a minimum of 26 semester hours of C grade or better, 23 hours of which must be in courses acceptable toward graduation from the College of Arts and Sciences. Transfer students must complete admission requirement No. 3 (immediately above) during the first semester of enrollment in this University.

TRANSFERRED GRADE OF D. Courses with grade of D transferred from another institution cannot be allowed for credit in The University of New Mexico. In certain sequences of courses in the College of Arts and Sciences, however, where grades of D from another institution are involved, it is possible for a student to secure a waiver of certain lower-division requirements. For information upon this possibility, the student may consult the Dean of the College.

GRADUATION REQUIREMENTS

Candidates for the degree of Bachelor of Arts or Bachelor of Science are required to complete a total of 124 semester hours in academic subjects, and 4 semester hours in physical education, with a scholarship index of 2.0 on all work attempted in academic subjects.

In the first 2 years, whether the student is technically enrolled in the College of Arts and Sciences or not, he is expected to acquire certain basic essentials and to explore several different fields to determine where his interests lie. In the last 2 years the student devotes himself to the completion of his group requirements, to his major and minor, and to the permitted electives that he may wish to take. **The student is solely responsible for completing all requirements for graduation.**

Specific graduation requirements are as follows:

1. Completion of 124 semester hours in academic subjects and 4 semester hours in physical education.
2. Grade points equal to twice the total number of hours of college-level work which the student has ever attempted. This is exclusive of hours in nonprofessional physical education and ensemble music.
3. Completion of at least 40 hours in courses numbered 300 or above, with at least a 2.0 average in all such hours attempted.

4. Completion of the English Proficiency Examination with a satisfactory score. (Normally, this is a requirement for admission.)

5. Completion of at least 1 major and 1 minor, or 2 majors; or fulfillment of all requirements in one of the combined curricula of the College of Arts and Sciences definitely specified in the catalog.

6. Completion of the Graduate Record Examination.

7. Completion of the Group Requirements described below.

GROUP REQUIREMENTS

The purpose of the following group requirements is to insure that the student will explore various fields of knowledge before beginning to concentrate too heavily in a field of his choice. The group requirements also aim to give a certain guarantee of the breadth of the student's knowledge regardless of the specialty he may wish to choose in taking his degree. The student should arrange his program so that he will be able to fulfill these group requirements as early in his career as possible. He has not earned the right to concentrate in his specialty until he has made a reasonable effort to fulfill the group requirements. The following rule, therefore, is extremely important:

A student may not take any courses numbered 300 or above (junior-senior courses) until he has completed 30 hours in the 5 groups and unless he is also concurrently enrolled in 1 course in a majority of the groups in which he still has deficiencies. (If there are deficiencies in 4 or 5 groups, at least 1 course in each of 3 of those groups must be taken; deficiencies in 2 or 3 groups, at least 1 course in each of 2 of those groups; deficiency in 1 group, 1 course in that group.) Exceptions to this rule can be made only with the written permission of the Dean of the College.

The acceptability of transferred work toward fulfilling group requirements lies in the judgment of the Director of Admissions and the Dean of the College.

No course may be counted toward the satisfaction of requirements in more than one group, but a course may be counted toward the fulfillment of both a group requirement and a major or minor requirement.

Courses in General Studies, taken in the Honors Program, may, with the approval of the Dean, be counted toward the satisfaction of requirements in similar areas in Groups III, IV, and V.

The requirements in the groups are as follows:

I. English. Six semester hours must be earned in English 101, 102 (unless English 101 has been waived), and 3 additional credit hours must be earned in a course in literature numbered above 200. A student deficient in writing skill may at any time be referred to English Workshop for remedial aid. Normally English 101 and 102 should be completed within the first 2 semesters of enrollment in the University.

II. Foreign Language. The student is required to take as many semesters of one foreign language as he needs to complete the intermediate courses (251, 252) in that language. For the student who chooses a language which he has

not previously studied, this ordinarily means a minimum of 4 semesters, as well as a minimum of 12 semester hours.

Students who have studied a language in high school, or those who believe they have some proficiency in a language, may determine the level at which they should begin language study by consulting the Chairman of the Department of Modern Languages.

To receive credit hours toward graduation for demonstrated competence in a foreign language, without actually taking courses in the language, a student must take advanced standing examinations. (See p. 114.)

III. Humanities. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) History, (b) Literature (either English or foreign), (c) Philosophy, (d) Art History or Music History or Speech (to the extent of 3 semester hours).

IV. Social Science. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) Anthropology, (b) Economics, (c) Geography, (d) Government, (e) Sociology.

V. Mathematics and Natural Science. Fourteen semester hours (not more than 8 from any one area, and including 2 semesters in courses that require laboratory work) must be completed in courses in the following areas: (a) Astronomy, (b) Biology, (c) Chemistry, (d) Geology, (e) Mathematics, (f) Physics, (g) Psychology.

MAJOR AND MINOR STUDIES

At the beginning of his junior year a student shall select and declare (1) a major and a minor subject or (2) two major subjects, or (3) one of the special curricula of the College, and his program of studies thereafter shall meet with the approval of the chairman of his major department or the supervisor of the special curriculum.

Only work of at least C quality is accepted toward the major and the minor; in the case of a special curriculum, all work within the general area of the specialization must be of at least C quality. (Courses in which grades of D are earned in The University of New Mexico may be accepted as electives and in fulfillment of group requirements.)

For the Bachelor of Science degree in the College of Arts and Sciences in departments requiring a major and a minor, the major department may specify in lieu of a single minor in one department a distributed minor in courses in related departments. The distributed minor shall consist of not less than 30 semester hours nor more than 36 semester hours. Rules relating to number of hours required in courses numbered 300 or above and to penalties for excessive hours in freshman courses shall be set aside when in conflict with distributed minor requirements. The student should consult the chairman of his major department if he wishes to take a distributed minor.

A distributed minor in Comparative Literature or in Russian Studies may be elected by candidates for either the Bachelor of Science or Bachelor of Arts degree. A distributed minor in American Studies is also available for students majoring in Anthropology, Economics, English, Government, History, or Sociology. A distributed minor in Paleocology is offered to students majoring in Anthropology, Biology, Chemistry, or Geology.

CERTIFICATION TO TEACH IN HIGH SCHOOL

It is often possible for a student taking a degree in the College of Arts and Sciences to achieve certification as a secondary school teacher in New Mexico on the same basis as students graduating from the College of Education and without going beyond the 124 semester hours required by the College of Arts and Sciences for graduation. To do this, however, requires careful planning of the program. In certain major-minor combinations a student cannot achieve the B.A. or B.S. degree from the College of Arts and Sciences and also achieve teacher certification *without taking more than 124 semester hours*. The plan is possible only when the major-minor combination (or double major) is in subject areas usually offered in high school (see p. 166 for approved areas). All students at The University of New Mexico who expect to follow a course of study leading to certification are subject to the requirements for admission to teacher education listed on pp. 149-153 in the College of Education section of this catalog.

Students interested in following this plan should consult the office of the Dean of the College of Arts and Sciences as early as possible, preferably at the beginning of the sophomore year but at least by the beginning of the junior year. Additional time may be required to complete the program if advice is sought too late.

ELECTIVES

A student who has fulfilled all other requirements for graduation may use electives to complete his total of 124 hours for graduation, subject to the restrictions stated below.

A maximum of 24 hours in any combination, earned in courses offered in the Colleges of Business Administration, Engineering, Law, Education,* Fine Arts,** Nursing, and Pharmacy, or in Naval Science and Air Science, is acceptable as electives in the College of Arts and Sciences, with the following exceptions:

- (1) Courses in typing or in office machines and filing in the College of Business Administration.
- (2) *Ensemble music in excess of 4 hours.*
- (3) *Shop work in excess of 3 hours.*
- (4) Courses in health, physical education, and recreation in excess of 7 hours, the 7 permissible hours to be chosen from courses Health Education 171, Physical Education 104, 398, 399, 461, 489, Recreation 303, 374, 452.
- (5) Courses in educational methods, supervision, and practice teaching, except 3 hours of high school methods and 6 hours of high school practice teaching. (If the student has taken the full 21 hours in Education plus the additional courses required for certification to teach in a New Mexico high school, these 21 hours will be accepted in the College of Arts and Sciences. See "Certification," etc., immediately above.)

GENERAL RULINGS

1. Students with less than junior standing may not carry more than 8 hours in one department during one semester.

* Except in the case of a Home Economics major, when a maximum of 34 hours will be accepted.

** Except in the case of an Art major, when a maximum of 32 hours will be accepted.

2. Not more than 50 hours in courses open to freshmen may be taken without a penalty of 1 hour for every 3 excessive hours.

Exceptions to these rules may be made only by the Dean.

NORMAL FRESHMAN-SOPHOMORE PROGRAMS

A student wishing ultimately to enter the College of Arts and Sciences should take the following standard program while enrolled as a freshman in the University College. Deviations from this program should be made only with the permission of the University College adviser.

First Semester		Second Semester	
†English 101 (Group I)	3	English 102	3
At least 9 hours from		At least 9 hours from	
Groups II, III, IV, or V	9-10	Groups II, III, IV or V	9-10
Elective	3	Elective	3
Physical Education	1	Physical Education	1
	<hr/> 16-17		<hr/> 16-17

If a student intends to take a degree in the College of Arts and Sciences, his program as a sophomore (whatever college he is enrolled in as a sophomore) should be as follows. Deviations should be made only with the permission of the student's adviser.

First Semester		Second Semester	
At least 12 hours from		At least 12 hours from	
Groups I, II, III, IV, or V	12-13	Groups I, II, III, IV, or V	12-13
Elective	3	Elective	3
Physical Education	1	Physical Education	1
	<hr/> 16-17		<hr/> 16-17

PRE-PROFESSIONAL AND OTHER CURRICULA

Students are cautioned against assuming that 4-year college courses always prepare for professional work. At least 1 year of specialized graduate work is advisable, even if not actually required.

COMBINED CURRICULUM IN ENGINEERING AND ARTS AND SCIENCES

Degrees in both the College of Arts and Sciences and the College of Engineering may be obtained by following a 5-year curriculum to be outlined in each case, jointly, by the deans of the two colleges. Any student interested in this curriculum should confer with the deans before the end of the sophomore year. For students interested in careers in countries to the south of the United States, attention is called to a major in Latin American Studies along with engineering.

COMBINED 6-YEAR PROGRAM IN LAW AND ARTS AND SCIENCES

It is possible for the properly qualified student to gain admission to a combined 6-year program in Law and Arts and Sciences leading to the Bachelor of Arts or Bachelor of Science degree from the College of Arts and Sciences and to the Bachelor of Laws degree in the School of Law. Such a student fulfills all requirements of the College of Arts and Sciences by using certain of his Law

† If the student fails to make a satisfactory score on the placement test, he will be required by his adviser to take remedial work or tutoring.

courses as a minor in the College. See "School of Law," p. 197, and requirements for a Minor in Law under "Law" in "Courses of Instruction" section.

CURRICULUM PREPARATORY TO DENTISTRY

The minimum requirement for admission to accredited dental schools is 2 years of acceptable academic work with a scholarship index of 2.5.

Because of the varying requirements of different dental schools, it is not possible to formulate a definite pre dental program. However, among the courses required for admission are English, social science, biology, physics, inorganic and organic chemistry.

The student should select the dental school(s) to which he plans to seek admission, and then, with the assistance of the pre dental adviser, plan a course of study which will meet the admission requirements of the school(s) in which he is interested. A student who plans to do more than 2 years preparatory to entering a dental school should select courses which will give him a broad liberal arts background as well as courses which will prepare him for the more technical requirements of dental school.

Ordinarily, the student will be expected to plan his academic program in such a manner that, if his plans to go to dental school do not materialize, he will still have made progress towards a baccalaureate degree.

CURRICULUM PREPARATORY TO FORESTRY

Because of the variable admission requirements of different schools of forestry, the student is advised to seek admission information from the Department of Biology.

FOR CURRICULA RELATING TO FOREIGN STUDIES

See p. 132.

FOR STUDENTS WHO PLAN TO STUDY LAW

See "School of Law."

CURRICULUM IN MEDICAL TECHNOLOGY

Certification as Medical Technologist

For requirements relating to certification as a medical technologist without a bachelor's degree, the student should consult the Chairman of the Department of Biology.

Degree of Bachelor of Science in Medical Technology

The curriculum and requirements leading to the degree of Bachelor of Science in Medical Technology are listed below. In addition to the prescribed academic work, candidates for the degree must complete a 12-month medical technology program at an approved hospital and be certified as a medical technologist by the American Society of Clinical Pathologists. Before completing the year's work at the hospital, for which 16 hours of credit are allowed, the student must satisfactorily complete a minimum of 108 academic hours, of which at least 45 shall be earned while the student is in residence on the campus of The University of New Mexico. Thirty of these 45 hours shall be earned at The University of New

Mexico after the student has attained junior status. Of the 53 hours of specified courses in science and mathematics, not fewer than 21 hours shall be earned in residence on the campus of The University of New Mexico.

The order of courses in the prescribed program should be followed as closely as possible. Only the student's adviser may give permission to vary the order of courses.

Students wishing to follow this program should make their intention known to the Chairman of either the Department of Biology or the Department of Chemistry as early in their student careers as possible.

The program described below meets all Group Requirements and all requirements as to major and minor in the College of Arts and Sciences.

The number of hours from outside the College of Arts and Sciences which can be counted towards this degree is reduced from the usual 24 hours to 12 hours (not counting the 16 hours of credit from the hospital course).

PRESCRIBED PROGRAM—MEDICAL TECHNOLOGY

Freshman Year			
First Semester		Second Semester	
Chem 101L Gen	4	Chem 102L Gen	4
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
Foreign Language	3	Foreign Language	3
Math 101 Coll Alg or 160 El Math Ph Sc 3-5	**Math 102 Pl Trig or Soc Sci†		2-3
†§Soc Sci	3-0	†Soc Sci	3
Physical Ed	1	Physical Ed	1
	<u>15-16 + PE</u>		<u>15-16 + PE</u>
Sophomore Year			
Biol 101L Gen	4s	Biol 102L Gen	4
Chem 301-303L Organic	3	Chem 302-304L Organic	4
English Literature	3	Foreign Language	3
Foreign Language	3	Physics 112-114L Gen	4
Physics 111-113L Gen	4	‡Social Science	3
Physical Ed	1	Physical Ed	1
	<u>18 + PE</u>		<u>18 + PE</u>
Junior Year			
Biol 429L Cellular Physiol	4	Biol 393L Gen Bact	4
Chem 253L Quant Anal	4	Chem 323 Intro Biol Chem	3
*Humanities	3	Chem 324L Intro Biol Chem Lab	1
Electives	3-6	Electives	6-9
	<u>14-17</u>		<u>14-17</u>
Senior Year			
*Humanities	3	12 months in	
‡Social Science	3	School of Medical	
Electives	7-10	Technology	
	<u>13-16</u>		<u>16</u>
Total Number of Hours Required—124 + PE			

† Any course in the social sciences that is allowed in the stated Group Requirements of the College of Arts and Sciences.

‡ For this particular requirement only, "Social Science" shall include courses in the departments of Anthropology, Economics, Geography, Government, History, and Sociology. History courses may be counted as either Humanities or Social Science, but not as both. (Of the 9 hours required in the social sciences, not more than 6 may be from one department.)

* For this particular requirement only, "Humanities" may include courses in the departments of English, History, Modern and Classical Languages, and Philosophy, and in the College of Fine Arts. History courses may be counted as either Humanities or Social Science, but not as both.

§ Defer to Semester II if Mathematics 160 is taken in Semester I.

** Substitute Social Science for Mathematics 102 if credit has been earned in Mathematics 160.

The program can be accelerated by completion of two summer sessions and entrance to the school of medical technology in June or September.

Upon completion of the 12-months' course in medical technology at an approved hospital, the student will submit a transcript of his work and certification as a medical technologist and apply for the degree of Bachelor of Science in Medical Technology from The University of New Mexico.

CURRICULUM PREPARATORY TO MEDICINE.

The requirement for admission to medical schools approved by the Association of American Medical Colleges and by the Council on Education of the American Medical Association is ordinarily at least 90 semester hours in a college of arts and sciences. However, because of the large number of applications for admission to medical schools in recent years, it is difficult to gain admission to many accredited medical schools without a bachelor's degree.

Because of variable requirements for admission to different medical schools, it is not possible to outline for the student a specific program, particularly beyond the first 2 years. For admission, many medical schools require that a student shall have had 2 years of either French or German; varying amounts of English, speech, social science, and mathematics; and 1 year of physics with laboratory. Normally, 1 year of general chemistry, a year of organic chemistry, and 1 semester of quantitative analysis are required. Most medical schools require 1 year of general biology; also vertebrate embryology and/or comparative vertebrate anatomy. Normally the student should major in biology, chemistry, or physics.

In view of the varying admission requirements, the student is advised to determine the medical school(s) to which he plans to seek admission and then, with the assistance of the premedical adviser, plan a course of study which will meet the admission requirements of the school(s) in which he is interested. The student is urged to seek early the advice of the premedical adviser.

Following is a suggested premedical curriculum for the first 2 years at The University of New Mexico.

First Year		Second Year	
English 101, 102	3-3	English, and Psychology 251	3-3
French or German	3-3	French or German	3-3
Chemistry 101L, 102L	4-4	Social Science, Chemistry 253L	3-4
Biology 101L, 102L	4-4	Biology 271L and 421L	4-5
Math 101, 102 (or Math 160)	3-2	Physics 111, 112, 113L, 114L	4-4
Physical Ed	1-1	Physical Ed	1-1

N.R.O.T.C. CURRICULUM

(Suggested curriculum for the first 2 years.)

First Year		Second Year	
English	3-3	English	3
Foreign Language	3-3	†Physics	4-4
Social Science	3-3	Foreign Language	3-3
†Math 101, 102 (or Math 160)	3-2	*Naval Science§	3-3
*Naval Science	3-3	Social Science	3
Elective	2-3	Electives	6

† Contract students see NROTC adviser.

* One laboratory drill period, at hours indicated in the final Schedule of Classes, must also be reserved in student's program of studies.

‡ Required for all NROTC regular students.

§ Regular and contract midshipmen must take a general psychology course during the spring semester.

DIVISION OF FOREIGN STUDIES

Miguel Jorrin, Professor of Government, Director

The Division of Foreign Studies is an administrative unit of the College of Arts and Sciences and of the Graduate School. From its founding in 1941 until 1959 this division functioned under the name of the School of Inter-American Affairs, offering the Bachelor Arts and Master of Arts degrees in the field of Latin American Studies. With the addition of curricula in Western European Studies and Russian Studies in 1959 and 1960, respectively, the designation Division of Foreign Studies was adopted. The Latin American Studies curriculum and the facilities of the Division continue as in the past.

THE UNDERGRADUATE CURRICULUM

The Division offers the degree of Bachelor of Arts in the College of Arts and Sciences with combined majors and minors in (1) Latin American Studies, (2) Western European Studies, (3) Russian Studies. These programs are designed to provide basic training in fundamental subjects and a choice of supplementary courses to meet individual needs and preferences. The emphasis of these major fields of concentration is upon language study and the social sciences, with particular attention to the important countries of each area. Proficiency in Spanish and a reading knowledge of Portuguese are basic requirements for the Latin American major. Proficiency in French and a reading knowledge of either German or Russian are required for a Western European major. The Russian studies program is designed to give considerable competence in the Russian language. Students are expected to use the languages as tools in various advanced courses in the program.

I. MAJOR IN LATIN AMERICAN STUDIES

FOREIGN LANGUAGES, 37 hours

Spanish 101, 102, 251, 252, 292, 301, 302, 357, 358;
Portuguese 275, 276, 277, 278.

HISTORY, GEOGRAPHY, GOVERNMENT, ECONOMICS, 36 hours

History 101, 102, 181, 182, 381, 382, 384;
Geography, 301, 302;
Government 203, 355 or 363;
Economics 200.

ELECTIVES, 28 hours

15 hours to be chosen from a list of courses of Latin American content made available to the student at the beginning of each semester; the remaining 13 hours will be free electives.

II. MAJOR IN WESTERN EUROPEAN STUDIES

FOREIGN LANGUAGES, 36 hours

French 101, 102, 251, 252, 301, 302, 307, 308;
German 101, 102, 251, 252 or
Russian 101, 102, 251, 252.

HISTORY, 20 hours

History, 101, 102, 303, 335, 336, 371;
Three additional hours chosen from 341, 342, 344, 368.

GOVERNMENT, GEOGRAPHY, & SOCIOLOGY, 18 hours

Government 201, 342, 343, 362, 369;
Three additional hours chosen from:
Government 305, 321, 368;

Geography 332;
Sociology 316.

ECONOMICS, 9 hours
Economics 200, 424, 450.

FREE ELECTIVES, 18 hours

III. MAJOR IN RUSSIAN STUDIES

FOREIGN LANGUAGE, 22 hours
Russian 101, 102, 251, 252, 291, 292, 497.

ECONOMICS, GEOGRAPHY, & GOVERNMENT, 15 hours
Economics 200, 201, 455;
Geography 333;
Government 357.

HISTORY, 15 hours
History 101, 102, 303, 347, 349.

ADDITIONAL REQUIREMENTS, 12 hours
to be selected from the following in consultation with adviser:

Economics 360, 450;
Geography 102, 331;
Government 203, 342, 361, 362;
History 335, 336;
Russian 338;
Sociology 101, 451, 461.

FREE ELECTIVES, 28 hours

IV. MINOR IN RUSSIAN STUDIES, 21 hours

FOREIGN LANGUAGES
Russian 101, 102, 251, 252;

9 ADDITIONAL HOURS CHOSEN FROM:

Economics 455;
Geography 333;
Government 357;
History 303, 347, 349;
Russian 291, 292, 338, 497.

THE GRADUATE CURRICULUM

Facilities for graduate work leading to the Master of Arts in Latin American Studies and to the Ph.D. in Ibero-American Studies are provided through inter-departmental programs. For prerequisites and requirements see the **Graduate School Bulletin**.

SCHOLARSHIPS

ALL-UNIVERSITY LATIN AMERICAN SCHOLARSHIPS. In the academic year 1964-65, The University of New Mexico is offering 2 scholarships covering tuition and room and board, and 4 covering tuition only, to qualified graduate and undergraduate students from any Latin American countries who are planning to pursue studies in any of the departments of the University. These scholarships have been established by the Regents and are administered jointly by the University and the Institute of International Education. Information may be obtained from the Director of the Division of Foreign Studies. **All applications must be received not later than May 1.**

SCHOLARSHIPS IN LATIN AMERICAN STUDIES. The Division of Foreign Studies is offering in the academic year of 1964-65 six tuition scholarships in the general

course leading to a B.A. in Latin American Studies. These scholarships are open to well-qualified graduates of high schools in the State of New Mexico who deserve financial assistance and who are planning to enter the University as freshmen. It also offers 3 tuition scholarships to undergraduates above the freshman level or graduate students from New Mexico or outside the State. For application forms and further information address the Director of the Division. **All applications must be received not later than May 1.**

CAREER SCHOLAR (M-3) PROGRAM

With the help of a grant from the Ford Foundation, the University has undertaken a program to encourage gifted undergraduates who intend to become college or university instructors. During their junior and senior years and during the first graduate year, students enrolled in the program will pursue an accelerated and rigorous course of study. Each will receive close supervision and counseling by a senior member of the faculty whom he will assist in teaching and research activities. For this assistance the student will receive a small stipend during the 2 undergraduate years and a more substantial fellowship in the final year. There are 11 participating departments: Anthropology, Biology, Chemistry, Comparative Literature, English, Geology, History, Mathematics, Physics, Psychology, and Spanish. Students interested in knowing more about the program should inquire at the office of the department in which they expect to major, or at the office of the Director of the Career Scholar Program, Administration 150.

DEPARTMENTS OF INSTRUCTION

The College of Arts and Sciences offers work in the fields listed below:

American Studies	Ibero-American Studies†
Anthropology	Journalism
Biology	Latin-American Studies*
Chemistry	Mathematics and Statistics
Comparative Literature	Modern and Classical Languages
Economics	Paleoecology
Economics-Philosophy	Philosophy
English	Physics and Astronomy
English-Philosophy	Psychology
Foreign Studies	Russian Studies*
Geography	Sociology
Geology	Speech
Government and Citizenship	Western European Studies*
History	

Major and minor requirements and descriptions of the courses offered will be found, listed by departments, in the Catalog section "Courses of Instruction." The student is referred also to the Departments of Art, Dramatic Art, Home Economics, Law, and Music for major or minor studies acceptable in the College of Arts and Sciences.

† Ph.D. program only.

* Requirements outlined under "Division of Foreign Studies," pp. 132-133.

COLLEGE OF BUSINESS ADMINISTRATION

CURRICULA in the College of Business Administration are designed to give broad experience in the liberal arts and applied sciences as preparation for productive living and progress toward executive responsibilities. The student will find his studies spread over diverse disciplines throughout his four years that he may maximize his opportunities to apply wide-ranging facts, opinions, and techniques to the art of decision-making. Whether a student's objective be that of proprietor or partner in a firm, executive in a private corporation, or officer in a public or quasi-public institution, the core work presented is basic to the appreciation and practice of the administrative function.

The program of studies designed to achieve these objectives has three main divisions. The first division includes courses in a number of areas of knowledge outside the fields of economics and business and comprises 40 percent or more of the entire 4-year program; the second division is that of a group of courses in economics, quantitative analysis, and management specifically required of all students in the College; the third division comprises a group of courses in a specialized field (concentration) of the student's own choosing. Thus a student graduating with a degree in the College of Business Administration will have had the opportunity to gain a broad knowledge of the institutions and culture of the society in which he will live and work, a special understanding of the economic institutions with which almost inevitably he will become connected, and a reasonable competence in one or more of the major administrative functions present in the organization and direction of economic activities.

The College would not wish to impart to any student a feeling of security in his path toward executive responsibilities. He may hold confidence in his ability to advance more rapidly toward such goals in consequence of his academic background; yet he should recognize that success in any field of endeavor depends upon many factors. One of these, obviously, is experience gained through diligent work in preparatory jobs.

The College of Business Administration includes within its framework a Bureau of Business Research (see p. 56).

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements is in the "Admission" section of this catalog.

ADMISSION FROM THE UNIVERSITY COLLEGE. The minimum requirements for transfer from the University College to the College of Business Administration are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;

or

(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous con-

secutive semesters as are necessary to bring the student's total hours attempted to at least 30.

3. A scholarship index of at least 2.0 on all Business Administration and Economics hours attempted.
4. Completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score, or a grade of C or better in a remedial English course offered on a non-credit basis by The University of New Mexico English Department.
5. The successful completion of Mathematics 122.

TRANSFERS. Students seeking to transfer from other degree-granting colleges of the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a grade-point average of 2.0 or better on all work attempted. Transfer students must meet the minimum requirements for transfer from the University College (see above) except that qualification 2(b) under these requirements shall not apply. Any student admitted to the College of Business Administration lacking mathematics, statistics, or accounting will be required to take certain of these courses the first semester of enrollment.

DEGREES OFFERED

For the degree of Bachelor of Business Administration, the student is required to complete satisfactorily a 4-year course including a chosen field of concentration and to maintain a 2.0 cumulative grade-point average as specified under "Scholastic Regulations" below. To receive the degree, the student must have completed satisfactorily at least 128 semester hours, including 4 semester hours of physical education and to have met all the requirements of the University and of the College of Business Administration.

For the degrees of Master of Business Administration and Master of Industrial Administration, the student should consult the **Graduate Bulletin**.

DEGREES IN COMBINATION WITH OTHER COLLEGES

If a student wishes to secure a degree in another college, he is urged to seek advice early in his college career from the deans of the colleges concerned. With care in selecting his program of studies, it is possible for a student to secure two degrees in one to two extra years, depending on the degrees he seeks.

SCHOLASTIC REGULATIONS

The student should become familiar with the general academic and scholastic rules which apply to all students enrolled in the University (see pp. 111-112). Special attention is called to the rules on probation and suspension. Special rules for the College of Business Administration are as follows:

1. To graduate with the B.B.A. degree a student must have a scholastic index of 2.0 on all his semester hours attempted at The University of New Mexico, except that those University College hours with grade points that had not been certified for entrance to the College of Business Administration may be excluded.
2. To graduate with a B.B.A. degree a student must have a grade-point average of 2.0 on all Business Administration and Economics hours attempted.
3. To graduate with the B.B.A. degree a student must have earned a minimum of 124 hours of degree work.

4. To graduate with a B.B.A. degree a student must have earned a minimum of 54 hours in courses in Business Administration and Economics.

5. The normal load for students in the College of Business Administration shall be 16-17 hours (not counting PE).

6. The following will count as laboratory science: Physics, Chemistry, Biology, Geology, and Psychology.

7. To graduate with a B.B.A. degree a student must have completed successfully the Proficiency Examination in English or have attained a grade of C in the non-credit remedial English course offered by the University's Department of English.

8. To receive the B.B.A. degree, transfer students must take a minimum of 18 hours in Economics and Business Administration subjects while enrolled in the College of Business Administration.

9. The College of Business Administration will accept as free electives credits earned in other colleges of the University with the following exceptions:

A. All theory and methods courses in Physical Education.

B. All courses in Education in methods and supervision. (Practice Teaching will be accepted to the extent of 6 hours.)

C. More than 4 hours in ensemble music.

D. More than 3 hours of shop work.

E. Mathematics III.

10. Credit is not allowed toward a degree in the College of Business Administration for type-writing, except in the Executive Secretarial Program.

DEGREE REQUIREMENTS

Requirements for the degree of Bachelor of Business Administration (for description of courses, see section "Courses of Instruction"):

A. GENERAL REQUIREMENTS	Credit
1. English 101 and 102 (6 hrs.) Literature (3 hrs.) and Speech 255 (3 hrs.)	12
2. Social Science (other than Economics), 6 hrs.; Government 101 and 201	12
3. Two semesters of laboratory science within a single department	6-8
4. Option. Either one of the following:	
(a) A single foreign language (12 hrs.)	
(b) History (6 hrs.), English 255 and English 264 (6 hrs.)	12
5. Mathematics 121 and 122	8
6. Philosophy	3
7. Physical Education	4
Total	<u>57-59</u>
B. SPECIFIC REQUIREMENTS IN ECONOMICS AND BUSINESS COURSES COMMON TO ALL CONCENTRATIONS	
BA 101L Data Processing	3
BA 105, 106, Principles of Accounting	3-3
BA 289, Statistical Analysis	3
BA 306, 307, Business Law	3-3
BA 308, Marketing	3
BA 310, Corporation Finance	3
BA 329L, Quantitative Analysis for Mngt	3
BA 330, Organization Theory	3
Ec 200, 201, Prin. of Economics	3-3
Ec 315, Money and Banking	3
Total	<u>39</u>
C. CONCENTRATION REQUIREMENTS (varies with concentration)	15-18
D. FREE ELECTIVES	<u>12-17</u>
Total hours of credit for degree	<u>128</u>

FRESHMAN PROGRAM (Taken in the University College)

(Be sure to read explanations and exceptions)

First Semester		Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
BA 101L Data Processing	3	Elective	3
Laboratory Science	3-4	Laboratory Science	3-4
Math 121 Intro to Math for Soc Sc	4	Math 122 Finite Math	4
Foreign Language or History*	3	Foreign Language or History	3
Physical Ed	1	Physical Ed	1
	<hr/> 17-18		<hr/> 17-18

SOPHOMORE YEAR

(Be sure to read explanations and exceptions)

Econ 200 Prin of	3	Gov 201 Amer Gov	3
Gov 101 Intro to	3	Econ 201 Prin of	3
BA 289 Stat Analysis	3	Elective	3
BA 105* Prin of Acctg	3	BA 106 Prin of Acctg	3
Foreign Lang or Engl 255 Vocab Bldg	3	Foreign Lang or Engl 264 Inf Writing	3
Physical Ed	1	Physical Ed	1
	<hr/> 16		<hr/> 16

EXPLANATIONS AND EXCEPTIONS

Students in the University College who do not follow the freshman program as set forth must take the courses they have missed after they enter the College of Business Administration.

Students looking forward to a concentration in Accounting normally will have elected to take BA 105 and 106 in their freshman year and will enroll during their sophomore year in BA 263 and 264. Students who begin accounting in the first semester of their sophomore year may still find it possible to arrange a concentration in this field within a 4-year curriculum.

Students in Finance will enroll in BA 263 in the sophomore year or the first semester of the junior year.

Executive Secretarial Program students should follow the 4-year program as outlined on pp. 141-142.

General Studies. Students who accept an invitation to join the General Studies program (see p. 292) may apply their various seminars to satisfying appropriate General Requirements as approved by the Dean of the College.

English. The beginning freshman will take either English 101 or English 102, depending on the scores made on the English placement test.

Laboratory Science. Laboratory science means laboratory courses in Psychology, Chemistry, Physics, Geology, and Biology.

Social Science. Anthropology, History, Sociology, Philosophy, Government, and 300-level Psychology courses are acceptable for Social Science requirements.

Option. If a student chooses option (a) and is admitted with high school language credits and wishes to enter courses above the elementary level, he should consult the Chairman of the Modern and Classical Languages Department (in the College of Arts and Sciences).

* BA 105 is open to freshmen who are eligible to enroll in, or have completed, Math 121.

If a student chooses option (b) and can display a satisfactory aptitude in vocabulary and composition, evidenced by a grade of B in both English 101 and 102, he may substitute other courses in the arts or sciences for either or both English 255 and 264.

Mathematics. During the freshman year the student must take Mathematics 010 (Intermediate Algebra—non-credit) as a prerequisite to Mathematics 121 if the score on his entrance examination in Mathematics is not satisfactory.

JUNIOR AND SENIOR YEARS

During the first semester of the junior year students should file in the Dean's office an application for the B.B.A. degree. This application will include a declaration by the student of his field of concentration. A graduation summary sheet will then be prepared and a copy will be supplied the student. No student will be included on a list of candidates for graduation unless an application for degree has been approved.

During the junior and senior years students in the College of Business Administration must take any of the General Requirements, as listed on p. 137, which were not taken in the first 2 years. A general prerequisite to all upper-division courses is Economics 200 and 201, BA 105 and 106, and BA 289, but any course may have a specific prerequisite which will be stated in its description. It is highly recommended that the Philosophy and Speech requirements be taken in the senior year, and that some of the social science courses, elective or required, be taken in the last 2 years, preferably selected from those courses beyond the introductory level.

CONCENTRATIONS

1. ACCOUNTING. Advisers: Mr. Mori, Mr. Christman.

Those students who are looking toward careers in either private accounting or public accounting should follow the Accounting concentration. Knowledge of accounting principles and practices is basic to any business venture both for the purpose of internal control and for guiding policy. The proper keeping of records and their analysis, a proper function of the accountant, is especially necessary in tax matters, both federal and local. Those students who aspire to become Public Accountants probably should take more than the minimum number of courses required in the Concentration.

Junior Year			
First Semester		Second Semester	
BA 306 Business Law	3	BA 347 Auditing	3
BA 421 Adv Acctg I	3	BA 307 Bus Law	3
Elective	3	Econ 315 Money and Banking	3
Postpone one of the following three courses to the senior year:		BA 329L Quant Anal for Mgt	3
BA 308 Prin of Mktg	3	Elective	3
BA 310 Corp Finance	3		15
BA 330 Org Theory	3		
	15		
Senior Year			
Philosophy	3	Speech	3
Soc Sci Elective	3	Soc Sci Elective	3
BA 308, 310, or 330 postponed from junior year	3	Electives	6
BA 449 Income Tax Acctg	3	Literature	3
BA 484 Cost Acctg	3		
	15		15

NOTE: Students in this concentration probably will have enrolled in BA 263 and BA 264 during their sophomore year. Students who begin accounting in their sophomore year may enroll in BA 264 and BA 484 concurrently in their junior year.

Recommended Electives: BA 265, 402, 422, 327, 328, 448, and 450.

2. **FINANCE.** Adviser: Mr. Goode.

A survey of the courses offered in this concentration will reveal that they have been carefully selected to give the student a sound basic understanding of the principles and practices of both private and public finance. Thus the program serves not only those who plan to enter the banking, insurance, investment security, and similar businesses; it will also provide highly useful training for the average citizen who will almost certainly deal with banks, buy life insurance, make some investments, vote on fiscal proposals, and pay the tax collector. To provide the student with an informed and intelligent approach to such problems is the aim of the concentration.

Junior Year			
First Semester		Second Semester	
BA 306 Bus Law	3	BA 329L Quant Anal for Mgt	3
BA 308 Prin of Mktg	3	BA 307 Bus Law	3
BA 310 Corp Finance	3	Econ 315 Money & Banking	3
BA 330 Org Theory	3	BA 327 Life Insurance	3
Elective	3	Literature	3
	<u>15</u>		<u>15</u>
Senior Year			
BA 431 Fin Anal & Credit Adm	3	BA 498 Invest Prin & Anal	3
Philosophy	3	Speech	3
Soc Sci Elective	3	Soc Sci Elective	3
Electives	6	Econ 350 Public Finance	3
	<u>15</u>	Elective	3
			<u>15</u>

Note: Students in this concentration are required to take BA 263 and 3 hours from the recommended electives.

Recommended Electives: BA 328, 492; Econ 362, 306, and 303.

3. **GENERAL BUSINESS.** Advisers: Mr. Huber, Mrs. Saner.

If a student has developed no special interest in one of the other concentrations, he should choose General Business. As the title implies, this program gives a student a broader and more diversified training than the other programs but with no less emphasis on the basic knowledge and principles which are common to all good business practices. For those students who plan to take a graduate degree in business administration this concentration is suggested, as a field of specialization may be chosen after receiving the bachelor's degree. Likewise those students planning to enter the School of Law or other professional schools, after graduation, should give careful consideration to choosing this concentration.

Junior Year			
First Semester		Second Semester	
BA 306 Bus Law	3	BA 307 Bus Law	3
BA 308 Prin of Mktg	3	Econ 315 Money and Banking	3
BA 310 Corp Finance	3	BA or Econ Elective	3
BA 330 Org Theory	3	Elective	3
Elective (BA or Econ)	3	BA 329L Quant Anal for Mgt	3
	<u>15</u>		<u>15</u>
Senior Year			
BA or Econ Elective	6	BA or Econ Elective	6
Social Science Elective	3	Speech	3
Philosophy	3	Social Science Elective	3
Literature	3	Elective	3
	<u>15</u>		<u>15</u>

Concentration requirements in addition to specific requirements:

- 12 hours in BA from the following: BA 263, 327, 328, 431, 485, 492, 495, and 498.
- 6 hours in Economics from the following: Econ 300, 303, 306, 320, 350, 360, and 450.

4. INDUSTRIAL ADMINISTRATION. Adviser: Mr. Finston.

This concentration is designed to foster an understanding of managerial functions and responsibilities in a changing world. Emphasis is upon developing management perspective, improving decision-making ability, and broadening perception of inter-personal and organization relationships. The importance of administration is steadily growing in recognition, whether the enterprise is large or small, and whether it is industrial, commercial, governmental, educational, or philanthropic. Students planning careers in general management, personnel, or labor relations administration should select this concentration.

Junior Year			
First Semester		Second Semester	
BA 306 Bus Law	3	BA 307 Bus Law	3
BA 308 Prin of Mktg	3	Econ 315 Money & Banking	3
BA 310 Corp Finance	3	Soc 341 Soc of Ind Relations	3
BA 330 Org Theory	3	Elective	3
Literature	3	BA 329L Quant Anal for Mgt	3
	<u>15</u>		<u>15</u>
Senior Year			
BA 494 Wage Adm & Work Anal	3	BA 493 Labor Law & Collect Bargaining	5
Econ 320 Ec of Labor Rela	3	BA 495 Adm Theory & Prac I	3
Philosophy	3	Soc Sci Elective	3
Soc Sci Elective	3	Speech	3
Elective	3	BA 492 Policy Formulation	3
	<u>15</u>		<u>17</u>

5. MARKETING. Adviser: Mr. Kirkpatrick.

Those students who are looking forward to positions in selling, purchasing, advertising, and merchandising, or who are interested in establishing businesses of their own, especially in retailing and wholesaling, should follow the Marketing concentration. Opportunities exist in manufacturing, agriculture, mining, petroleum, building, and other industries, for those trained in the field. The problem of the proper and efficient movement of merchandise from the original producer through various channels to the consumer is often a very complex one in modern society and demands well-trained people all along the line.

Junior Year			
First Semester		Second Semester	
BA 306 Bus Law	3	BA 307 Bus Law	3
BA 308 Prin of Mktg	3	Econ 315 Money & Banking	3
BA 310 Corp Finance	3	Econ 332 Gov Contr of Bus	3
BA 330 Org Theory	3	BA 483 Marketing Research	3
Literature	3	BA 329L Quant Anal for Mgt	3
	<u>15</u>		<u>15</u>
Senior Year			
BA 482 Retail Management	3	BA 485 Marketing Mgt	3
BA 431 Fin Anal & Credit Adm	3	Speech	3
Philosophy	3	Soc Sci Elective	3
Soc Sci Elective	3	Electives	6
Electives	3		
	<u>15</u>		<u>15</u>

6. EXECUTIVE SECRETARIAL PROGRAM. Advisers: Mrs. Glaese, Mrs. Reva, Mr. Park.

In recognition of the increasing demand for trained office personnel, this program is designed to give students not only the basic knowledge and skills necessary for initial employment, but also the background necessary in office administration and supervision that will help the new employee progress toward positions of greater managerial and supervisory responsibility. In recent years greater appreciation of the value of well-planned and well-directed office services has opened an attractive field of employment for college-trained men and women. Those students who wish to teach business subjects in high schools, and who take courses in the College of Education to fulfill teacher certification requirements, may wish to choose this concentration.

Freshman Year			
First Semester		Second Semester	
BA 112 Intern Typ	3	BA 117 Office Mach & Filing	2
BA 101L Data Processing	3	Math 122 Finite Math	4
Math 121 Intro to Math for Soc Sci	4	Gov 101 Intro to	3
Foreign Language or History	3	Foreign Language or History	3
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
Physical Ed	1	Soc Sci Elective	3
	<hr/>	Physical Ed	<hr/>
	16		18
	+ PE		+ PE
Sophomore Year			
BA 262 Adv Typ	3	Laboratory Science	3-4
Laboratory Science	3-4	Econ 201 Prin of	3
Econ 200 Prin of	3	BA 106 Prin of Acctg	3
BA 105 Prin of Acctg	3	BA 265 Business Communications	3
Foreign Lang or Engl 255 Vocab Bldg	3	Foreign Lang or Engl 264 (Inf Wrting)	3
Physical Ed	1	Physical Ed	1
	<hr/>		<hr/>
	15-16		15-16
	+ PE		+ PE
Junior Year			
Elective or BA 113 Shorth Theory	3	BA 307 Bus Law	3
BA 306 Bus Law	3	Econ 315 Money & Banking	3
BA 308 Prin of Mktg or 310 Corp Finance	3	BA 114 Begin Dictation	3
BA 330 Org Theory	3	BA 289 Stat Analysis	3
Gov 201 Amer Gov	3	Soc Sci Elective	3
	<hr/>		<hr/>
	15		15
Senior Year			
BA 253 Transcription	3	BA 254 Speed Dictation	3
BA 308 Prin of Mktg or 310 Corp Finance	3	BA 358 Office Mgt	3
BA 357 Sec Office Practice	3	BA 329L Quant Anal for Mgt	3
Philosophy	3	Speech	3
Soc Sci Elective	3	Literature	3
	<hr/>		<hr/>
	15		15

Recommended Electives: BA 314, 431; Geography 263; and English.

AIR FORCE AND NAVAL ROTC

Students enrolled in the Air Force ROTC and Naval ROTC may receive the degree of Bachelor of Business Administration and their commissions at the end of 4 years. To do this the student must use his required Naval and Air Force courses as his "free electives." Thus, each student enrolled in the College of Business Administration must be sure he is taking the required courses for the degree. Naval and Air Force students are not required to take Physical Education.

BUSINESS ADMINISTRATION STUDENTS IN THE AIR FORCE ROTC

Freshman Year	
First Semester	Second Semester
Engl 101 Wrting w/Rdgs in Expos	Engl 102 Wrting w/Rdgs in Lit
BA 101L Data Processing	Lab Sci
Lab Sci	For Lang or Hist
For Lang or Hist	Math 122 Finite Math
Math 121 Intro to Math for Soc Sci	Air S 110L & Air S Substitute
Air S 100 and 110L	
Sophomore Year	
Econ 200 Prin of	Econ 201 Prin of
BA 105 Prin of Acctg	BA 289 Bus Statistics
For Lang or Engl 255	BA 106 Prin of Acctg
Air S 110L & AS Substitute	For Lang or Engl 264
Gov 101 Intro	Gov 201 Amer Gov
	Air S 201 and 110L

Junior Year

BA 306 Bus Law	Lit
BA 310 Corp Fin	BA 307 Bus Law
BA 330 Org Theory	Econ 315 Mon & Bank
Air S 300 and 110L	BA 329L Quant Anal for Mgt
BA Elective	Air S 301 and 110L

Senior Year

Philosophy	Speech
BA 308 Prin of Mktg	BA Elective
BA Elective	BA Elective
BA Elective	Air S 401 and 110L
Gov 203 Int Politics	Soc Sci Elective
Air S 400 and 110L	

BUSINESS ADMINISTRATION STUDENTS IN THE NAVAL ROTC

Freshman Year

Engl 101 Wrtnng w/Rdgs in Expos	Engl 102 Wrtnng w/Rdgs in Lit
Lab Sci	Lab Sci
Math 121 Intro to Math for Soc Sci	Math 122 Finite Math
NS 111	NS 122
BA 101L Data Processing	For Lang or Hist

Sophomore Year

Econ 200 Prin of	Econ 201 Prin of
BA 105 Prin of Acctg	BA 106 Prin of Acctg
Gov 101 Intro to	BA 289 Stat Analysis
NS 211	General Psych
For Lang or Engl 255 Vocab Bldg	For Lang or Engl 264 Inf Wrtnng

Junior Year

BA 306 Bus Law	BA 307 Bus Law
BA 310 Corp Fin	Econ 315 Mon & Bank
NS 311	BA 329L Quant Anal for Mgt
Gov 201 Amer Gov	BA Elective
BA 330 Org Theory	NS 322

Senior Year

BA 308 Prin of Mktg	BA Elective
NS 411	NS 422
BA Elective	BA Elective
Philosophy	Speech
Soc Sci	Lit

DATA PROCESSING PROGRAM

The Data Processing Program is a 14-month curriculum leading to a Certificate in Data Processing. The program is open to men and women who meet the admission requirements and are selected by the Admissions Committee of the program for enrollment.

OPPORTUNITIES IN DATA PROCESSING

Although the field of data processing is not new in itself, having a history of some 50 years, the advent of the modern high-speed electronic computer in the early 1950's marked the beginning of a new era. While the computer itself is well-known to the layman in caricature, relatively few people have sufficient understanding to meet the demand created by both public and private enterprise. The automation of administrative processes, however, is expected to continue, and the person with a merchantable skill in this area will find a ready

market for his services. Coupled with imagination and willingness to work, such a skill can assure long-run rewards in both an economic and a work-satisfaction context.

It is the objective of the Data Processing Program to develop a high degree of technical skill in all phases of data processing up to and including elementary systems design. Realizing that technical skill itself does not suffice, the program also includes a selection of courses which bear upon the general development of the student, as indicated in the curriculum below. In his technical training, the student is provided with "hands-on" hardware time in which he applies the theory and principles developed in class work.

Much of the curriculum conforms to the suggestions of the Data Processing Management Association, a professional association of people active in data processing work. Membership in the association is available to practitioners in the area of data processing. In addition, the DPMA supervises the examination of candidates for the professional certificate on a basis similar to that of the Certified Public Accountant. However, the professional certificate (not to be confused with the certificate awarded upon completion of this program) requires not only technical skill, but the completion of a college degree in specific subjects as well as a stated amount of experience on the job.

ADMISSION

A class of 50 students will be enrolled in the program only at the beginning of each summer session at the University of New Mexico. The program continues through the regular academic year, and each class will finish the program at the end of the next following summer session. (Technical courses in the summer session extend slightly beyond the regular 8-week term of the session.) Students will be selected on the basis of scholarship, aptitude, and demonstrated ability to do work of a high quality. Students who have poor motivation for academic work are not encouraged to apply, since the program is both academic and technical, in conformance with the requirements of the data processing profession. Students should not apply for the program unless they seriously plan to enroll; failure to enroll upon acceptance, or dropping out of the program, will ordinarily preclude readmission.

Requirements for admission are:

1. Admissibility to The University of New Mexico as described in this Catalog (refer to "Admission"), **without deficiencies**.
2. A test score on the SAT portion of the CEEB (College Entrance Examination Board) test greater than 460, or the SCAT test equivalent. It is incumbent upon the applicant to arrange to take the test far enough in advance that the test scores are available at the time of request for enrollment. Information concerning the administration of the CEEB or SCAT test may be obtained from any high school.

The deadline date for receipt of applications and credentials required for enrollment in the program is April 15 prior to the summer in which enrollment is desired. All requirements for admission as outlined above must be completed

by this date. Communications regarding entrance to the program, including the submission of applications for enrollment, etc., must be addressed to the Director of Admissions, The University of New Mexico, Albuquerque, New Mexico, 87106. All applicants will be notified by approximately May 1, whether or not they have been selected for the program; notification will be made by the Office of Admissions.

Students having advanced standing at The University of New Mexico, or transferring to the University with credits from another university, may apply as above, with the understanding that all work attempted at the college level will be evaluated in determining eligibility for the program. Students in these categories with less than satisfactory scholarship indexes (2.0/4.0) will not be considered. Other things being equal, the high school graduate without previous college training will be given priority in selection. All students admitted to the program will be enrolled in the University College but their programs will be supervised by members of the program staff.

FEES

Tuition is charged at the regular University rates (see p. 75) based upon the total number of **class** hours taken in each session. No special fees are assessed.

REQUIREMENTS FOR THE CERTIFICATE IN DATA PROCESSING

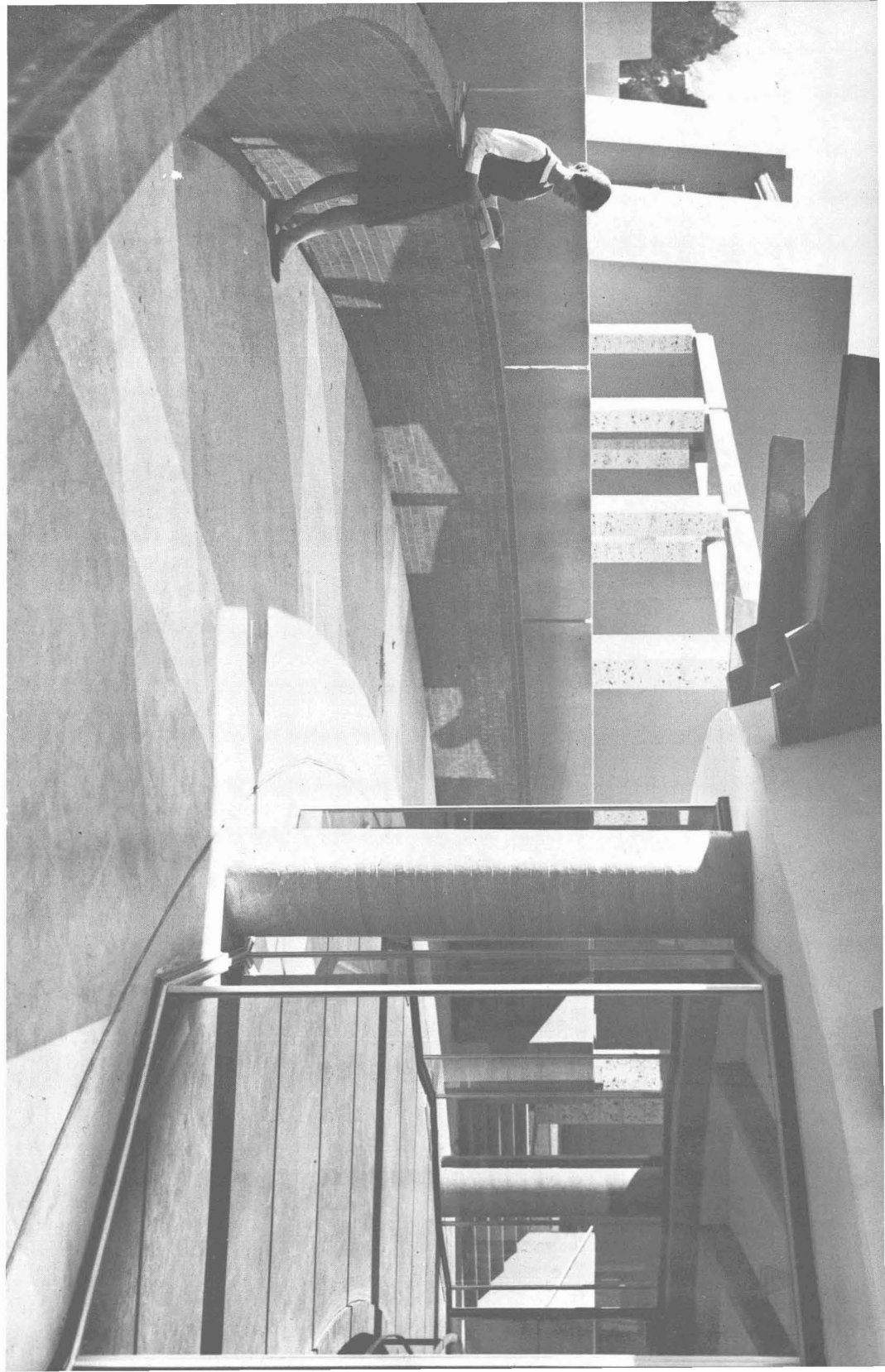
The candidate for the Certificate must:

- 1) Complete **all** of the work outlined in the curriculum of the Program, and at the time it is offered.
- 2) Maintain a grade average of at least 2.0 in all work exclusive of Physical Education.
- 3) Complete the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score.

CURRICULUM LEADING TO THE CERTIFICATE IN DATA PROCESSING

First Summer Session		Fall Semester	
	Credit Hrs. Class Hrs.		Credit Hrs. Class Hrs.
BA 101 Data Processing	3 3	Engl 101 Wrting w/Rdgs Expos	3 3
DP 005 Data Proc Math	0 5	Gov 101 Intro to	3 3
	8	BA 105 Prin of Acctg	3 4
		Math 121 Int Math Soc Sci	4 4
		DP 010 Systems Prog	0 3
			17
Spring Semester		Second Summer Session	
Engl 264 Inf Writing	3 3	Econ 201 Prin of Econ	3 3
Psych 251 Intro to Psych	3 3	DP 015 Syst Des and Dev	0 2
BA 106 Prin of Acctg	3 3	DP 016 Field Proj	0 1
Econ 200 Prin of Econ	3 3	DP 017 Supv and Trng	0 2
DP 011 Systems Prog	0 3		
	15		8

Note: 2 credits of Physical Education must be completed during the course of the program.



COLLEGE OF EDUCATION

ONE of the most important and urgent responsibilities of The University of New Mexico is the effective preparation of teachers and school service personnel (e.g. principals, counselors, supervisors, and superintendents). In this connection the University's College of Education plans, develops, coordinates, and evaluates the preparation programs for these teachers and school service personnel. The College of Education also is solely responsible for all the courses, seminars, and professional laboratory experiences which constitute the professional education portions of these programs.

The College of Arts and Sciences, the College of Fine Arts, and, to a limited degree, the College of Business Administration, work closely with the College of Education both in determining and meeting the educational needs of those expecting to serve, or already serving in elementary and secondary schools. The cooperative effort of these colleges is greatly enhanced by the work of the U. N. M. Advisory Committee on Teacher Education, a group of faculty members and administrative officers representing these colleges, which serves in an advisory capacity to the dean and faculty of the College of Education.

Every University of New Mexico program which leads to professional certification for New Mexico's elementary and secondary schools is made up of: 1) breadth in general (liberal) education; 2) depth in subject-matter specialization; and 3) appropriate offerings in professional education. All three categories are deemed necessary in each program. At the present time all the certification programs offered by this institution for elementary and secondary school classroom teachers include 4 years of college work, culminating in the bachelor's degree. Since September 1963, however, the University has offered planned five-year programs for classroom teachers who expect to qualify for "Professional Licensure," as outlined in **Rules and Regulations Governing Certification of Teachers, State of New Mexico**, adopted by the New Mexico State Board of Education on August 2, 1962.* Four-year programs will continue to be offered, but those persons completing them will qualify only for **provisional** certification which will entitle the holder to teach in New Mexico for a limited time only.

All programs for the preparation of school service personnel are offered at the graduate level only.

ACCREDITATION AND CERTIFICATION

The University of New Mexico is **fully** accredited by the National Council for the Accreditation of Teacher Education (NCATE). This **full** accreditation covers every bachelor's degree program described in this section of the catalog and **all** graduate programs for teachers and school service personnel listed in the current **Graduate School Bulletin**, including those offered at the master's, sixth-year, and doctoral levels.

This **full** accreditation means that graduates of this institution's teacher education programs are eligible not only for appropriate certification to teach in New Mexico, but also for comparable certification (same level and/or same sub-

* Details of these regulations are available at the Office of the Dean, College of Education.

ject field) in all the 30 States of the United States which have entered voluntarily into a reciprocity agreement based upon NCATE accreditation of institutional programs.

The University is also an active member of the American Association of Colleges for Teacher Education.

UNDERGRADUATE PROGRAMS

All the University of New Mexico undergraduate programs accredited by NCATE are devoted entirely to the preparation of regular classroom teachers (elementary or secondary) and of teachers in special areas (i.e., Art Education; Health and Physical Education; Music Education; Industrial Arts; and Home Economics) who may teach in grades 1 through 12. (See curricula for all these programs in later sections of the catalog.) An undergraduate major is also offered in the field of recreation.

DEPARTMENTAL HONORS. A departmental honors program is offered in several of the departments of the College of Education. Application for participation in the program must be made during the junior year. The program may consist of any one of the following: (1) a senior thesis, (2) a reading and tutorial program under the major adviser, (3) honors in student teaching. All students permitted to enter the honors program will meet University regulations as described on p. 118. Permission of the major adviser is required for enrollment in course 497, Reading and Research in Honors.

GRADUATE PROGRAMS

MASTER'S DEGREE PROGRAMS. The College of Education offers through the Graduate School programs leading to the master's degree in the following areas of work: Art Education, Educational Administration, Elementary Education, Guidance and Counseling, Music Education, Physical Education, Recreation, Science Education, and Secondary Education. All these programs except Recreation include work in subject matter areas, as well as courses and seminars in professional education. For further information, consult the current **Graduate School Bulletin**.

SIXTH YEAR PROGRAMS. Sixth year graduate programs leading to the "Certificate of Advanced Graduate Study" are available in the areas of 1) Educational Administration, and 2) Guidance and Counseling. Consult the Department of Educational and Administrative Services for details of these programs.

DOCTOR'S DEGREE PROGRAMS. The College of Education offers through the Graduate School two doctoral programs in Education: one leading to the degree, Doctor of Philosophy; and the other leading to the degree, Doctor of Education. Both these degree programs include work in professional education and subject-matter areas outside professional education. Persons pursuing either of these degrees must complete a concentration of work in one of the following areas of study: (1) Foundations of Education; (2) Administration and Supervision; (3) Curriculum and Instruction; and (4) Pupil Personnel Services. Consult the current **Graduate School Bulletin** for details of these programs.

TEACHER EDUCATION AT THE UNIVERSITY OF NEW MEXICO

As stated in an earlier section of this catalog, teacher education at The University of New Mexico is viewed as a broad, institutional responsibility. In an effort to marshall all relevant resources of the University to the support of teacher education programs on this campus, the College of Education, the College of Arts and Sciences, and the College of Fine Arts have agreed upon and now support the following principles, procedures, and requirements with respect to undergraduate teacher education programs offered by the University.

Principles

1. Every University of New Mexico student, irrespective of the college in which enrolled, who expects to teach in an elementary or secondary school after receiving the bachelor's degree at this institution is required to submit formal application for admission to the teacher education program he wishes to pursue. Admission to such a program is separate from: (1) admission to the University; and (2) admission to a degree-granting college.

2. There shall be at this institution **only one approved** preparation program leading to **any one teaching** objective. (This principle does not preclude flexibility and elective possibilities in a program.)

3. All University of New Mexico students requesting admission to a particular teacher education program shall be subject to the same admission requirements, irrespective of the college in which enrolled.

4. **Every** teacher education program at the University shall include at least: 48 semester hours of general (liberal) education; 50 semester hours of subject-matter specialization (subject area or areas in which the person expects to teach); and 24 semester hours of professional education.*

5. All colleges and departments concerned with the preparation of teachers will cooperate in every way possible in carrying out the six steps listed below.

- 1) Admission to teacher education
- 2) Identification of majors and minors
- 3) Advisement of students
- 4) Recommendation for student teaching assignment
- 5) Supervision of student teaching
- 6) Recommendation for teacher certification

Requirements for Admission to Teacher Education Programs

1. Eligibility for admission to a degree-granting college from University College:

- 1) Twenty-six hours of earned credit
- 2) (a) A scholarship index of at least 2.0 on all hours attempted;

or

(b) A scholarship index of at least 2.0 on all hours attempted in the

* Some work may count for both general education and subject-matter specialization.

previous two semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous two semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.

- 3) Completion of the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score, or a grade of C or better in English 010, a non-credit course offered by the Department of English.
2. Evidence of satisfactory speech patterns
3. Satisfactory performance¹ on:
 - 1) Academic aptitude test (SCAT or ACE)
 - 2) Personality inventory administered by the Counseling and Testing Service of the University
 - 3) Selected achievement tests in appropriate subject areas.
4. Evidence of ability to write coherently, clearly, and effectively. (Includes minimum levels in legibility, correctness of spelling and grammar, effectiveness of thought.)
5. Absence of obvious physical conditions which might interfere materially with one's performance as a classroom teacher.

Procedures for Admission to Teacher Education

1. As soon as possible after a student has met requirements for admission to a degree-granting college and has decided to become a teacher, and **not later** than the semester in which he takes his first **professional** course, the student shall make formal application for admission to teacher education. Forms for this purpose may be obtained at the Screening Session to be held once each semester at a time and place to be designated and widely publicized well in advance of each session by the Dean of the College of Education.

2. Attendance at the Screening Session mentioned in # 1 above is mandatory. Applicants must also take and pass successfully all tests administered at this session.

3. Any student making formal application for admission to a teacher education program **after the first semester of his junior year**, may be required to spend one or more **additional** semesters beyond the usual 4-year period, in order to complete the desired program.

4. Students transferring from other colleges or universities or students in the University College wishing to pursue any of the preparation programs listed below must enroll in the College of Education as soon as eligible. These programs are available only through the College of Education: a) Elementary Education; b) Health and Physical Education; c) Home Economics; d) Industrial Arts; e) Recrea-

1. "Satisfactory performance" details available in the Office of the Dean, College of Education.

tion*; f) Composite in Science (Secondary Level); g) Composite in Social Sciences (Secondary Level); h) Composite in Communication Arts (Secondary Level).

5. Persons wishing to pursue either the Art Education Curriculum or the Music Education Curriculum may enroll in either the College of Education or the College of Fine Arts, inasmuch as these two programs are jointly offered by these two colleges.

6. Persons wishing to pursue the Business Education Curriculum may enroll in either the College of Education or the College of Business Administration.

7. All students expecting to complete teaching majors in general subject areas usually found in the secondary school curriculum (e.g. English, Mathematics, History, Biology, Chemistry, Physics, Foreign Languages, Government, and Speech) and wishing to be recommended and certified to teach in one or more of these areas at the junior or senior high school level may enroll in either the College of Education or the College of Arts and Sciences.

TRANSFER STUDENTS

All students transferring from another college or university and wishing to pursue a teacher education program at this University are subject to all requirements for admission to these teacher education programs. They may be **enrolled conditionally for only one semester or summer session** in the College of Education, during which time they must complete all the requirements referred to above. Any such transfer student **not completing these requirements** during the first semester or summer session at this University **shall be declared ineligible for further enrollment in teacher education programs.**

MAXIMUM NUMBER OF HOURS

No student in the College of Education may enroll for more than 17 semester hours during a regular semester or 8 semester hours during a summer session, plus 1 hour of physical education (or military drill in the case of NROTC and AFROTC students), unless his standing for the previous semester was at least B in two thirds of his studies, with no grade below C; and then only by presenting a written petition to the chairman of his department, who may, at his discretion, grant permission to enroll for extra hours, not to exceed 21 including physical education.

PROFESSIONAL LABORATORY EXPERIENCES

All degree programs offered through the College of Education include organized and sequential experiences with children and youth. These required experiences (usually referred to as professional laboratory experiences) include directed observation of pupils at work and at play, guided participation with groups of children, and, finally, the formal student teaching assignment.

OBSERVATION AND PARTICIPATION. Selected elementary and secondary schools in the Albuquerque Public Schools, other nearby school systems, and selected community agencies, are used for observation and participation with children and youth in their work and play activities. These pre-student-teaching experi-

* Not a teacher education program. Consult Department of Health, Physical Education, and Recreation for specific details.

ences are carefully planned and directed cooperatively by University faculty members and representatives of the cooperating school systems and agencies.

STUDENT TEACHING. The student teaching assignment, usually occurring in the senior year, is the culminating experience of the entire undergraduate preparation program, and is considered one of the most important prerequisites to graduation and certification for teaching. Because of the importance of this experience, specific requirements are set up for admission to student teaching. Every student must complete these requirements **before** his admission to student teaching, and it is recommended, therefore, that he read and thoroughly understand them **before** he makes formal application for a student teaching assignment.

Requirements for Admission to Student Teaching

For admission into student teaching the student must have:

1. Been regularly admitted and be in good standing in the college in which enrolled **at the time** of application. This requirement means specifically that the English Proficiency examination must have been passed and that the student is not on probation at the time of application. Also, any stipulations indicated at time of admission to program must have been removed.
2. Registered with the University supervisor of student teaching (elementary or secondary) the spring before the actual student teaching begins.
3. Passed a physical examination, including a chest X-ray, as required of regular school teachers. Evidence of the examination and its findings, completed within three months of the date of application, must be filed with the Director of Professional Laboratory Experiences (Secondary Education) or the Chairman of the Department (Elementary) at the time application is made.
4. Achieved a general grade-point average of at least 2.00 (C) in all courses attempted at The University of New Mexico. Graduate students must also meet these requirements and maintain a 3.0 grade point average.
5. Achieved a grade point average of at least 2.3 in all courses attempted in the major teaching area. Some departments may and do require a higher grade-point average.
6. Completed Speech 255 satisfactorily and/or passed a speech proficiency test for prospective teachers administered by the Department of Speech.
7. Demonstrated proficiency in English usage. If any staff member in the University has reported a deficiency in the use of written English (including spelling and grammatical usage), the student will also be required to pass successfully a special written examination prepared and scored by at least three members of the College of Education department involved (Secondary or Elementary).
8. Completed satisfactorily all prerequisites for student teaching listed in the current University catalog.
9. Planned a total semester schedule of no more than 15 hours of course work, including student teaching. A course load of 12 hours is highly recommended. Elementary student teachers must be available between 8:30 a.m. and 12 noon daily and secondary student teachers must have a block of three hours daily (between 8:00 a.m. and 3:00 p.m.) clear for assignment in the schools.

10. Arranged his schedule in order to be available to start an assignment in the fall when public school students report for the fall semester (usually late August or early September). Students should register for student teaching in the spring and carefully check starting dates with an adviser.

11. Filed an application for degree in the office of the dean of the college.

Each Elementary Student Teacher Must Also Have:

1. Completed at least one semester or one summer session in residence study, including at least one course in the Department of Elementary Education.

2. Passed a proficiency examination in preparing typed, duplicated materials for use with an elementary school class. Specific requirements are available in the Department of Elementary Education.

3. Demonstrated proficiency in handwriting—both cursive and manuscript styles—both on paper and on the chalkboard. Acceptable standards of legibility and form will be required.

4. Demonstrated ability to thread, run, and rewind a filmstrip and a motion picture projector, when both machines are functioning properly.

Each Secondary School Teacher Must Also Have:

1. Submitted recommendations from three faculty members indicating that the student is believed ready for student teaching.

2. Completed a major portion of work in his teaching major and minor.

The student teaching assignment is carried on under the personal direction of selected teachers in the cooperating school systems and professors from the University.

These experienced and competent supervisors and the excellent facilities of the nearby elementary and secondary schools provide a splendid opportunity for University students to work in a practical laboratory situation, in which the principles of good teaching can be studied, observed, and applied. Furthermore, this student teaching experience is closely correlated with campus courses and seminars included in the students' programs.

COOPERATING TEACHERS

The University of New Mexico is deeply indebted to the cooperating teachers in the Albuquerque and nearby school systems who help to supervise the student teachers during their assignments for the actual classroom experience.

These carefully selected teachers who work closely with the University faculty representatives in planning and carrying out these practical experiences for the student teachers are in every sense of the word temporary members of the University faculty, and are, therefore, accorded some of the privileges extended to the permanent faculty members. It is hoped that these privileges may be extended as the cooperation between the University and nearby school systems is increased. The names of the cooperating teachers are listed each year in the **Student Teaching Handbook**, published and distributed by the University.

LABORATORIES

LEARNING MATERIALS CENTER. (Located in the College of Education Center.) Students pursuing undergraduate and graduate programs may make use of the Learning Materials Center which includes samples of all textbooks used in New Mexico elementary and secondary schools, courses of study, curriculum guides, manipulative materials used in the teaching of mathematics and science, globes, charts, tests, and other miscellaneous materials. There are also study and work spaces where the students may examine published materials and construct equipment and materials for use in teaching.

LABORATORY IN BUSINESS EDUCATION. (Located in the College of Business Administration.) A laboratory in business education is now available for those who are preparing to teach in that field.

INDUSTRIAL ARTS LABORATORIES. (Located in the College of Education Center.) Industrial arts laboratories are maintained for the use of students in various IA courses in woodworking, sheet metal, and machine shop.

SCHOOL PLANT PLANNING LABORATORY. (Located in College of Education Center.)

DATA PROCESSING LABORATORY. (Located in College of Education Center.)

EDUCATION PLACEMENT

Education placement is a function of the Placement Bureau of the University. See p. 103 for description of services.

SCHOLASTIC REGULATIONS

See pp. 111-112.

REQUIREMENTS FOR GRADUATION

Upon the completion of all specified requirements, including approval by the general faculty of the University, candidates for degrees in the College of Education who major in business education, elementary education, home economics, mathematics, or a science, receive the degree of Bachelor of Science in Education; those who major in health and physical education receive the degree of Bachelor of Science in Health and Physical Education; those who major in recreation receive the degree of Bachelor of Arts in Recreation; those who major in industrial arts receive the degree of Bachelor of Science in Industrial Arts Education; and those who major in other subjects receive the degree of Bachelor of Arts in Education.

Candidates for degrees in the College of Education are required to comply with the following regulations:

1. All students must complete an application for degree during the last semester of their junior year. Application can be obtained from office of the Dean.
2. Students who plan to be secondary school teachers should complete a teaching major and a teaching minor in subjects usually taught in secondary schools. See description of programs in Secondary Education for details.
3. Each student should follow the prescribed curriculum which leads to the

desired degree. A minimum of 124 semester hours plus physical education (or equivalent NROTC or AFROTC credits) is required for graduation. Every student must have at least a 2.0 grade-point average on the 124 semester hours being counted toward graduation, and at least a 2.0 grade-point average on all work attempted at The University of New Mexico.

4. In addition to the required work in general education and in teaching majors and minors, professional courses in education are required as outlined in the various curricula. All candidates for degrees are required to take a core of three courses in professional education¹ plus a course (6-9 sem. hrs.) in student teaching (Elem Ed 400 or Sec Ed 461 or 462).

5. Students who plan to teach in the elementary schools are required to have a major or a minor of at least 24 sem. hrs. in a subject area. They will be expected to follow the curriculum as outlined on p. 159.

6. Each candidate for a degree must complete at least 40 semester hours in courses numbered 300 or above.

7. All students in the College of Education are required to pass the English Proficiency Examination (administered by The University of New Mexico) or earn a grade of C or better in English 010, a non-credit course offered by the Department of English. No student shall be recommended for graduation unless he shows ability to write and speak clear and correct English.

8. Every candidate for graduation must take Graduate Record Examination. (See p. 116.) Any person wishing to take the National Teacher Examination in addition to the Graduate Record Examination may do so at his own expense.

9. For minimum residence requirements, see pp. 115-116.

10. No more than 5 semester hours of credit earned in workshops may be used toward any bachelor's degree. (See Education 429 listed with each of the departmental offerings.) For workshop restrictions related to graduate degrees, see current **Graduate School Bulletin**.

GENERAL (LIBERAL) EDUCATION REQUIREMENTS

All prospective teachers should be broadly educated as a foundation for a successful professional career. It is required, therefore, that each UNM student expecting to teach include in his preparation program a minimum of 48 semester hours of general education. Students enrolled in the College of Fine Arts or in the College of Arts and Sciences should consult the Dean of the College of Education about any problem in this connection. The College of Education requires **all** its graduates to complete the general education requirements as follows. Minimum requirements in items # 1, 2, 3, 4, 5, and 8 below **must** be met. Others are optional, but a total of 52 sem. hrs. is required.

Semester
hours

1. **Humanities and Social Science.** The following fields are accepted in this area: anthropology, economics, geography, government and citizenship, history, literature, philosophy, and

1. Educational Foundations 290, 300, and 310.

- sociology. At least one course in literature and work in two other areas are required.
2. **Behavioral Science.** A course in General Psychology is required. 3-6
 3. **Biological and/or Physical Science.** At least 8 hours in laboratory sciences are required. Work acceptable for meeting this requirement is offered in the following departments: Biology, Chemistry, Geology, Physics, or Astronomy. 8-12
 4. **Communicative Arts.** English 101 and 102 and a course in speech are required. 9-15
 5. **Fine and Practical Arts.** Work in art, art education, industrial arts, music, architecture, music education, creative dance, dramatic art, business education, and home economics may be taken to meet this requirement. At least one course in history or appreciation is required. 6-12
 6. **Mathematics.** 3-6
 7. **Foreign Language.** Two semesters of a language are required if this area is represented. 6
 8. **Health, Physical Education, and Recreation.** 4 semesters of activity physical education are required. An additional 4 semester hours of work in other than activity courses may be included. 4-8

Total required. . . . 52 sem. hrs.

PROFESSIONAL EDUCATION REQUIREMENTS

All students pursuing teacher education curricula must complete the three professional education courses listed below:

1. **Foundations of Education 290:** Foundations of Education
2. **Foundations of Education 300:** Human Growth and Development
3. **Foundations of Education 310:** Learning and the Classroom*

CURRICULA

Curricula are outlined on the following pages under the respective departments for the purpose of directing students in their chosen fields of work. There are curricula for students preparing to teach in secondary schools and for students who wish to teach in the elementary schools.

Special curricula are provided for students preparing to teach art, music, physical education, home economics, business subjects, or industrial arts in elementary or secondary schools.

NROTC and AFROTC students may substitute required military science courses for courses in required Physical Education. The courses in military science may also be substituted for certain courses in several of the curricula when approved by the appropriate department chairman.

Descriptions of the courses offered will be found, listed by departments, in the catalog section "Courses of Instruction."

* Or approved substitute.

ART EDUCATION

MAJOR STUDY (TEACHER CERTIFICATION FOR ART AND PROVISIONAL SECONDARY CERTIFICATES)

A student may enroll in either the College of Education or the College of Fine Arts and satisfy requirements for teacher certification at the secondary level.

The candidate for the B.A. in Education must complete at least 40 semester hours in courses numbered 300 or above.

The following curriculum prepares the student to teach art and a second subject area in grades 7-12. The successful completion of this curriculum entitles the graduate to the Provisional Secondary Certificate endorsed for the teaching of art issued by the New Mexico Department of Education.*

CURRICULUM FOR SECONDARY TEACHERS**

Freshman Year		Second Semester	
First Semester			
Engl 101 Wrtnng w/Rdgs in Expos	3	Engl 102 Wrtnng w/Rdgs in Lit	3
†Hum & Soc Sci	3	†Hum & Soc Sci	3
†Biol & Phys Sci	4	†Biol & Phys Sci	4
Art 103 Two Dim Des	3	Art 203 Three Dim Des	3
Art 106 Begin Draw	3	Art, Studio	3
PE Activity	1	PE Activity	1
	17		17
Sophomore Year			
Lit	3	Spch 255 Pub Spkg	3
†Hum & Soc Sci	3	Ed Fdns 290 Fdns of Ed	3
Gen Elective	3	Psy 251 Gen	3
Art Ed 210 Creat Art in Sec Sch	3	Art Ed 211 Creat Art in Sec Sch	3
Art 271 Intro Hist Anc & Mod Art	3	Art 272 Hist Ren, Baroq, & Mod Art	3
PE Activity	1	PE Activity	1
	16		16
Junior Year			
Ed Fdns 300 Hum Grwth & Dev	3	Ed Fdns 310 Learn & Classrm	3
Sec Ed 301 Fdns of	3	Art Ed 320 Pre-Tchg Exp in Art	3
Art Ed 434 Tchg Art in Sec Sch	3	Art, Studio	6
Art, Studio	6	Art Electives (above 300)	2
Art Electives	2	‡Gen Electives	3
	17		17
Senior Year			
Ed Fdns 415 Philos of Ed	3	††Sec Ed 461 Student Tchg	6
Art Electives (above 300)	7	‡Gen Electives (above 300)	6
‡Gen Electives	6		
	16		12

MINOR STUDY IN ART EDUCATION

Elementary Education students: Art 103, 106, 203, and 271 or 272; Art Education 110, 115, 400, and 320. Secondary Education students: same as above except that Art Education 210 and 211 must be substituted for Art Education 110 and 115.

* Students wishing to qualify for a special certificate endorsed for the teaching of art in Grades 1-12 must include in the curriculum above Art Education 400 and Elementary Education 400 (3 cr). Electives may be used to meet this requirement. In the case of a student desiring 1-12 certification in art no minor is required.

** Students enrolled in College of Fine Arts must meet group requirements listed on p. 183.

† Choose from General Education requirement of College of Education, pp. 155-156.

‡ Electives are to be used to meet departmental minor requirements. A minor may be selected from approved list shown on p. 166.

†† Student teaching may be divided between the 2 semesters of the senior year.

BUSINESS EDUCATION**SECRETARIAL CURRICULUM**

(Leading to the degree of Bachelor of Science in Education.)

Freshman Year		Sophomore Year	
Engl 101 Wrting w/Rdgs in Expos	3	English (Literature)	3
Engl 102 Wrting w/Rdgs in Lit	3	Spch 255 Pub Spkg	3
*Laboratory Science	8	Ed Fdns 290 Founda of Ed	3
*Soc Sci	3	Bus Ad 262 Adv Typ	3
Bus Ad 112 Intern Typ	3	Econ 200 Prin of	3
Math 111 Arith El Sch Tchrs	3	†Bus Ad 105, 106 Prin of Acctg	6
Fine Arts Elective	3	Psy 251 Gen	3
Bus Ad 117 Office Mach & Filing	2	‡Bus Ad 113 Shorth Theory	3
PE Activity	2	‡Bus Ad 114 Begin Dictation	3
Bus Ad 101L Data Processing	3	PE Activity	2
	<u>33</u>		<u>32</u>
Junior Year		Senior Year	
Bus Ad 253 Transcription	3	Fine or Practical Arts (not Bus Ed)	3
Bus Ad 254 Speed Dicta	3	Bus Ad 357 Sec Office Proc	3
Econ 330 Consumer Ec	3	Sec Ed 310 Mater & Meth of Tchg	3
Ed Fdns 300 Hum Grwth & Dev	3	Sec Ed 461 Stu Tchg (in 2 subjects)	6
Bus Ad 306-307 Business Law	6	Ed Fdns 310 Learn & Classrm	3
Bus Ad 265 Bus Commun	3	Electives & Minor	10-12
Sec Ed 301 Founda of	3		
Electives & Minor	3		
Sec Ed 439 Tchg of Bus Subjs	3		
	<u>30</u>		<u>28-30</u>

GENERAL BUSINESS CURRICULUM

(Leading to the degree of Bachelor of Science in Education.)

Freshman Year		Sophomore Year	
Engl 101 Wrting w/Rdgs in Expos	3	English (Literature)	3
Engl 102 Wrting w/Rdgs in Lit	3	Spch 255 Pub Spkg	3
*Laboratory Science	8	Econ 200, 201 Prin of	6
Fine Arts Elective	3	††Bus Ad 289 Statistical Anal	3
*Soc Sci	3	Psy 251 Gen	3
Math 121	4	†Bus Ad 105, 106 Prin of Acctg	6
Electives or Minor	3	Ed Fdns 290 Founda of Ed	3
Bus Ad 101L Data Processing	3	Elective or Minor	3
PE Activity	2	PE Activity	2
	<u>32</u>		<u>32</u>
Junior Year		Senior Year	
Sec Ed 301 Founda of	3	Sec Ed 461 Student Tchg	6
Bus Ad 306-307 Bus Law	6	§Ed Electives	3
Ed Fdns 300 Hum Grwth & Dev	3	Bus Ad 310 Corp Finance	3
Bus Ad 265 Bus Commun	3	Bus Ad 330 Org Theory	3
Bus Ad 315 Money & Banking	3	Electives or Minor	9
Bus Ad 308 Prin of Mktg	3	Bus Ad Elective	3
Sec Ed 310 Mater & Meths of Tchg	3	Ed Fdns 310 Learn & Classrm	3
Electives or Minor	3		
Fine or Practical Arts	3		
	<u>30</u>		<u>30</u>

§ As approved by the Chairman of the Department of Secondary Education.

* Choose from General Education requirements listed on pp. 155-156.

† Business Ad 105 is open to freshmen who are eligible to enroll in, or have completed, Mathematics 121.

‡ Certain elementary courses may be waived on the basis of a placement test if the student has had shorthand in high school, but 6 hours of credit must be earned in shorthand and 6 in typewriting.

†† Prerequisite: Mathematics 121.

Majors in either the Secretarial or the General Business curriculum must earn a minor of 18 hours outside the field of business. A minor in Economics is suggested.

MINOR STUDY IN BUSINESS EDUCATION (SECRETARIAL)

BA 105 and 106, and 15 additional hours in secretarial Business Administration courses.

MINOR STUDY IN BUSINESS EDUCATION (GENERAL BUSINESS)

BA 105 and 106, and 15 additional hours in Business Administration general business courses and in Economics courses.

EDUCATIONAL AND ADMINISTRATIVE SERVICES

See pp. 255-258 for course descriptions, and the **Graduate Bulletin** for detailed descriptions of master's and doctoral programs.

ELEMENTARY EDUCATION

CURRICULUM FOR STUDENTS PREPARING TO TEACH IN ELEMENTARY SCHOOLS

Freshman Year		Sophomore Year	
Engl 101 Wrting w/Rdgs in Expos	3	Hist 261, 262 US	6
Engl 102 Wrting w/Rdgs in Lit	3	Phys Sci 261 Intro or Geol 101 Physical	3
Biol 101L, 102L Gen	8	Phys Sci 262 Intro or Geol 102 Historical	3
Soc 101 or Econ 100 Intro	3	Math 212 Struc of Arith	3
Math 111 Arith El Sch Tchrs	3	Psy 251 Gen	3
Art Ed 110 Creat Art in El Sch	3	Mus Ed 293 Prim Sch Mus	2
Art Ed 115 Creat Craft in El Sch	3	Mus Ed 294 Interm Sch Mus	2
PE Activity	2	Ed Fdns 290 Founda of Ed	3
§Electives	6	PE Activity	2
		§Electives	6
	34		33
Junior Year		Senior Year	
Geog 102 Gen	3	El Ed 400 Student Tchg in El Sch	9
Spch 255T Pub Spkg	3	El Ed 441 Child Lit	2
Ed Fdns 300 Hum Grwth & Dev	3	Govt 303 Probs of Democracy	3
Ed Fdns 310 Learn & Classrm	3	Literature elective	3
El Ed 319 PE in El Sch	2	H Ed 171 Personal & Comm Hlth	3
El Ed 321 Soc Studies in El Sch	2	§Electives	9
El Ed 331 Reading in El Sch	3		
El Ed 333 Tchg Oral-Wrtn Engl	2		
El Ed 353 Science in El Sch	3		
El Ed 361 Arith in El Sch	2		
§Electives	6		
	32		29

§ Students must use these hours toward a minor of at least 24 sem. hrs. in a subject area approved by the Department of Elementary Education. Students wishing to complete both a major in elementary education and a second major in another field should consult both departments concerned. Students wishing to work with mentally retarded children will complete a minor in Psychology, including Psych 260, 313, 314; and El Ed 435, 471, and 473 plus an additional 3 hrs. of El Ed 400 with mentally retarded children.

HEALTH, PHYSICAL EDUCATION, & RECREATION**MAJOR STUDY IN HEALTH AND PHYSICAL EDUCATION FOR MEN**

(Leading to the degree of Bachelor of Science in Health and Physical Education.)

Freshman Year	
First Semester	Second Semester
Engl 101 Wrting w/Rdgs in Expos	Engl 102 Wrting w/Rdgs in Lit
†Soc Sci	†Soc Sci
H Ed 164 First Aid	H Ed 171 Pers & Commun Hlth
PE 161 Th & Prac of Bsktbl	PE 162 Th & Prac of Football
PE 160 Phys Fitness Prog	PE 163 Swim
Fine Arts Elective	Elective
PE Activity	PE Activity
1	1
15-16	17
Sophomore Year	
Engl (Literature)	Spch 255 Pub Spkg
†Soc Sci	†Soc Sci
Biol 112L Gen Zool	Biol 136 and 139L Hum Anat & Phys & Lab
Psy 251 Gen	PE 203 Combatives
PE 201 Gymnastics	PE 204 Th & Prac of Tr & Fld
PE 202 Th & Prac of Baseball	PE Activity
PE Activity	
1	
18	16
Junior Year	
Biol 326L Phys of Exercise	Ed Fdns 290 Founda of Ed
Elective	PE 373 Treat of Athl Injuries
Recrea 301 Recrea Sports	PE 397 Kinesiology
PE 319 PE in El Sch	PE 399 Org & Adm of PE
H Ed 370 Tchg Hlth Ed in Schs	Electives
PE 398 Prin of	
3	5
16	17
Senior Year	
Ed Fdns 300 Hum Growth & Dev	*El Ed 400 Stu Tchg in El Schs
Sec Ed 461 Stu Tchg	or Sec Ed 462 in Sec Schs
H Ed 401 Gen Safety Ed	Recrea 452 Org of Sports Progs
PE Elective	H Ed 410 Adm of a Sch Hlth Prog
PE 461 Adapt & Corr PE	Ed Fdns 310 Learn & Classrm
	Elective
	3-4
15-18	15-16

MINOR STUDY IN ATHLETIC COACHING FOR MEN

PE 203 Combatives	2	PE 161 Th & Prac of Bskball	2
PE 162 Th & Prac of Football	2	PE 202 Th & Prac of Baseball	2
PE 204 Th & Prac of Tr & Fld	2	PE 397 Kinesiology	4
PE 373 Treat of Ath Injuries	2	Recrea 452 Org of Sports Progs	3
PE 398 Prin of	3		24
PE 160 Phys Fitness Prog	2		

MINOR STUDY IN PHYSICAL EDUCATION FOR MEN

H Ed 171 Pers & Commun Hlth	3	Recrea 301 Recrea Sports	2
PE 163 Swimming	2	PE 399 Org & Adm of	3
H Ed 164 First Aid	2	PE 397 Kinesiology	4
PE 201 Gymnastics	2	PE 398 Prin of	3
PE 160 Phys Fitness Prog	2		25
PE 203 Combatives	2		

* Students wishing to be certified on kindergarten through 12 basis must take El Ed 400 (P.E.). For certification at the secondary level, only Sec Ed 461 is required.

† Choose from General Education requirement listed on p. 155.

MAJOR STUDY IN HEALTH AND PHYSICAL EDUCATION FOR WOMEN

This curriculum leading to a degree of Bachelor of Science in Health and Physical Education is designed to prepare the student to teach health and physical education in the schools, to supervise physical education in the elementary schools, and to serve as the health coordinator in a school system.

First Semester		Freshman Year	Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3		Engl 102 Wrting w/Rdgs in Lit	3
†Soc Sci	3		†Soc Sci	3
Art	3		Biol 136 & 139L Hum Anat & Phys & Lab	5
Biol 112L Gen Zool	4		PE 152 Team Sports	1
PE 151 Body Mech & Self-Test Activ	1		H Ed 171 Per & Commun Hlth	3
PE Activity	1		PE Activity	1
	<u>14</u>	<u>+ 1</u>		<u>15</u>
				<u>+ 1</u>
		Sophomore Year		
English (Literature)	3		Math or Science	3
†Soc Sci	3		Spch 255 Pub Spkg	3
Psy 251 Gen	3		†Soc Sci	3
H Ed 164 First Aid	2		PE 211 Indiv & Dual Sports	1
PE 210 Folk Dance	1		PE 345 Prof Lab Exp	1
PE Activity	1		PE Activity	1
Electives	3		Electives	5-6
	<u>15</u>	<u>+ 1</u>		<u>16-17</u>
				<u>+ 1</u>
		Junior Year		
Biol 326L Phys of Exercise	3		PE 319 PE in the El Sch	2
PE 307 Team Sports in Sec Sch	2		Ed Fdns 300 Hum Grwth & Dev	3
PE 360 Officia in Sports or			PE 397 Kinesiology	4
366 Tchg of Contemp Dance	2		PE 308 Indiv & Dual Sports in Sec Sch	2
H Ed 370 Tchg of Hlth Ed in Schs	3		PE 310 Folk Dance in Sch Prog	2
PE 345 Prof Lab Exp	1		PE 444 Tchg PE in Sec Schs	3
Ed Fdns 290 Founda of Ed	3			
Recrea 452 Org of Sports Progs	3			
	<u>17</u>			<u>16</u>
		Senior Year		
Ed Fdns 310 Learn & Classrm	3		Sec Ed 461 Stu Tchg in Sec Sch	6
PE 345 Prof Lab Exp	1		PE 399 Org & Adm of PE	3
PE 461 Adapt & Corr PE	3		H Ed 410 Adm of a Sch Hlth Prog	3
El Ed 400 (PE)* Stu Tchg in El Schs	3		H Ed 401 Gen Safety Ed	3
PE 345 Prof Lab Exp	1			
PE 398 Prin of	3			
PE 309 Aqua and Gymst	2			
	<u>16</u>			<u>15</u>

MINOR STUDY IN PHYSICAL EDUCATION FOR WOMEN

This minor is designed to prepare students to teach physical education in the elementary or secondary schools.

PE 151, 152, 210, 211	3	PE 398 Prin of	3
H Ed 164 First Aid	2	PE 399 Org & Ad of PE or 319 PE in	
PE 345 Prof Lab Exp in H PE & R	2	Elem Sch	3 or 2
PE 310 Folk Dance and PE 309 Aqua &		PE Electives	5-6
Gymst	4		<u>24-26</u>
Recrea 452 Org of Sports Progs	3		

* Students wishing to be certified from kindergarten through 12 basis must take El Ed 400 (P.E.).
For certification at the secondary level, only Sec Ed 461 is required.

† Choose from General Education requirement listed on p. 155.

MINOR STUDY IN HEALTH EDUCATION

This minor in Health Education is designed to prepare the student to teach health education and to serve as a health coordinator.

H Ed 171 Per & Com Hlth	3	H Ed 164 First Aid	2
H Ed 370 Tchg of Hlth Ed in Schs	3	H Ed 410 Adm of a Sch Hlth Prog	3
Home Ec 325 Nutrition	3	Electives	3
H Ed 401 Gen Safety Ed	3		<u>20.</u>

MAJOR STUDY IN RECREATION

(Leading to the degree of Bachelor of Arts in Recreation.)

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrtnng w/Rdgs in Expos	3	Engl 102 Wrtnng w/Rdgs in Lit	3
†Soc Sci	3	†Soc Sci	3
Art, Art Ed, or IA	3	†Nat Sci	4
†Nat Sci	4	Art, Art Ed, or IA	3
PE Activity	1	PE Activity	1
Elective	3	Elective	3
	<u>17</u>		<u>17</u>
Sophomore Year			
Engl (Literature)	3	Spch 255 Pub Spkg	3
†Nat Sci	3	Psy 260 Psy of Adjust	3
Mus 295 Mus in Recrea	2	†Soc Sci	3
†Soc Sci	3	Mus 296 Mus in Recrea	2
Psy 251 Gen	3	Recrea 290 Social Recreation	2
H Ed 164 First Aid	2	PE Activity	1
PE Activity	1	Elective	2-3
	<u>17</u>		<u>16-17</u>
Junior Year			
Recrea 303 Prin of Recrea	3	Recrea 331 Prin & Prac of Camp	3
Sociology Elective	3	Ed Fdns 300 Hum Grwth & Dev	3
DA Elective	3	Recrea 301 Recrea Sports or PE 308	
PE 160 Phys Fitness Progs	2	Indiv & Dual Sports in Sec Sch	2-3
PE 163 Swim or 360 Officia in Sports	2	Recrea 374 Org of Commun Recrea	3
Elective	3	PE 201 Gymnastics or Elec	2-3
	<u>16-17</u>	Elective	2
			<u>15-17</u>
Senior Year			
Recrea 475 or 476 Fld Wk in Recrea	3	Recrea 475 or 476 Fld Wk in Recrea	3
Psy 301 Social Psy	3	Gov (City, State, Nat'l)	3
Recrea 452 Org of Sports Progs	3	Sociology Elective	3
Electives	7	Recrea 478 Outdoor Recrea	3
	<u>16</u>	Electives	4
			<u>16</u>
MINOR STUDY IN RECREATION			
Recrea 290 Social Recrea	2	Choice of any 3 of the following areas with no fewer than 2 courses in one area:	
Recrea 303 Prin of Recrea	3		
Recrea 374 Org of Commun Recrea	3	Arts and Crafts	6
Recrea Electives (331, 351, 475, 477, 478)	5-6	Dramatics	
		Music	
		Sports and Dance	
			<u>19-20</u>

HOME ECONOMICS

MAJOR STUDY

See curriculum. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 265.

† Choose from General Education requirement listed on pp. 155-156.

For a combined major in Home Economics Education and Dietetics, an additional semester of courses is required plus those listed in the "Curriculum for Students Preparing To Teach Home Economics".**

MINOR STUDY

A total of 24 or 25 hours, at least 9 hours numbered above 300, chosen from the following 4 areas and from the following courses:

1. Family Relations and Child Development, 6-7 hours: H.E. 102L, 408L, 418.
2. Clothing and Textiles, 6 hours: H. E. 150L, 252, 254L, 456L.
3. Foods and Nutrition, 6 hours: H. E. 120L, 222L, 325.
4. Housing, House Furnishings, Home Management and Health, 5-6 hours: H. E. 240, 341, 443.

Any substitutions must be approved by the Chairman of the Department.

CURRICULUM FOR STUDENTS PREPARING TO TEACH HOME ECONOMICS

This curriculum leading to a degree of Bachelor of Science in Education with a major in Home Economics is designed to prepare the student to teach home economics in the junior and the senior high school, for a career in home economics in business, as well as for the role of a homemaker. The curriculum for students preparing to teach home economics is approved by the State Department of Vocational Education for the training of teachers of home economics who desire to teach in the federally-aided schools of the state. Such students must do their student teaching in reimbursed home economics departments and may have to go out of the Albuquerque area to do this for a period of about 6 weeks. Costs for such assignments are to be assumed by students.

At least 36 hours of home economics subject-matter for a major and 18 hours in a teaching minor are required for a four-year provisional vocational home economics certificate or a four-year provisional secondary certificate in New Mexico.

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrtn g w/Rdgs in Expos	3	Engl 102 Wrtn g w/Rdgs in Lit	3
Art Ed 130 Tech of Design Ed	3	Biol 136 Human Anat & Physiol	3
†H Ec 150L Cloth Selec & Constr	3	Art Ed 131 Tech of Design Ed	3
H Ec 102L Infant Growth & Dev	3	H Ec 120L Food and Nutrition	3
*Soc Sci	3	*Soc Sci	3
PE Activity	1	PE Activity	1
	<hr/> 16		<hr/> 16
Sophomore Year			
Chem 141L Elem of Gen Chem	4	Chem 142L Elem of Org Chem	4
Psy 251 Gen	3	Spch 255 Pub Spkg	3
H Ec 222L Food and Nutrition	3	H Ec 240 Pers & Fam Hlth	2
H Ec 254L Tailoring	3	H Ec 252 Textiles	3
Elective	3	Ed Fdns 290 Founda of Ed	3
PE Activity	1	PE Activity	1
	<hr/> 17		<hr/> 16

* Choose from General Education requirement listed on p. 155.

† Certain beginning courses may be waived on the basis of a placement test.

** See adviser for selection of courses to meet the requirements for Plan III, Emphasis I, II, or III and Concentration A or C of the American Dietetic Association.

Junior Year			
Ed Fdns 300 Hum Grwth & Dev	3	Ec 330 Consumer Ec	3
Ed Fdns 310 Learn & Classrm	3	Sec Ed 310 Mater & Meth of Tchg	3
H Ec 341 House & Its Furn	3	H Ec 418 Family Relations	3
H Ec 431L Exper Foods	3	Eng (Lit)	3
*Soc Sci	3	Electives	5
	<hr/> 15		<hr/> 17
Senior Year			
H Ec 408L Child Growth & Dev	4	H Ec 443 Home Mngt	3
H Ec 433L Nutri & Diet	4	H Ec 445L Home Mngt Residence	4
H Ec 456L Flat Patt Dsgn	3	H Ec 465 H Ec Seminar	2
H Ec 437 Tchg of H Ec	3	Sec Ed 461 Student Tchg	6
Electives	2		
	<hr/> 16		<hr/> 15

INDUSTRIAL ARTS EDUCATION

CURRICULUM FOR STUDENTS PREPARING TO TEACH INDUSTRIAL ARTS

(Leading to the degree of Bachelor of Science in Industrial Arts Education.)

Freshman Year		Sophomore Year	
Engl 101 Wrting w/Rdgs in Expos	3	Engl (Lit)	3
Engl 102 Wrting w/Rdgs in Lit	3	Ed Fdns 290 Founda of Ed	3
*Soc Sci	3	Spch 255 Pub Spkg	3
IA 101 Shop Computa	4	*Soc Sci	9
IA 105 Intro to IA	2	Psy 251 Gen	3
IA 110L Wood Area I	3	IA 265L Wood Area II	2
IA 120L Metal Area I	3	IA 280L Gen Elect & Electronics	3
IA 125 Design in IA	2	IA 285L Metal Area II	2
CE 111L Draft I	3	CE 201L Draft III	3
CE 112L Draft II	2	PE Activity	2
Art Ed 120-121 Tech of Craft Ed	4		
PE Activity	2		
	<hr/> 34		<hr/> 33
Junior Year		Senior Year	
*Science & Lab	8		
Ed Fdns 300 Hum Grwth & Dev	3	IA 433 Tchg of IA	3
Ed Fdns 310 Learn & Classrm	3	Ed Elective (over 300)	3
IA 386L Metal Area III	3	IA 466 Th & Org of Gen Shop	3
IA 315L Wood Area III	3	Sec Ed 461 or Elem Ed 400 Stu Tchg	3
IA 330L Power Mechanics	2	Sec Ed 462 Student Tchg	3
IA 390L Metal Area IV	3	IA 462L Wood Area V	3
IA 350L Wood Area IV	3	IA 465L Metal Area V	3
Technical Elective	3	Elective	7
CE 301L Draft IV	2		
	<hr/> 33		<hr/> 28

MUSIC EDUCATION

NASM MEMBERSHIP

The University of New Mexico is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the National Association of Schools of Music.

* Choose from General Education requirement listed on p. 155.

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC
IN GRADES 1-12 (133 hours)

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrtnng w/Rdgs in Expos	3	Engl 102 Wrtnng w/Rdgs in Lit	3
†Soc Sci	3	†Soc Sci	3
†Math or Science	4	†Math or Science	4
Mus 105 Music Theory	3	Mus 106 Music Theory	3
Applied Mus Elective	2	Applied Mus Elective	2
Ensemble Elective	1	Ensemble Elective	1
PE Activity	1	PE Activity	1
	<u>16 + 1 PE</u>		<u>16 + 1 PE</u>
Sophomore Year			
Engl (Lit)	3	Speech 255 Pub Spkg	3
†Math or Science	3	Psy 251 Gen Psych	3
Mus 265 Music Theory	3	Mus 266 Music Theory	3
Mus 263 Conducting	1	Mus 264 Choral Cond and Org	1
Applied Mus Elective	3	Applied Music Elective	3
Mus 271 Classical Period	2	Mus 272 Romantic Period	2
Ensemble Elective	1	Ensemble Elective	1
PE Activity	1	PE Activity	1
	<u>16 + 1 PE</u>		<u>16 + 1 PE</u>
Junior Year			
Ed Fdns 290 Found of Ed	3	D A 316 Theatre Prod for Tchrs	3
D A 315 Theatre Prod for Tchrs	3	El Ed 400 (Music) Student Tchg in El Sch	3
Mus Ed 293 Prim Sch Mus	2	Mus Ed 294 Mus in Interm Grades	2
Mus Ed 445 Jr High Mus	2	Mus Ed 446 Sr High Mus	2
Mus 309 Form and Comp	2	Mus 310 Form and Comp	2
Applied Mus Elective	4	Applied Mus Elective	3
Mus 313 Band Org and Cond	1	Mus 314 Orch Cond and Org	1
Ensemble Elective	1	Ensemble Elective	1
	<u>18</u>		<u>17</u>
Senior Year			
Mus 411 Contemporary Period	2	Mus 412 Baroque Period	2
Ed Fdns 300 Hum Grwth & Dev	3	Sec Ed 462 Student Tchg in Sec Sch	3
Sec Ed 461 Student Tchg in Sec Sch	3	Mus 458 Adv Instru Conducting	2
Mus 453 Instrumentation	2	Mus 463 Adv Instrumentation	2
Applied Mus Elective	4	Applied Mus Elective	3
Ensemble Elective	1	Mus Lit Elective	2
	<u>15</u>	Ensemble Elective	1
			<u>15</u>

In addition, Educational Foundations 310 should be scheduled if possible.

All students pursuing the curriculum listed above are also subject to all requirements pertaining to Music Education listed on p. 321.

MINOR IN MUSIC EDUCATION

Mus 105, 106 Music Theory	6	Mus Ed 263, 264 Cond; Choral Cond	2
Mus Apprec or Mus Hist	4-6	Mus Ed 293, 294 Prim and Interm Sch	
Music, Piano	4	Mus or 445 and 446 Jr. & Sr High Mus	4
Music, Voice	2	Ensemble	2

PHYSICAL EDUCATION

See Health, Physical Education, and Recreation, p. 160.

† Choose from General Education requirements listed on pp. 155-156. Six of 12 hours required in Social Science should be in music history. At least 6 hours of the Natural Science must be in a laboratory science as described on p. 156.

SECONDARY EDUCATION

PROGRAMS FOR TEACHERS IN SECONDARY SCHOOLS

The following curricula, leading to the degrees of Bachelor of Arts in Education and Bachelor of Science in Education, are designed for students preparing for junior and senior high school teaching. Each student should select one of these curricula no later than 4 semesters prior to his expected date of graduation. The general conditions under which students may select these curricula are to be found under "Degree Requirements" of the "General Academic Regulations."

For graduation from the College of Education in Secondary Education the candidate must have successfully completed, in conformity with the regulations prescribed for the several major and minor concentrations, not less than one departmental major concentration and one departmental minor concentration. These concentrations shall total at least 51 semester hours of credit.

Acceptable as major or minor concentrations are: Biology, Chemistry, English, French, Government and Citizenship, History, Mathematics, Physics, Spanish, and Speech. Acceptable as minor concentrations only are: Air Science or Naval Science (if the major concentration is an acceptable science), Anthropology, Art, Art Education, Astronomy, Business Administration, Dramatic Art, Economics, German, Geography, Geology, Journalism, Latin, Library Science, Portuguese, Psychology, and Sociology. All teaching minors must include at least 18 semester hours.

Students who wish to elect teaching major and minor concentrations not listed above will consult the Chairman of the Department of Secondary Education and the department concerned for information as to detailed requirements.

SPECIAL FIELDS FOR TEACHING

1. Art Education: For details see p. 157.
2. Business Education: For details see pp. 158-159.
3. Home Economics: For details see pp. 163-164.
4. Industrial Arts Education: For details see p. 164.
5. Music Education: For details see p. 165.
6. Health and Physical Education for Men: For details see p. 160.
7. Health and Physical Education for Women: For details see p. 161.
8. Health Education: Minor teaching subject only

GENERAL EDUCATION. The General Education program for students in Secondary Education is the same as that required of other undergraduate students in Education. (See p. 155 of this catalog.)

DEPARTMENTAL REQUIREMENTS FOR STUDENT TEACHING. Students under jurisdiction of this department must present an over-all grade-point average of at least 2.2 and a grade-point average in a major (teaching) concentration of at least 2.5 at the time of enrollment in student teaching.

PROFESSIONAL EDUCATION

	Semester Credits
Ed Fdns 290 Foundations of Education	3
Ed Fdns 300 Human Growth & Development	3
Ed Fdns 310 Learning & The Classroom	3
Sec Ed 301 Foundations of Sec Ed	3

Sec Ed 310 Materials & Methods of Tchg	3
Sec Ed 430-443 Special Methods of Tch in Sec Schs or Ed Substitute	3
*Sec Ed 461 Student Tchg	6
**Total Professional Education	<hr/> 24

COMPOSITE TEACHING AREAS

The composite teaching major area is designed to enable the prospective teacher to acquire unified learning within a broad field of closely related subject matter disciplines which would not be possible in a single subject-matter major teaching area.

The application of this unified knowledge to the teaching of currently unified or generalized secondary school subjects (e.g., Communication Arts, General Science, Social Studies) is an avowed purpose of this form of preparation.

The composite is also designed to prepare students to teach adequately in several closely related subjects. This type of preparation will be of advantage to novice teachers beginning their careers in small secondary schools in which they must expect multiple rather than single subject teaching assignments.

COMPOSITE IN SOCIAL STUDIES IN SECONDARY EDUCATION. The composite major in general social studies shall consist of at least 54 hours, including freshman courses, of which at least 24 hours must be in the Department of History, including 2 courses in *United States* and 2 courses in *European or World History*; 9 hours in the Departments of Government or Economics; 12 hours in the Departments of Anthropology, Geography, Philosophy, or Sociology; and 9 hours in electives from these departments. No minor is required with the general social studies major, but one is strongly recommended.

COMPOSITE IN SCIENCE. The composite major in science shall consist of at least 54 hours, including freshman courses, in the Departments of Biology, Chemistry, Physics, and Geology, of which at least 11 hours must be in each of 3 of the first 4 departments listed above. Regardless of choices of sciences included in this composite, however, students must include a minimum of 8 hours each of physics and biology. It is desirable that preparation in each of the four be included in this composite. No minor is required with the composite science major, but one is strongly recommended.

COMPOSITE IN COMMUNICATION ARTS IN SECONDARY EDUCATION. The composite major in communication arts shall consist of at least 54 hours, including freshman courses, in the Departments of English, Speech, Dramatic Art, and Journalism. At least 24 of these hours must be in English: English 101, 102, 253, 254; 6 hours in upper division courses in American or World Literature; 3 hours in an upper division course in British literature; and 3 hours in creative or informative writing. At least 12 hours must be in the Department of Speech: Speech 255 and 9 additional hours or Speech 101 and 102 and 6 additional hours in courses numbered above 200. Nine hours must be in the Departments of Dramatic Art or Journalism. The remaining 9 hours of electives must be in upper division courses

* See p. 152 for admission requirements. Secondary Education 462 may be included as a second experience in student teaching, with the approval of the adviser.

** Ordinarily, students may enroll in not more than 9 hours of work in this kind of course in any one registration period.

from any one or any combination of the departments concerned. No minor is required with the communications arts major, but one is strongly recommended.

SECONDARY EDUCATION CURRICULUM

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrtnng w/Rdgs in Expos	3	Engl 102 Wrtnng w/Rdgs in Lit	3
*Math or Sci	4	*Math or Sci	4
*Soc Sci	3	*Soc Sci	3
Electives or Major	3-6	Ed Fdns 290 Founda of Ed	3
PE Activity	1	Electives or Major	3
		PE Activity	1
	<u>14-17</u>		<u>17</u>
Sophomore Year			
Eng (Lit)	3	Spch 255 Pub Spkg	3
Psy 251 Gen	3	Ed Fdns 310 Learn & Classrm	3
Ed Fdns 300 Hum Grwth & Dev	3	*Soc Sci	3
*Soc Sci	3	‡Fine Arts or Major	3
‡Fine Arts or Major	3	PE Activity	1
PE Activity	1	Elective	3
	<u>16</u>		<u>16</u>
Junior Year			
Sec Ed 301 Founda of	3	Sec Ed 310 Mater & Meth of Tchg	3
Electives, Major or Minor	<u>11-14</u>	Electives, Major or Minor	<u>11-14</u>
	14-17		16-17
Senior Year			
Sec Ed 430-443 Tchg of Sec Sch Subj or		Electives, Major or Minor	14-17
Ed Elec	3		
**Sec Ed 461 Student Tchg in Sec Sch	6		
Electives	<u>3-6</u>		
	12-15		<u>14-17</u>

* Choose from General Education Requirement listed on pp. 155-156.

‡ The required 3-6 semester hours in Fine Arts may be taken during any semester of the first 2 years. One course in history or appreciation must be included.

** See p. 152 for admission requirements. Student Teaching may be taken during either or both of the semesters in the senior year.

COLLEGE OF ENGINEERING

THE ENGINEER is a creator and a builder. He directs his imagination, ingenuity, resourcefulness, and intelligence to the economical usage of our natural resources. He is beginning to probe the mysteries of cosmic space. Few professions offer the individual greater challenge, stimulation, and satisfaction of creative accomplishment. In these days, when breathtaking technological advances are commonplace, the engineer requires ever greater breadth and depth of mathematical and scientific cognition. Of increasing importance are the ability for clear self-expression and a sympathetic appreciation of the social, economic, and human values of the world in which we live. The engineer is not only an interpreter of science and mathematics to the producers of material human needs, but he is also a manager of men, money, materials, and machines in effecting the satisfaction of these needs.

The continued growth of American industry and technology has created a demand for engineers far in excess of supply. Present and predicted enrollments in schools of engineering indicate that the shortage will continue for many years to come. Certainly, no profession offers greater challenges or a more promising future. Surveys show that the income of the engineer compares very favorably with that of the other professions. American industry and commerce are increasingly utilizing engineers in top administrative positions.

The several curricula of the College of Engineering are designed to give the student suitable education, attitudes, and motivations for his entry into a successful career as a practicing engineer, administrator, researcher, or educator. The undergraduate programs are solidly founded on mathematics and the natural sciences with additional emphasis being placed upon human values and relations. This broad grounding in itself is not sufficient, however, and these curricula strive to develop the beginnings of sound judgment, perspective, and a penetrating curiosity. Many graduates continue their formal education at the post-graduate level and work toward the master's or doctor's degree. The student must realize, however, that education does not stop with the completion of college. More truthfully, this is when education really begins. The true professional engineer never stops learning; he is continually broadening his intellectual horizons. One indication of continued growth and development is registration as a professional engineer. Every state has established criteria of education and experience which must be met before an engineer can enjoy this status.

In the College of Engineering, the student is afforded an opportunity for scholarly study, laboratory exercise, and research participation. He daily rubs shoulders with engineers nationally recognized in their fields. The University of New Mexico strongly believes that engineering teachers must be competent engineers in their own right, and faculty members are encouraged to participate actively in professional practice and research. This experience keeps the faculty informed on new developments, increases their understanding of subjects taught, and gives the student the benefit of their findings and personal experiences. Faculty and students work side by side in research and instructional laboratories.

The College of Engineering maintains a Bureau of Engineering Research. For details of the Bureau's purposes and activities, see p. 57.

HIGH SCHOOL PREPARATION

It is important that the high school student who wishes to pursue professional engineering studies at The University of New Mexico orient his subject selection in the proper directions at the earliest possible moment. The student properly prepared will be able to follow the regular pattern of studies without the necessity of making up scholastic deficiencies. Students inadequately prepared in mathematics or English are required to take remedial work for no credit to remove these subject deficiencies. Students who place particularly high on their placement examinations are excused from Mathematics 161 (4 hours) and English 101 (3 hours).

Students intending to study engineering should take in high school all of the mathematics and English possible as well as chemistry and physics. The mathematics should include a minimum of 2 units of algebra, 1 unit of plane geometry, and $\frac{1}{2}$ unit of trigonometry.

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements to University College is in the "Admission" section of this catalog. All freshman engineering students, during their residence in University College, take the prescribed freshman engineering course of study as set forth on p. 173. In addition, each freshman engineering student is advised by a faculty member of the student's major engineering department.

ADMISSION FROM UNIVERSITY COLLEGE

To be eligible for transfer to the College of Engineering from the University College, the student must meet the requirements listed below:

1. Completion of 26 semester hours of the freshman engineering program.
2. (a) A scholarship index of at least 2.0 on all hours attempted;
or
(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. A satisfactory score on the English Proficiency Examination (administered by The University of New Mexico) or a grade of C or better in a remedial English course offered on a non-credit basis by the English Department of The University of New Mexico.

TRANSFERS

A student will be eligible for transfer to the College of Engineering from other degree-granting colleges of the University or from other accredited institutions if he has a grade-point index of 2.0 or better on all work attempted in the other degree-granting colleges or institutions, and if he has completed 26 semester hours of acceptable credit.

COURSES OF STUDY

The College of Engineering offers 4-year programs of study leading to the degrees of Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Mechanical Engineering. These 4-year curricula are designed for the student who enters without deficiencies and who is capable of carrying the required scholastic loads indicated under the respective departmental programs. Otherwise, the student should plan on spending more than 8 regular semesters to complete requirements for his degree.

The College of Engineering is a member of the American Society for Engineering Education. The curricula in Civil, Electrical, and Mechanical Engineering are fully accredited by the Engineers' Council for Professional Development.

SPECIAL FIELDS

In addition to the major fields of study listed above, it is possible for the student to specialize in some degree by choosing appropriate elective courses within the basic curriculum of his major department. A few of the many possibilities are: Aero-Space Engineering, Electronic Computers, Fuel Processing, Structural Engineering, and Theoretical and Applied Mechanics. All departments make use of the modern, high-speed electronic computers located in the University of New Mexico Computer Center.

DEGREES IN COMBINATION WITH OTHER COLLEGES

If a student wishes to secure a degree in another college together with his engineering degree, he is urged to seek advice early in his college career from the deans of the colleges concerned. With care in selecting his program of studies, it is possible for a student to secure two degrees in one additional year.

AIR SCIENCE, NAVAL SCIENCE

It is possible for students enrolled in the Air Force ROTC or the Naval ROTC to complete their programs of study in 4 years. However, students may need an extra semester to complete the requirements for both a degree and a commission. The student should consult the department chairman concerned in planning his program.

GRADUATE STUDY

A program of graduate studies is offered by the College of Engineering leading to the Master of Science degree with a major in Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Nuclear Engineering, and Engineering Science of Materials (Los Alamos Center only). A fifth year of study leading to the Master's degree is strongly recommended for students of more than usual ability who believe that they can profit from the additional study.

The College of Engineering offers through the Graduate School, a program leading to the degree of Doctor of Science in Engineering, under which study concentrations may be pursued in a variety of engineering fields. Consult the current **Graduate School Bulletin** for details of these programs.

NUCLEAR ENGINEERING

Elective courses in this field are available to all seniors and a complete graduate program is offered leading to the Master of Science degree with a major in

Nuclear Engineering. A study concentration in nuclear engineering leading to the Doctor of Science in Engineering is also available. The Nuclear Engineering Laboratory is equipped with a subcritical reactor, reactor simulator, and a complete metallurgy laboratory.

SCHOLASTIC REGULATIONS

The student should become familiar with the general academic and scholastic rules which apply to all students enrolled in the University (see pp. 107-119). Special attention is called to the rules on probation and suspension.

COURSES NUMBERED 300 OR ABOVE

A student may be admitted to courses numbered 300 or above in the College of Engineering (1) if he is not more than 8 hours short of completing all freshman and sophomore requirements, (2) if he has completed all prerequisites for the course in question, (3) if the remaining lower division requirements appear on his program, or (4) at the discretion of the Dean of the College. If a student fails a required lower division course while enrolled in a 300-level course, he will not be eligible to enroll in additional 300-level courses until all required freshman and sophomore courses have been completed.

The College of Engineering will not accept 300 level or above engineering courses which have been taken by extension or correspondence.

MAXIMUM SEMESTER HOUR LOAD

The maximum semester hour load for students in the College of Engineering is 20 hours, including physical education. Only in exceptional cases and with approval of the Dean of the College will a student be permitted to carry 21 hours.

GRADUATION REQUIREMENTS

Specific graduation requirements are as follows:

1. Candidates for the Bachelor of Science in any of the engineering departments must complete all of the work outlined in their respective curricula. The student is solely responsible for completing all requirements for graduation.
2. Each candidate for a degree must have at least a 2.0 grade-point average on work taken at The University of New Mexico which is counted toward his graduation. Three-fourths of the semester hours offered toward a degree must be of C grade or better.
3. Every candidate for graduation must take the Graduate Record Examination.
4. All students in the College of Engineering, including transfer students, must either have passed the English Proficiency Examination (administered by The University of New Mexico) or have earned a grade of C or better in a remedial English course offered on a non-credit basis by the English Department of the University.

5. For minimum residence requirements, see pp. 115-116.
6. If a beginning student is placed in Mathematics 162 because of high entrance test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by four.
7. If a student is placed in English 102 because of high entrance test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by three.
8. Each student must make formal Application for Degree with his major department at the beginning of his last semester in residence.

CURRICULA OFFERED BY THE COLLEGE OF ENGINEERING

The College of Engineering offers work in the departments listed in alphabetical order on the following pages. Curriculum requirements are set forth under each department. Descriptions of the courses offered will be found, listed by departments, in the catalog section "Courses of Instruction."

COURSE OF STUDY FOR ALL ENGINEERING STUDENTS

First Semester		Freshman Year		Second Semester	
		Hrs.			Hrs.
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 161 Intro Math for Phys Sc	4	(4-0)	Math 162 Calc & Anal Geom	4	(4-0)
Engl 101 Wrting w/Rdgs in Expos	3	(3-0)	Engl 102 Wrting w/Rdgs in Lit	3	(3-0)
Chem 101L Gen	4	(3-3)	Chem 102L Gen	4	(3-3)
CE 101L Engr Graphics	3	(2-4)	CE 102L Engr Comp Meth	3	(2-4)
CE 103 Engr Lectures	1	(1-0)	Physics 260 Gen	3	(3-0)
	15	(13-7)		17	(15-7)
PE	1		PE	1	

NOTES:

1. High school preparation for Mathematics 161 should include at least 2 units of algebra, 1 of geometry, and $\frac{1}{2}$ of trigonometry. Students who lack this minimal preparation are urged to remove their mathematics deficiencies in the University's summer session immediately after their high school graduation. Students who make unsatisfactory scores on their mathematics placement tests or who have a trigonometry deficiency will be required to take Mathematics 160 rather than Mathematics 161. Students who place very low on their mathematics placement tests will be required to take Mathematics 010 prior to taking Mathematics 160.

2. Students with unsatisfactory scores on their English placement examination will be required to take remedial English.

3. For a description of the freshman courses refer to p. 308 for Mathematics; to p. 288 for English; to p. 245 for Chemistry; to p. 274 for Civil Engineering; and to p. 333 for Physics.

CHEMICAL ENGINEERING

Chemical engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of material are involved.

The course in Chemical Engineering is designed to afford the student broad training in the fundamentals of mathematics, physics, chemistry, and engineering

to meet the needs of the chemical or related industries where men competent to design, develop, and operate new processes and to improve existing processes are required. The chemical engineer is not specifically trained for only one industry. The distinctly professional courses of Unit Operations and Unit Processes enable him to apply his knowledge to any chemical or process industry with relatively little difficulty.

The graduate chemical engineer will find many avenues of opportunities in research and development; production, operation, and maintenance; management and administration; design, construction, and installation; technical service and sales; consulting; teaching, and technical writing, etc., in such industries as industrial chemicals, petroleum, explosives, plastics, rubber products, paper and allied products, synthetic rubber, food products, drugs, insecticides, glass, cement, clay, iron and steel, paints and varnishes, oils, soaps, rayon and synthetics.

CHEMICAL ENGINEERING LABORATORY. The Chemical Engineering building has a floor space of over 8,000 sq. ft. and contains a laboratory adequately equipped with pilot plant equipment for use in the study of Unit Operations of Chemical Engineering such as fluid flow, heat flow, evaporation, distillation, air conditioning, absorption, filtration, crystallization, etc., and Unit Processes such as nitration, sulfonation, hydrogenation, etc.

The process development laboratory is well equipped for the study of small scale manufacture of chemical products. Smaller laboratories are provided for the testing of fuels, gases, water, etc.

Adequate classroom space and design laboratory are available. Shop facilities are in conjunction with the well-equipped Mechanical Engineering Shop.

CURRICULUM IN CHEMICAL ENGINEERING

Hours required for graduation: $138\frac{1}{2} + 4$ PE.

First Semester			Sophomore Year		Second Semester		
	Cr.	Hrs. Lect.-Lab.				Cr.	Hrs. Lect.-Lab.
Math 263 Calc & Anal Geom	4	(4-0)	Math 264 Calc & Anal Geom	4	(4-0)	4	(4-0)
Physics 261 Gen	3	(3-0)	Physics 262 Gen	3	(3-0)	3	(3-0)
Physics 263L Gen Lab	1	(0-3)	Physics 264L Gen Lab	1	(0-3)	1	(0-3)
Chem 301 & 303L Organic	4	(3-3)	Chem 302 & 304L Organic	4	(3-3)	4	(3-3)
ChE 251 Chem Calc	3	(3-0)	ChE 252 Ind Stoichiometry	3	(3-0)	3	(3-0)
Ec 200 Prin of	3	(3-0)	CE 202L Engr Statics	3	(2-3)	3	(2-3)
	<u>18</u>	<u>(16-6)</u>				<u>18</u>	<u>(15-9)</u>
PE	1		PE	1		1	
			Junior Year				
ChE 401 Prin of Thermo I	3	(3-0)	ChE 402 Prin of Thermo II	3	(3-0)	3	(3-0)
Chem 311 & 313L Physical	4	(3-3)	ChE 411 Unit Oper I	3	(3-0)	3	(3-0)
CE 302 Mech of Materials	3	(3-0)	Chem 312 & 314L Physical	4	(3-3)	4	(3-3)
†Elective	6	(6-0)	EE 202 Elect Engr II	3	(3-0)	3	(3-0)
*Elective	3	(3-0)	†Elective	3	(3-0)	3	(3-0)
	<u>19</u>	<u>(18-3)</u>				<u>16</u>	<u>(15-3)</u>

‡ Reduced for students placed ahead in freshman mathematics and/or English.

† Technical electives may be chosen from ChE 317, 353, 368L, 470, Chem 253L, Chem 454L. Students enrolled in the ROTC programs may, with the approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives.

* Electives are to be chosen from the Humanities and Social Sciences. See Department Chairman for list of approved courses.

Senior Year

ChE 412 Unit Oper II	3	(3-0)	ChE 413 Unit Oper III	3	(3-0)
ChE 414L Unit Oper Lab I	2	(0-6)	ChE 415L Unit Oper Lab II	2	(0-6)
ChE 481L Proc Lab I	2	(0-6)	ChE 482L Proc Lab II	2	(0-6)
ChE 451 Seminar	1	(1-0)	ChE 452 Seminar	1	(1-0)
† Elective	3	(3-0)	ChE 472 ChE Econ	2	(2-0)
* Elective	6	(6-0)	ChE 494L ChE Design	2	(1-3)
			ChE 398 Field Trip	0	(0-0)
			* Elective	6	(6-0)
	17	(13-12)		18	(13-15)

CIVIL ENGINEERING

The work of the civil engineer continues to expand both in magnitude and variety. In addition to the traditional areas such as highway, railroad, irrigation, water supply, sewage disposal, flood control, and bridge and structural design, new specialties unknown a few years ago now demand the training of the civil engineer. One such specialty is that of arid land engineering now being introduced by this department. Management and administrative work, in both public and private organizations, offer increasing opportunities. The training offered by this department is designed to give the young engineer a broad background of knowledge to allow him the maximum latitude of choice in his career.

CIVIL ENGINEERING LABORATORIES. The Civil Engineering Laboratories have been especially designed for the experimental verification of the fundamental principles of theories as developed in the lecture courses.

The Civil Engineering Building comprises 13,000 sq. ft. of floor space, and is representative of the most modern type of construction.

The Strength of Materials laboratory is well equipped for the torsion, bearing, compression, tension, shear, flexure, impact, and hardness testing of engineering materials, and includes the latest mechanical, electrical, photoelastic, and stress-coat strain measuring devices.

The combined Concrete and Soils laboratory is equipped with a 300,000 lb. testing machine, direct shear machine, tri-axial apparatus, and other modern equipment which is used for the engineering testing of soils, concrete, masonry, and other construction materials.

The Bituminous laboratory contains equipment for making standard tests on road oils and asphalts, and for designing and testing bituminous mixes for highways, airports, and other pavements.

A separate Cement laboratory is completely equipped for making the standard physical tests on Portland cement. Equipment includes the most advanced type of temperature control mechanisms for maintaining constant temperatures during tests.

A completely equipped Sanitary laboratory affords the student the opportunity of gaining practical experience in performing customary tests and experiments with municipal and industrial wastes.

† Technical electives may be chosen from ChE 317, 353, 368L, 470, Chem 253L, Chem 454L. Students enrolled in the ROTC programs may, with the approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives.

* Electives are to be chosen from the Humanities and Social Sciences. See Department Chairman for list of approved courses.

The Fluid Mechanics laboratory, housed in a separate building, is equipped for the study of the basic principles of fluid mechanics.

The Civil Engineering Building also includes a separate research laboratory for use in graduate study and in engineering research problems.

Field equipment for classes in surveying includes a large number of transits, levels, alidades, plane tables, computing machines, and similar items. Precision theodolites of both American and foreign manufacture, including optical theodolites of latest design, constitute the most modern equipment procurable.

CURRICULUM IN CIVIL ENGINEERING

Hours required for graduation: 138*** + 4 PE.

First Semester			Sophomore Year			Second Semester		
		Hrs.						Hrs.
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 263 Calc & Anal Geom	4	(4-0)	Math 264 Calc & Anal Geom	4	(4-0)		4	(4-0)
Phys 261 Gen	3	(3-0)	Physics 262 Gen	3	(3-0)		3	(3-0)
Phys 263L Gen Lab	1	(0-3)	Physics 264L Gen Lab	1	(0-3)		1	(0-3)
CE 281L Engr Meas	3	(1-6)	CE 282L Engr Surveys	3	(2-3)		3	(2-3)
Econ 200 Prin of	3	(3-0)	CE 202L Engr Statics	3	(2-3)		3	(2-3)
*Elective	3	(3-0)	CE 270L Constr Mater	1	(0-3)		1	(0-3)
			EE 202 Elect Engr II	3	(3-0)		3	(3-0)
	17	(14-9)		18	(14-12)		18	(14-12)
PE	1		PE	1			1	
Junior Year								
§Math Elect	3	(3-0)	CE 330 Fluid Mech	3	(3-0)		3	(3-0)
CE 382 Transp Engr	2	(2-0)	CE 370 Engr Mater Science	3	(3-0)		3	(3-0)
CE 302 Mech of Mater	3	(3-0)	CE 324L Struc Des in Metals	3	(2-3)		3	(2-3)
CE 303L Mech of Mater Lab	1	(0-3)	Geol 104 Engr Geology	3	(3-0)		3	(3-0)
ME 206L Dynamics	3	(2-3)	CE 306 Struc Anal II	3	(3-0)		3	(3-0)
CE 305 Struc Anal I	3	(3-0)	**Elective	3	(3-0)		3	(3-0)
**Elective	3	(3-0)						
	18	(16-6)		18	(17-3)		18	(17-3)
Senior Year								
CE 411 Rein Concrete Des	3	(3-0)	CE 495L C E Proj	3	(2-3)		3	(2-3)
CE 460L Soil Mech	3	(2-3)	CE 490 Prof Probs in Engr	2	(2-0)		2	(2-0)
CE 431L Fluid Mech Lab	1	(0-3)	ME 301 Thermodynamics	3	(3-0)		3	(3-0)
CE 432 Hydro & Engr Hydro	2	(2-0)	†Elective	6	(6-0)		6	(6-0)
CE 435L Water Supply & Waste			**Elective	3	(3-0)		3	(3-0)
Water Disposal	3	(2-3)						
†Elective	3	(3-0)						
**Elective	3	(3-0)						
	18	(15-9)		17	(16-3)		17	(16-3)

ELECTRICAL ENGINEERING

The technology of electrical engineering is changing extremely rapidly. Common practice one year is obsolete the next. To prepare the student for the

*** Reduced for students placed ahead in freshman mathematics and/or English.

* Elective to be chosen from English 264 or Speech 255.

§ To be selected from Math 311, 314, 341, 342, 343, 344, 361, 362, 471.

** Electives are to be chosen from the Humanities and Social Sciences. See Department Chairman for list of approved courses.

† Technical electives may be chosen from the following courses: CE 401, 402, 416L, 430, 434, 436, 440, 441, 442, 462, 471L, 472, 475L, 476, 480, 482, ME 494L. Students enrolled in the ROTC programs may, with approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives.

technology with which he will work, the Electrical Engineering curriculum stresses fundamentals rather than current practice. Thus, the student is prepared to understand future developments with a minimum of background reading.

The increasing complexity of electrical engineering demands more engineers with training beyond the bachelor's degree. Students with fairly high grades should plan to continue at least as far as the master's degree (5 years). Exceptional students should plan to continue formal training through the doctorate.

The curriculum provides considerable freedom in choice of electives. Students planning graduate study should concentrate on mathematics and physics. Those interested in sales and administrative work may take up to 13 hours in business administration. Other possible combinations include "human engineering" (up to 25 hours of psychology) and medical electronics (up to 13 hours of biology).

ELECTRICAL ENGINEERING LABORATORIES. *Circuits, electronics, power, and microwave laboratories are provided. Research laboratories of the Bureau of Engineering Research are available for individual projects and employment on research projects is frequently possible.*

The circuits and fields laboratory is equipped to acquaint the student with elementary measurements on electric and analogous circuits, and to instruct in the use of a variety of instruments. It also permits a variety of field and traveling-wave experiments.

The electronics laboratory provides an opportunity to design electronic devices, quickly make experimental hook-ups, and test performance with a variety of electronic laboratory instruments. The circuits studied form the basis for radio, radar, television, automatic control, telephone, electronic computer, and other systems.

The power laboratory provides facilities for determining characteristics of various power conversion devices, including dc and ac rotating machines, transformers, rectifiers, and the associated control devices. Specialized industrial electronic devices such as induction heaters are also available.

The microwave laboratory makes possible the study of tubes and transmission devices at frequencies above 3.0 kmc. Standard microwave power and impedance measurement techniques are taught.

CURRICULUM IN ELECTRICAL ENGINEERING

Hours required for graduation: $138\frac{1}{2} + 4$ PE.

First Semester			Sophomore Year		Second Semester		
	Cr.	Hrs.	Lect.-Lab.			Cr.	Hrs.
*EE 201 Elec Engr I	3	(3-0)		EE 205L EE Lab I	1	(0-3)	
Math 263 Calc & Anal Geom	4	(4-0)		*EE 202 Elec Eng II	3	(3-0)	
Physics 261 Gen	3	(3-0)		Math 264 Calc & Anal Geom	4	(4-0)	
Physics 263L Gen Lab	1	(0-3)		Physics 262 Gen	3	(3-0)	
Ec 200 Prin of	3	(3-0)		Physics 264L Gen Lab	1	(0-3)	
Elective	3	(3-0)		CE 202L Engr Statics	3	(2-3)	
				Elective	3	(3-0)	
	17	(16-3)			18	(15-9)	
PE	1			PE	1		

* 201 and 202 may be taken concurrently in the second semester.

† Reduced for students placed ahead in freshman mathematics and/or English.

Junior Year

EE 361 Electromag Fields	3	(3-0)	EE 364L Trav Waves	3	(2-3)
EE 311 Elec Circ Anal	3	(3-0)	EE 312 Elec Circ Anal	3	(3-0)
EE 305L EE Lab II	1	(0-3)	EE 321 Electronics I	3	(3-0)
Math 311 Engr Math	3	(3-0)	EE 325L Electronics Lab I	1	(0-3)
ME 206L Dynamics	3	(2-3)	CE 302 Mech of Mater	3	(3-0)
Elective	6	(6-0)	Engl 264 Info Writing	3	(3-0)
			Elective	3	(3-0)
	19	(17-6)		19	(17-6)

Senior Year

EE 322 Electronics II	3	(3-0)	EE 482L Prin of Dir Energy		
EE 326L Electronics Lab II	1	(0-3)	Conv	3	(2-3)
EE 481L Electromech Energy			EE 498 Seminar	2	(1-3)
Conv Prin	3	(2-3)	EE 431 Servomechanisms	3	(3-0)
ME 301 Thermodyn	3	(3-0)	ME 356 Indus Engr	2	(2-0)
Physics 330 Atomic & Nuclear	3	(3-0)	Elective	7	(6-3)
Elective	3	(3-0)			
	16	(14-6)		17	(14-9)

Probable EE Electives
423, 435, 441, 445L, 462, 465L

Probable EE Electives
EE 421, 425L, 461, 471, 475L, 484

ELECTIVES:

1. At least 12 hours of electives are to be taken in the humanities and social sciences, including modern languages.
2. At least 3 hours of electives are required in other engineering, mathematics, science, or business administration.
3. The remaining electives may be taken in any field, with departmental approval. Students enrolled in the ROTC programs may, with the approval of the Department Chairman, substitute up to 6 hours of Air or Naval Science for free electives. An elective plan must be approved by the end of the first semester of the junior year.
4. Electives in the senior year shall, in general, be numbered 300 or higher. They must have the approval of the Department.

MECHANICAL ENGINEERING

Mechanical engineering encompasses a wide range of engineering activities including design, basic and applied research, development, application, and administration. Among the specialized fields of mechanical engineering are power plant design, construction, and operation, including steam, hydraulic, internal combustion engine, gas turbine plants, and nuclear power; heating and air conditioning; refrigeration; railroads; machine design; automation; control systems, including environmental control systems; production planning and control; materials handling; thermodynamics; combustion; heat transfer; and fluid mechanics. Recently the aerospace industry has been added to the many traditional areas included in the field of mechanical engineering. Mechanical engineering graduates are employed in all industries.

Because the realm of mechanical engineering is so extensive and because it is the center from which many new engineering developments proceed, training must be broad and basic, providing the thorough grounding in the engineering sciences and engineering analysis which an engineer requires in order to gain competence in any specialized field. In view of this, the curriculum in mechanical engineering includes ample foundation courses in engineering, mathematics, physics, and chemistry. These are followed by courses in energy conversion, thermodynamics, fluid mechanics, heat and mass transfer, solid mechanics, strength of materials, metallurgy, and design. Throughout the 8 semesters, about

one-fifth of the course time is assigned to nontechnical courses: English, economics, humanistic or social science electives. In the senior year, students have the opportunity to choose technical electives which apply the principles previously learned and which prepare the student for his chosen specialty or for more advanced work on the graduate level.

Students who are interested in design, research, development, and teaching, and who desire a more comprehensive background in mathematics, science, and fundamental engineering than can be obtained in the undergraduate program are encouraged to consider graduate study.

AEROSPACE ENGINEERING, ENGINEERING MECHANICS, INDUSTRIAL ENGINEERING

Students working toward a degree in mechanical engineering may take technical electives in these fields.

CURRICULUM IN MECHANICAL ENGINEERING

Hours required for graduation: 134*** + 4 P.E.

First Semester			Sophomore Year		Second Semester		
	Cr.	Hrs. Lect.-Lab.				Cr.	Hrs. Lect.-Lab.
Math 263 Calc & Anal Geom	4	(4-0)	Math 264 Calc & Anal Geom	4	(4-0)		
Phys 261 Gen	3	(3-0)	Phys 262 Gen	3	(3-0)		
Phys 263L Gen Lab	1	(0-3)	Phys 264L Gen Lab	1	(0-3)		
Econ 200 Prin of	3	(3-0)	ME 206L Dynamics	3	(2-3)		
ME 203L Mfg Processes (Reqd)	3	(2-3)	ME 203L Mfg Processes (Reqd)	3	(2-3)		
OR			OR				
Engr Elect	3	(3-0)	Engr Elect	3	(3-0)		
CE 202L Engr Statics	3	(2-3)	EE 201 Elect Engr I	3	(3-0)		
	17	(14-9)		17	(14-9)		
PE	1		PE	1			
Junior Year							
**Math Elective	3	(3-0)	ME 302 Thermochem&Gas Dyn	3	(3-0)		
ME 301 Thermodynamics	3	(3-0)	ME 320 Heat Transfer	3	(3-0)		
ME 317 Fluid Mech	3	(3-0)	ME 357L Anal of Mach	3	(2-3)		
ME 314L Dyn of Mach	3	(2-4)	ME 318L ME Lab I	2	(0-6)		
OR			ME 370 Engr Mater Science	3	(3-0)		
ME 316L Space Flight Dyn	3	(2-4)	*Elective	3	(3-0)		
EE 202 Elect Engr II	3	(3-0)					
CE 302 Mech of Mater	3	(3-0)					
	18	(17-4)		17	(14-9)		
Senior Year							
ME 358L Anal of Solid Sys	3	(2-3)	ME 359L Mech Engr Design	3	(1-6)		
ME 363 Anal of Fluid Sys	3	(3-0)	ME 352L ME Lab III	2	(0-6)		
OR			*Elective	3	(3-0)		
ME 367 Anal of Space Veh			*Elective	3	(3-0)		
Performance	3	(3-0)	†Elective	3	(3-0)		
ME 351L ME Lab II	2	(0-6)	†Elective	3	(3-0)		
ME 356 Indus Engr	2	(2-0)					
*Elective	3	(3-0)					
†Elective	3	(3-0)					
	16	(13-9)		17	(13-12)		

* Electives are to be chosen from the humanities and social sciences, with the approval of the Department Chairman.

† Technical electives may be chosen from the following courses: ME 350, 360, 365, 368, 375, 380, 490, 492, 494L and other engineering and science courses, with the approval of the Department Chairman.

** Selection to be approved by Department Chairman.

*** Reduced for students placed ahead in freshman mathematics and/or English.



Recital Hall, Fine Arts Center

COLLEGE OF FINE ARTS

THE COLLEGE OF FINE ARTS offers instruction in the several fields of architecture, art, dance, drama, and music. Its courses are designed to advance understanding of the arts as a vital force in civilization, to promote scholarship, and to provide advanced instruction for those who wish to enter professional careers in any of these fields of study. In cooperation with the College of Education the College offers curricula leading to teacher certification in art education and in music education.

DEGREES

The College of Fine Arts offers the following degrees:

Bachelor of Architecture

Bachelor of Fine Arts in Art with programs in:

1. Studio: Crafts, Drawing, Graphic Design, Painting, Photography, Print-making, and Sculpture.
2. Art History and Criticism
3. Art Education

Bachelor of Fine Arts in Dramatic Art

Bachelor of Fine Arts in Music with programs in:

1. Applied Music
2. Music Literature
3. Theory and Composition
4. Music Education

Bachelor of Arts in Fine Arts

See Combined Curriculum, p. 184.

For information regarding graduate study in Art and in Music, leading to the degrees of Master of Arts, Master of Music, and Master of Music Education, the student should consult the **Bulletin of the Graduate School**.

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements is in the "Admission" section of this catalog.

ADMISSION FROM UNIVERSITY COLLEGE

Any student enrolled in the University College who wishes to transfer to the College of Fine Arts is advised to follow during the freshman year the suggested first-year curriculum in the particular field of his interest. The various curricula are set forth in this section of the catalog.

The requirements for transfer from the University College to the College of Fine Arts are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;
or
(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. A satisfactory score on the English Proficiency Examination (administered by The University of New Mexico), or a grade of C or better in English 010, a non-credit course offered by the Department of English.
4. An average of at least 2.0 in all Fine Arts courses attempted.
5. In addition to the above requirements, students expecting to follow and complete a curriculum leading to certification to teach are subject to the requirements for admission to teacher education listed on p. 149 in the College of Education section of this catalog.

TRANSFERS

A student will be eligible for transfer to the College of Fine Arts from other degree-granting colleges of the University or from other accredited institutions if he has completed at least 26 hours of acceptable college credit, has a scholarship index of 2.0 or better on all work attempted in the other degree-granting colleges or institutions, and has an average of 2.0 or better in all Fine Arts courses attempted. Students transferring from other institutions may satisfy the requirement listed in item **3** above during the first semester after admission. Students transferring from other institutions who plan to major in Music Education or Art Education may satisfy the requirements referred to in item **5** during the first semester after admission.

GRADUATION REQUIREMENTS

1. Completion of all course requirements outlined in one of the several curricula offered by the College.
2. Completion of at least 40 hours in courses numbered 300 or above.
3. A scholarship index of 2.0 or higher, except that University College hours not considered for admission to the College of Fine Arts and not used in satisfaction of degree requirements may be excluded.
4. An average of 2.0 or higher in all hours attempted in the major field, and satisfaction of proficiency requirements as established by the major department.
5. Completion of the English Proficiency Requirement (see item **3** under Admission, above).
6. Completion of the Graduate Record Examination.

7. Completion of the Group Requirements described below.
8. Completion of an application for degree at the beginning of the first semester of the senior year. This application is made in the Office of the Dean.

The student is solely responsible for completing all requirements for graduation.

The College of Fine Arts will not grant two undergraduate degrees to a student unless he has completed a minimum of 30 semester hours subsequent to completion of all requirements for the first such degree.

GROUP REQUIREMENTS

All candidates for graduation must have completed no fewer than 48 hours in the following areas:

English 101 and 102	6 hours
Natural Science or Mathematics	8
Social Science	6
Humanities and Fine Arts	9
*Additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech, and social science	15
Physical Education	4
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A student may not take courses numbered 300 or above until he has completed at least 24 hours in satisfaction of the group requirements; a student who has completed more than 24 hours but fewer than 44 hours may take courses numbered 300 or above provided that he is concurrently enrolled in at least one course (excluding P.E.) which will serve to reduce the remaining deficiency. Exception to this rule can be made only with the written permission of the Dean of the College.

The acceptability of transferred work toward fulfilling group requirements will be determined by the Director of Admissions and the Dean of the College. Students who accept an invitation to join in the General Studies program (see p. 292) may apply their various seminars to satisfying appropriate requirements as approved by the Dean of the College.

To clarify these requirements, the following definitions are given:

Natural Science. Astronomy, Biology, Chemistry, Geology, and Physics.

Social Science. Anthropology, Economics, Geography, Sociology, and Government and Citizenship.

Humanities. English literature, literature courses offered by the Department of Modern and Classical Languages, History, and Philosophy.

Fine Arts. Architecture, Art, Dance, Drama, and Music; except that students may not use courses in the field of their major in satisfaction of such requirements.

* Majors in Music Education may include 6 hours of music history or literature in satisfaction of this requirement.

DEPARTMENTAL HONORS

A departmental honors program is offered in each of the departments of the College of Fine Arts. A student who wishes to enter one of these programs should so inform his department chairman prior to beginning his senior year.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all grade point average of 3.2; (b) completion of Fine Arts 490, an interdepartmental pro-seminar; and (c) completion of the Senior Thesis course offered by the student's major department.

For general information about departmental honors programs, see p. 118.

SCHOLASTIC REGULATIONS

Students in the College of Fine Arts will be governed by the scholastic regulations given under "General Academic Regulations."

Students wishing to enroll for more than 18 hours in a given semester must first secure the written permission of the department chairman and then the approval of the Dean of the College.

COMBINED CURRICULUM—Bachelor of Arts in Fine Arts

This curriculum is designed for the student who wishes to pursue a program of study containing both a major and a minor field. The degree requires a total of 128 hours. The major field may be chosen from Architecture, Art, Drama, or Music; the minor field may be chosen from Architecture, Art, Dance, Drama, or Music, or, with permission of the student's adviser, in a department outside the College of Fine Arts. A minimum of 45 hours is required in the major field; 20 hours, in the minor. Requirements for the degree may be summarized as follows:

Group requirements	48 hours
Major	45
Minor	20
Electives	15
	<hr/> 128

DEPARTMENTS OF INSTRUCTION

The College of Fine Arts offers work in four departments as listed below. Descriptions of the courses will be found, listed by department, in the catalog section, "Courses of Instruction." Courses in Dance are offered in the Department of Music. An interdepartmental seminar is listed under "Fine Arts."

ARCHITECTURE

The curriculum below is designed to meet the academic requirements of a student who is undergoing training to practice architecture. Most States, including New Mexico, require 8 years of training, 5 of which may be in a university offering architecture. The remaining years are to be spent in an architectural office, prior to taking the State Board Examination.

All work, drawings and designs made by the student and presented for credit will become the property of the Department of Architecture; their return will be at the discretion of the Architecture faculty.

Students intending to study architecture should take in high school all of the mathematics and English possible as well as chemistry and physics. The mathematics should include a minimum of 2 units of algebra, 1 unit of plane geometry, and $\frac{1}{2}$ unit of trigonometry.

CURRICULUM IN ARCHITECTURE

This curriculum leads to the degree of Bachelor of Architecture. A total of 164 hours is required.

First Semester			First Year		Second Semester		
	Cr.	Hrs. Lect.-Lab.				Cr.	Hrs. Lect.-Lab.
Engl 101 Wrting w/Rdgs in Expos	3	(3-0)	Engl 102 Wrting w/Rdgs in Lit			3	(3-0)
Math 160 Elem Math for Phys Sc	5	(5-0)	Math 162 Calc & Anal Geom			4	(4-0)
Arch 161 Arch Apprec	2	(2-0)	Art 101 Art Apprec			3	(3-0)
*Electives	6	(6-0)	Electives			6	(6-0)
PE	1	(0-3)	PE			1	(0-3)
	17	(16-3)				17	(16-3)
			Second Year				
**Arch 241L Arch Design	5	(0-15)	Arch 242L Arch Design			5	(0-15)
**Arch 283 Materials & Constr	2	(1-2)	Arch 284 Materials & Constr			2	(1-2)
**Arch 271 Intro to City Plan	3	(3-0)	CE 210 Intro to Struc Anal			3	(3-0)
Art 103 Two Dim Design	3	(0-6)	Art 106 Beginning Drawing			3	(0-6)
Phys 111 General Physics	3	(3-0)	Phys 112 General Physics			3	(3-0)
PE	1	(0-3)	PE			1	(0-3)
	17	(7-26)				17	(7-26)
			Third Year				
***Arch 341L Arch Design	5	(0-15)	Arch 341L Arch Design			5	(0-15)
Arch 261 Anc & Med Arch	3	(3-0)	Arch 262 Ren & Baroque Arch			3	(3-0)
CE 311 Str of Stru Mtr & Sys I	3	(3-0)	CE 312 Str of Stru Mtr & Sys II			3	(3-0)
Art 293 Watercolor Rendering	2	(0-4)	Art 203 Three Dim Design			3	(0-6)
Elective	3	(3-0)	Elective			3	(3-0)
	16	(9-19)				17	(9-21)
			Fourth Year				
Arch 441L Arch Design	5	(0-15)	Arch 441L Arch Design			5	(0-15)
Arch 361 Sources of Mod Arch	2	(2-0)	Arch 362 Contemporary Arch			2	(2-0)
CE 313 Design of Struct I	3	(3-0)	CE 314 Design of Struct II			3	(3-0)
ME 308 Mech Equip of Bldg	3	(3-0)	Arch 472L Planning Design			3	(0-9)
Elective	3	(3-0)	Elective			3	(3-0)
	16	(11-15)				16	(8-24)
			Fifth Year				
Arch 491L Arch Design	5	(0-15)	Arch 491L Arch Design			5	(0-15)
Arch 483L Working Drawings	3	(0-9)	Arch 484 Off Pract & Specs			3	(3-0)
Arch 481 Program Writing	1	(1-0)	Arch 462 Seminar			2	(2-0)
Electives	6	(6-0)	Electives			6	(6-0)
	15	(7-24)				16	(11-15)

ART

For curricula leading to the B.F.A. in Art, see below. For major studies in the Fine Arts Combined Curriculum and in the College of Arts and Sciences, and for minor study requirements, refer to the "Courses of Instruction" section, p. 232.

* Electives must include 12 credit hours in Humanities, 6 credit hours in Social Science, 9 credit hours in Fine Arts and additional hours to total 36 credit hours. Students enrolled in the Air Force or Navy ROTC programs may, with the approval of the Department Chairman, substitute 9 hours of Air Force or Navy ROTC courses for 9 hours of electives.

** Not open to freshmen.

*** Not open to students enrolled in the University College.

CURRICULA IN ART

Leading to the degree of Bachelor of Fine Arts in Art.

Three programs of study are offered by the Art Department:

1. Studio: Crafts, Drawing, Graphic Design, Painting, Photography, Print-making, and Sculpture.
2. Art History and Criticism
3. Art Education

CURRICULUM FOR STUDIO MAJORS

1. Studio Courses (including Art 103, 106, and 203):	42 credit hours
2. Art History and Criticism (including Art 130, 271 and 272):	18 credit hours
3. Group Requirements: English 101 and 102 (6); Natural Science or Mathematics (8); Social Science (6); †Modern or Classical Language (6); Humanities (6); Fine Arts (6); Physical Education (4); "Additional Hours" (See Fine Arts Group Requirements) (6):	48 credit hours
4. Electives:	20 credit hours
TOTAL	128 credit hours

CURRICULUM FOR ART HISTORY AND CRITICISM MAJORS

1. Art History and Criticism (including Art 130, 271 and 272):	27 credit hours
2. Studio Courses (including Art 103, 106 and 203):	18 credit hours
3. Group Requirements: English 101 and 102 (6); Natural Science or Mathematics (8); Anthropology 101 and 102 (6); History 101 and 102 (6); Modern or Classical Language (6); Fine Arts (6); Physical Education (4); "Additional Hours" (See Fine Arts Group Requirements) (6):	48 credit hours
4. Electives:	35 credit hours
TOTAL	128 credit hours

ART EDUCATION (Teacher Certification for Art and Provisional Secondary Certificates)

A student may enroll in either the College of Fine Arts or the College of Education and satisfy the requirements for teacher certification at the secondary level.

The following curriculum prepares the student to teach art and a second subject area in grades 7-12. The successful completion of this curriculum entitles the graduate to the Provisional Secondary Certificate endorsed for the teaching of art as issued by the New Mexico Department of Education.

† The student who has had 2 years of foreign language in high school and is able to pass the qualifying examination for an intermediate course in that language may be excused from the language requirements. The Art Faculty, however, strongly advises the student to take at least a year of foreign language at the college level.

CURRICULUM FOR SECONDARY TEACHERS

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
*Soc Sci	3	*Soc Sci	3
*Natural Science	4	*Natural Science	4
Art 103 Two Dim Des	3	Art 203 Three Dim Des	3
Art 106 Begin Draw	3	Art, Studio	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>
Sophomore Year			
Engl Lit	3	Spch 255 Pub Spkg	3
*Soc Sci	3	Ed Fdns 290 Founda of Ed	3
*Gen Elective	3	*Psy 251 Gen	3
Art Ed 210 Creat Art in Sec Ed	3	Art Ed 211 Creat Art in Sec Ed	3
Art 271 Intro to Art Hist	3	Art 272 Intro to Art Hist	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>
Junior Year			
Ed Fdns 300 Hum Grwth & Dev	3	Ed Fdns 310 Learn & Classrm	3
Sec Ed 301 Founda of	3	*Gen Elective	3
Art Ed 434 Tchg Art in Sec Sch	3	Art Ed 320 Pre-tchg Exp in Art	3
Art, Studio	6	Art, Studio	6
Art Elective	2	Art Elective (above 300)	2
	<u>17</u>		<u>17</u>
Senior Year			
Ed Fdns 415 Philos of Ed	3	††Sec Ed 461 Stu Tchg in Sec Sch	6
*Gen Electives	6	*Gen Electives (above 300)	6
Art Electives (above 300)	7		
	<u>16</u>		<u>12</u>

DRAMATIC ART

For curricula leading to the B.F.A. in Dramatic Art, see below.

For major studies in the Fine Arts Combined Curriculum and in the College of Education, and for minor study requirements, refer to the "Courses of Instruction" section, p. 250.

CURRICULA IN DRAMATIC ART

(Leading to the degree of Bachelor of Fine Arts in Dramatic Art. Hours required for graduation, 132.)

Freshman Year			
First Semester		Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
Math or Natural Science	4	Math or Natural Science	4
D A 115 Theatre Apprec	2	D A 116 Theatre Apprec	2
D A 101 Fund of Spch & Rdg	3	D A 102 Fund of Spch & Rdg	3
D A 129 Stagecraft	3	D A 130 Stagecraft	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

* The student enrolled in the College of Fine Arts must satisfy all Group Requirements as listed on p. 183. Electives are also to be used to meet departmental minor requirements. A minor may be selected from approved list shown on p. 166.

†† Student teaching may be divided between the 2 semesters of the senior year.

Sophomore Year

Art Elective	3	Music Elective	3
Elective in Soc Sci	3	Elective in Soc Sci	3
D A 255 Stage Lighting	3	D A 256 Stage Lighting	3
D A 275 Technical Prod	3	D A 276 Technical Prod	3
D A 285 Acting Tech	3	D A 286 Acting Tech	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

Junior Year

Engl Lit Elective	3	Psy 251 Gen	3
D A 305 Rehearsal & Perform	3	D A 306 Rehearsal & Perform	3
D A 335 Theatre Hist	3	D A 336 Theatre Hist	3
D A 385 Costume Design	3	D A 386 Costume Design	3
Philosophy Elective	3	English Elective	3
Humanities or Fine Arts Elective	2	Humanities or Fine Arts Elective	2
	<u>17</u>		<u>17</u>

Senior Year

D A 375 Scene Design	3	D A 376 Scene Design	3
D A 361 Adv Rehears & Perform	3	D A 362 Adv Rehears & Perform	3
Engl Lit 441 (or 442) Shakespeare	3	Engl Lit Elective above 300	3
Electives	8	Electives above 300	4
	<u>17</u>	Other Electives	4
			<u>17</u>

Students who wish the B.F.A. in Dramatic Art with an **Emphasis in Television-Radio** may substitute the following courses for 18 hours of the required Dramatic Art courses as listed in the above curriculum: Speech 251, 265, and 6 hours selected from 465 or 466, and 480; Dramatic Art 351 and 352. All course substitutions and the sequence in which all courses are to be taken shall follow a curriculum pattern established by the Department of Dramatic Art.

PUBLIC SCHOOL CERTIFICATION

(Curriculum leading to the degree of Bachelor of Fine Arts in Dramatic Art and meeting the requirements for provisional secondary teachers certificate in New Mexico.)

Freshman Year

First Semester		Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
Math or Natural Science	4	Math or Natural Sci	4
D A 101 Fund of Spch & Rdg	3	D A 102 Fund of Spch & Rdg	3
D A 115 Theatre Apprec	2	D A 116 Theatre Apprec	2
D A 129 Stagecraft	3	D A 130 Stagecraft	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

Sophomore Year

D A 275 Tech Prod	3	D A 276 Tech Prod	3
D A 255 Stage Lighting	3	D A 256 Stage Lighting	3
D A 285 Acting Tech	3	D A 286 Acting Tech	3
Soc Sci Elective	3	Soc Sci Elective	3
Psy 251 Gen	3	Psy 310 Educ	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

Junior Year			
Soc Sci Elective	3	Engl 254 Surv of Engl Lit	3
Sec Ed 301 Founda of Sec Ed	3	Engl Lit Elect above 300	3
D A 305 Rehearsal and Perform	3	D A 306 Rehearsal and Perform	3
D A 385 Costume Design	3	D A 335 or 336 Theatre Hist	3
Engl 253 Surv of Engl Lit	3	Sec Ed 310 Mat & Meth of Tch	3
Engl 264 Inform Wrtng	3	Ed Fdns 290 Founda of Ed	3
	18		18
Senior Year			
D A 361 Adv Rehears & Perform	3	D A 362 Adv Rehears & Perform	3
Educ Elective	3	Sec Ed 461 Stu Tch in Sec Sch	6
Engl 441 or 442 Shakespeare	3	Ed Fdns 300 Hum Grwth & Dev	3
D A 376 Scene Design	3	Engl Lit elect above 300	3
Math or Science	3		
Other electives	2		
	17		15

It is strongly urged that the student broaden his field of study by choosing electives from the curricula of other colleges of the University, especially courses in the social sciences, so as to gain better insight into the problems of contemporary society.

Students who plan to teach drama in the secondary schools are urged to broaden their knowledge of forensic activities by selecting appropriate electives from the Department of Speech.

In addition to the planned course of study, students of the Department participate in all phases of production of three-act and one-act plays. So far as is possible, this work is correlated to class work.

In lieu of courses not offered during certain terms, substitution made with the advice of the Chairman of the Department will be accepted.

MUSIC

For curricula leading to the B.F.A. in Music, see below. For major studies in the Fine Arts Combined Curriculum, and for minor study requirements, refer to the "Courses of Instruction" section, p. 319.

A minor in creative dance and choreography is offered through the Department of Music. (See p. 319).

NASM MEMBERSHIP

The University of New Mexico is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the National Association of Schools of Music.

PROGRAM FOR FRESHMAN YEAR IN MUSIC DURING ENROLLMENT IN THE UNIVERSITY COLLEGE

Freshmen in all music curricula, except Music Education, should enroll for the following courses:

Engl 101, 102 Wrtng w/Rdgs in Expos & Lit	}
Mus 105, 106, Music Theory	
Physical Education	
One of the following:	
Social Science	
Language	
Mathematics or Science	

10 hours each
Semester

In the following curricula freshmen should enroll for additional courses as indicated:

Applied music, instrumental	}	5 hours each semester
Music 101, 102 (major instrument) Ensemble		
Applied music, vocal		
Music 101, 102	}	5 hours each semester
Music 119, 120 (piano)		
Theory and Composition	}	3 hours each semester
Music 119, 120 (piano)		
Music 155 (Orch Instrum) each semester		
Ensemble each semester		
Music Literature	}	3 hours each semester
Music 119, 120 (piano)		
Music 155 (Orch Instrum) each semester		
Ensemble each semester		

Freshmen in Music Education should enroll for the following courses:

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC IN GRADES 1-12

Freshman Year			
First Semester		Second Semester	
English 101 Wrtnng w/Rdgs in Expos	3	Engl 102 Wrtnng w/Rdgs in Lit	3
‡Soc Sci Elective	3	‡Soc Sci Elective	3
Math or Science	4	Math or Science	4
Mus 105 Music Theory	3	Mus 106 Music Theory	3
Applied Music Elective	2	Applied Music Elective	2
Ensemble Elective	1	Ensemble Elective	1
Physical Ed	1	Physical Ed	1
<hr/> 16 + 1 PE		<hr/> 16 + 1 PE	

FIELDS OF CONCENTRATION

THEORY AND COMPOSITION (132 hours)

Required subject areas (48 hours): English 101 and 102, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied music (14 hours): Piano, 8 hrs.; orchestra instruments, 155, 4 hrs.; voice, 2 hrs.; and completion of Mus 319.

Theory (35 hours): 105, 106, 263, 265, 266, 309, 310, 391, 392, 405, 406, 453, 457, 458, 463.

History and literature (16 hours): 271, 272, 411, 412, 475, 477, plus 4 hrs. selected from 273, 274, 447, 449, 478, 479.

Ensemble: 6 hours.

Elective: 13 hours.

APPLIED MUSIC (PIANO) (132 hours)

Required subject areas (48 hours): English 101 and 102, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (34 hours): 32 hours in piano; 2 hours in orchestral instruments (155); and completion of Mus 402.

‡ Should include 6 hrs. music history and literature.

Theory (24 hours): 105, 106, 263, 264, 265, 266, 309, 310, 405, 406.

History and literature (16 hours): 271, 272, 411, 412, 449, 475 or 477, plus 4 hours selected from 273, 274, 447, 478, 479, 475 or 477.

Ensemble: 8 hours, including 2 semesters of 237 and 1 of 395.

APPLIED MUSIC (INSTRUMENTAL, OTHER THAN PIANO) (132 hours)

Required subject areas (48 hours): English 101 and 102, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (38 hours): 32 hours in major instrument, 4 hours in piano, 2 hours in Music 155; and completion of Mus 402.

Theory (24 hours): 105, 106, 263, 264, 265, 266, 309, 310, 405, 406.

History and literature (14 hours): 271, 272; 411, 412, 475 or 477, plus 4 hours selected from 273, 274, 447, 449, 478, 479, 475 or 477.

Ensemble: 8 hours.

Elective: 2 hours.

APPLIED MUSIC (VOCAL) (132 hours)

Required subject areas (48 hours): English 101 and 102, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hours.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.†; physical education, 4 hrs.

Applied Music (42 hours): Voice, 32 hrs.; piano, 4 hrs.; plus 230, 4 hrs., and 387, 2 hrs.; and completion of Mus 402.

Theory (24 hours): 105, 106, 263, 264, 265, 266, 309, 310, 405, 406.

History and literature (12 hours): 271, 272, 411, 412, 447, plus other history or literature, 2 hrs.

Ensemble (6 hours): chorus, 4 hrs.; ensemble elective, 2 hrs.

APPLIED MUSIC PEDAGOGY (128 Hours)

Required subject areas (48 hours): English 101 and 102, 6 hours; natural science or mathematics, 8 hours; social science, 6 hours; humanities and fine arts, 9 hours; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech, and social science, 15 hours; physical education, 4 hours.

Applied music (28 hours): completion of Music 402.

Theory (22 hours): 105, 106, 265, 266, 309, 310, 405, 406.

History and literature (12 hours): 271, 272, 411, 412; other music literature, 4 hours.

Music Pedagogy (4 hours): 388, 389.

Ensemble: 8 hours

Electives: 6 hours

MUSIC LITERATURE (132 hours)

Required subject areas (48 hours): English 101 and 102, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.*; physical education, 4 hrs.

Applied Music (8 hours): Piano, 4 hrs.; elective, 4 hrs.; and completion of Mus 319.

Theory (30 hours): 105, 106, 155 (2 hrs.), 263, 264, 265, 266, 309, 310, 405, 406, 453, 467.

History and literature (26 hours): 271, 272, 411, 412, 447, 449, 475, 477; other music literature or musicology, 10 hours.

Ensemble: 6 hours.

Electives: 14 hours.

† Student must complete 12 hours (or the equivalent) in any one, or combination, of these languages: French, German, or Italian.

* Must complete foreign language 252.

CURRICULUM FOR STUDENT PREPARING TO TEACH
MUSIC IN GRADES 1-12 (133 hours)

(Qualifies the graduate for the Music Certificate.)

Required subject areas (48 hours): English, 9 hrs.; Speech 255, 3 hrs.; ‡ social science, 12 hrs.; math or science, 11 hrs.; fine arts, 6 hrs. §; Psychology 251, 3 hrs.; physical education, 4 hrs.

Professional Education (24 hours): Ed Founda 290, 3 hrs.; Ed Founda 300, 3 hrs. ¶; Music Education 293, 294, 445, 446, 8 hrs.; Music 264, 1 hr.; Elementary Education 400, 3 hrs.; Secondary Education 461, 462, 6 hrs.

Music (61 hours):

Theory (20 hours): 105, 106, 265, 266, 309, 310, 453, 463 or 467.

Music history: 4 hours.

Applied music: 24 hours. Completion of Mus 319.

Conducting (5 hours): 263, 313, 314, 457 or 458.

Ensemble: 8 hours.

Students majoring in music education who wish also to obtain general certification in elementary education should inquire of their advisers. To complete requirements for both certificates requires more than a four-year program.

**PIANO PROFICIENCY

Before graduation every candidate for the bachelor's degree must demonstrate proficiency at the piano by successfully passing an examination. This examination should be taken before the junior standing examination, upon written application to the Department Chairman. Students should consult adviser for graduation requirements.

** For Proficiency Examinations in Music Education, see p. 321.

§ Fine Arts elective to be chosen from art, drama.

‡ Should include 6 hrs. music history and literature.

¶ In addition, Ed Founda 310 should be scheduled if possible.

THE GRADUATE SCHOOL

GRADUATE WORK leading to the master's degree is offered in the following fields: Anthropology, Art, Art Education, Biology, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Comparative Literature, Economics, Educational Administration, Electrical Engineering, Elementary Education, English, Foreign Studies, French, Geology, Government, Guidance and Counseling, History, Industrial Administration, Mathematics, Mechanical Engineering, Music, Music Education, Nuclear Engineering, Philosophy, Physical Education, Physics, Portuguese, Psychology, Recreation, Science Education, Science of Materials, Secondary Education, Sociology, Spanish, Teaching of Spanish, and Speech.

The degree of Doctor of Philosophy is offered in American Studies, Anthropology, Biology, Chemistry, Education, English, Geology, History, Ibero-American Studies, Mathematics, Physics, Psychology, and Spanish. The degree of Doctor of Science is offered in Engineering; the degree of Doctor of Education is offered in Education.

Prospective applicants should consult the chairman of the department concerned and the Dean of the Graduate School before registering.

ADMISSION

Graduates of any recognized college or university may apply for admission to the Graduate School. All communications regarding admission, as well as all inquiries concerning graduate study, should be addressed to the Dean of the Graduate School.

A formal application is required of all students, including graduates of The University of New Mexico, who seek admission to the Graduate School. Application blanks and the **Graduate School Bulletin** may be obtained by writing to the Dean of the Graduate School. Applicants from other institutions must have two transcripts of all undergraduate and graduate work sent **directly to the Graduate Office** from **each** institution previously attended. Even though a master transcript may carry records from other institutions, University regulations require that these records be sent from each institution. **Transcripts in the possession of students will not be accepted for entrance purposes.** In order to be assured of consideration for admission, students should have their applications, transcripts, and the \$5.00 transfer application fee* on file in the Graduate Office at least two months in advance of the beginning date of the session in which they plan to enroll. The final deadlines for receipt of applications and all required credentials are: for Semester I, August 15; for Semester II, January 1; for the Summer Session, May 1. **Failure to observe this requirement may result in indefinite delay in obtaining permission to register.** No student is assured of admission until he has received an official certificate of admission from the Director of Admissions.

Although each application is reviewed individually, it may be observed that in general an over-all average of near B and a full B average in the preparation for the intended major field are required for admission to a degree status.

* Not required of applicants who have attended The University of New Mexico in regular status.

For status categories, consult the **Graduate School Bulletin**. Any student may be refused admission if his previous scholastic record indicates inability to pursue advanced work satisfactorily. The Graduate School also reserves the right to refuse admission to any student for other than scholastic reasons.

EXTENSION AND CORRESPONDENCE COURSES

The University accepts no correspondence credit toward its advanced degrees. A minimum of extension credit from The University of New Mexico is acceptable, but no extension credit may be transferred from other institutions.

FELLOWSHIPS AND ASSISTANTSHIPS

A number of fellowships and assistantships are available for graduate students. Application blanks may be obtained from the Office of the Graduate School.

THE FORD FOUNDATION CAREER SCHOLAR PROGRAM

For a description of this program, see p. 134.

INFORMATION

For further information regarding advanced work and the conditions under which higher degrees may be obtained, consult the **Graduate School Bulletin** or the Graduate Office.

SCHOOL OF LAW

THE STATE BAR of New Mexico having previously adopted a resolution to that end, and the Legislature of New Mexico having made financial provision, the Regents of The University of New Mexico, on March 31, 1947, as expressly authorized by Laws 1889, Ch. 138, Sec. 15, approved the establishment of a School of Law. The school admitted its first class in September 1947.

ACCREDITATION

The School of Law has met the standards of the American Bar Association and of the Association of American Law Schools. It was approved by the American Bar Association on February 24, 1948. Membership in the Association of American Law Schools was granted in December 1948. The school is fully accredited.

AIMS AND METHODS

The lawyer who functions in his profession, whether as private practitioner or as public servant, is an integral part of the system by which a democratic society governs itself. If he is properly to discharge the responsibilities of this role, his education for the profession must be both broad and intensive. In its breadth it must encompass a full understanding of and belief in the democratic respect for the individual personality and the democratic processes designed to allow the individual to develop and participate in a free, self-governing society. In its intensification it must impart a high degree of competence in the craftsmanship of the law—in those skills and insights essential to an adequate performance of the lawyer's function as advocate, counselor, judge, legislator, teacher, administrator, or civic leader.

Such education neither begins nor ends in the law school, and the School of Law is continually concerned not only with its own curriculum but also with the quality of prelegal education and with the continuing self-education which should be pursued by all members of the profession. In consequence, it is urged that students enter the school with as broad a cultural and educational background as it is possible for them to obtain. Accordingly, the basic requirement for admission is a baccalaureate degree from an approved college or university, although students with a better-than-average undergraduate record and a demonstrated aptitude for law study may be admitted upon completion of three-fourths of the work required for a baccalaureate degree and exceptional students may be permitted to enter upon a 6-year combined course of college and law school study leading to the acquisition of a B.A. or B.S. and the LL.B. degrees.

Under any method of admission, the student will spend the equivalent of six semesters of study in the law school in courses designed both to bring the teachings of history, philosophy, and the social sciences to bear upon the solution of legal problems and to develop the skills and insights essential to research, analysis, synthesis, criticism and exposition. Due to the low ratio of students to teacher (less than 15 to 1), substantially more individual and small group work is possible in the school than in most law schools.

FACILITIES

LAW BUILDING

The School of Law Building is of modified Pueblo Indian design and is colorfully decorated and furnished throughout. Facilities include a moot court room, student and faculty lounges, **Natural Resources Journal** offices, and Student Bar Association offices. The classrooms, library, and halls are soundproofed. The building was designed to accommodate comfortably 150 students. Built on the modular plan, it can be rearranged or expanded.

THE LIBRARY

The law library, housed separately with the law school, received an auspicious start through the donation of the Francis C. Wilson, Francis E. Wood, and other private law library collections. It contains approximately 59,000 accessioned volumes and is being augmented by approximately 250 volumes each month. The research value of the library is greatly enhanced by a collection of unbound pamphlets, appeal papers for the New Mexico Supreme Court and the U. S. Court of Appeals, Tenth Circuit, and micro-reproductions of the records and briefs of the United States Supreme Court and of other materials too rare or costly to be made available in the original form.

COURTS AND THE BAR

State and municipal courts and the United States District Court are convenient to the law school. All of these courts are very busy, and the students may not only visit them but are brought into contact with them through their work with the Legal Aid Society. Members of the bench and bar, both state and local, are very generous in giving their time to speak to the students and in serving as judges and lecturers.

JOHN FIELD SIMMS MEMORIAL LECTURES (1954) See p. 58, *supra*.

NATURAL RESOURCES JOURNAL

The School of Law publishes the **Natural Resources Journal**, a periodical designed to provide a forum for the interchange of ideas relating to resources development and conservation among lawyers, economists, scientists, engineers, planners and public administrators. The **Journal** also contains a New Mexico Section devoted to developments in state law and legal institutions whether or not related to natural resources.

One member of the faculty serves as editor of the **Journal**. Selected students of superior ability make up a student editorial board to aid in the editing and publishing of the **Journal** and to contribute to the New Mexico Section.

ADMISSION

TESTS

All applicants for admission to the School of Law are required to take the Educational Testing Service's Law School Admission Test (LSAT) and the Iowa Legal Aptitude Test (LAT).

The LSAT is administered at this University and at numerous other places throughout the United States in February, April, August, and November of each year. To avoid delay on applications, this test should be taken no later than April

preceding the fall semester for which application is made and an application to take the test should be filed with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey, at least two weeks in advance of the scheduled testing date. Application blanks and information as to precise testing dates can be obtained from the Educational Testing Service.

The LAT is administered by arrangement at this University. An applicant may also arrange to have the test administered by testing authorities of an institution convenient for him by writing to the Director of Counseling and Testing at this University. Letters to the Director should specify the name, title, and institution of the person who is to administer the test. Here again, delay on applications may be avoided by arranging to take the test no later than April preceding the fall semester for which application is made.

Beginning and transfer students may also be required to take speech, hearing, interest, and other tests after their entrance into the school.

BEGINNING STUDENTS

The normal requirement for admission to the law school is a baccalaureate degree from an accredited college or university. The minimum qualitative requirement is a cumulative average of C on all previous college work. At least 3 years of the work allowed for the baccalaureate degree must have been done in residence.

Students who have completed at least 3 years of study constituting three-fourths of the work acceptable for the baccalaureate degree in residence at an accredited college or university are eligible to apply for admission. This will usually mean 96 hours of credit acceptable for the baccalaureate degree and may not include more than 10% of non-theory courses in military science, hygiene, home economics, physical education, vocal or instrumental music, or courses without substantial intellectual content. The minimum qualitative requirement for such students normally is a cumulative average of 2.5 ($C = 2$) on all previous college or university work, or such higher cumulative average as is required for graduation at the institution last attended.

Final selection of applicants with a baccalaureate degree or with 3 years of undergraduate work completed will be made on the basis of total scholastic record in all college or university work attempted, scores in required aptitude tests, and such personal interviews as the law school may require.

Beginning law students will be admitted at the opening of the fall semester only.

Students of exceptional qualifications who are eligible to enter The University of New Mexico College of Arts and Sciences may be permitted to enter upon a combined course of college and law school study leading to the acquisition of a B.A. or B.S. degree in Arts and Sciences and the LL.B. degree. For the student entering this program at the beginning of his sophomore year in the University, an additional 5 years will normally be required to complete the combined course. Students with more than 30 semester hours' credit are not encouraged to apply for admission to the combined course, and students who have completed more than 60 semester hours are not eligible to enter the combined program. Applicants for permission to take the combined course should arrange to take, and to

have the School of Law advised of their scores in, the Iowa Legal Aptitude Test and the Law School Admission Test (see "Tests," p. 196, *supra*). Permission to pursue the combined course will be based upon the student's total scholastic record in all college work attempted, upon his scores in the above-mentioned tests, and upon such oral interviews as the School of Law may require in each case. Students planning to apply for the combined course should take the tests and file their requests for permission with the School of Law no later than August 15 of the calendar year in which they wish to begin the combined course.

All students pursuing the combined course will be required to take a B.A. or B.S. degree in Arts and Sciences prior to or simultaneously with the receipt of the LL.B. degree. For this purpose, they may credit against the B.A. or B.S. degree a minor in Law as defined on p. 304, *infra*. In all other respects, they must meet the normal degree requirements of the College of Arts and Sciences. Such students will take, during their sophomore and/or junior years, two or three introductory courses in the law school. In those years, also, they will be advised, with respect to major and group requirements for the B.A. or B.S. degree, by the faculty of the College of Arts and Sciences and, with respect to the selection of a major, minor requirements and electives for such degree, by the faculty of the School of Law.

All correspondence regarding law work and entrance, all applications for admission, and all transcripts should be addressed to the School of Law, The University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the School of Law. A \$5 transfer application fee is required with the application except in the case of students who have formerly attended this University in degree status.

Applications will be processed upon the receipt of scores on required tests (see "Tests," p. 196, *supra*) and two official transcripts from each institution attended, showing courses and grades for all academic work. Such transcripts should be forwarded to the School of Law directly by the institution certifying the transcripts.

Applications and transcripts should be filed not later than August 15 in order to afford time for evaluation and, if necessary, supplementation and correction.

TRANSFER STUDENTS

A student may transfer from an accredited law school if he is in good standing at that school (i.e., not on probation or under suspension) and if his scholastic record is such that, had it been made at this school, he would be in good standing here. (The requirements for good standing in this school are set out under "Probation and Suspension," p. 200, *infra*.) The transferring student must have sent to the Dean of the School of Law:

1. Two official transcripts of his prelegal course of study from each college or university attended. The School of Law will not accept transfer law credit unless it was preceded by such prelaw study as was then required by this school for beginning law students.
2. Two official transcripts of his law study from each school attended.
3. A letter from the dean of the law school from which he transfers to the

effect that he is presently not on probation or under suspension and is eligible to reregister and advance in that law school.

Credits earned at other law schools with a grade of D are not acceptable for subject credit, but grades of D and F will be included in determining whether the transfer student has the over-all C average necessary to enter this school in good standing. In some cases a transfer student may not be permitted, and in marginal cases he may be required, to retake some or all courses passed with a grade of D.

After admission under the above requirements for transfer with advanced standing, a student's standing in this school is based entirely upon work done here (see "Scholarship Index," p. 108, *supra*).

A student transferring to the School of Law will not be given credit toward the law degree for credit earned at a school not a member of the Association of American Law Schools or provisionally approved by the American Bar Association, except that credit earned within 3 calendar years of provisional approval by the American Bar Association may be accepted. Time during which a person was in active military service will be disregarded in computing the 3-year limitation.

Credit earned at law schools located in other countries may be accepted with certain limitations.

Transferring students who have not previously taken the Iowa Legal Aptitude Test and the Educational Testing Service's Law School Admission Test will be required to do so. (See "Tests," p. 196, *supra*).

All correspondence regarding admission as a transfer student with advanced standing, all applications for such admission, and all transcripts should be addressed to the School of Law, The University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the School of Law. A \$5 transfer application fee is required with the application, except in the case of students who have formerly attended this University in degree status.

Applications will be processed upon receipt of required test scores, required official transcripts, and required letter from the dean of the law school from which the student is transferring. The transcripts should be forwarded to the School of Law directly by the institution certifying such transcripts.

Transfer students may be admitted in either the fall or the spring semester. Applications for transfer, together with required test scores, letters and transcripts should be filed not later than August 15 for fall semester registration and not later than January 1 for spring semester registration.

THE DEGREE

To secure the bachelor of laws degree from The University of New Mexico, a candidate for such degree must:

1. Have met fully all prelegal requirements.
2. Have spent at least 3 full academic years in resident study of law in accredited law schools. Resident study means that a student has been enrolled in a schedule of work represented by a minimum of 10 class hours a week and has passed a minimum of 9 such class hours. In case a student fails to pass work equal to 9 class hours a week, he will not receive residence credit in excess of the ratio

that the hours passed bear to 9. A student enrolled in a schedule of less than 10 class hours a week will receive residence credit in the ratio that the hours passed bear to 10. **Both subject credit and residence, or time, credit are required. A student cannot earn additional residence credit by earning extra subject credit.** At least one year of resident study must be done at The University of New Mexico, and if but one year is done here, it must comprise not less than 12 semester hours of law credit each semester.

3. Have secured during such 3 or more years of resident study, not less than 83 semester hours of credit in prescribed courses of law study with a C average on all work attempted for law credit. (For specific grade requirements on certain required courses, see p. 201, *infra*).

THE DEGREE WITH HONORS. For requirements for graduation honors in the School of Law, see p. 119, *supra*.

PART-TIME STUDENTS AND OUTSIDE WORK

No student will be permitted to register for fewer than 10 credit hours in the law school in any semester, or to reduce his registration to fewer than 10 credit hours, without the approval of the Dean.

If a student spends more than 19 hours a week in outside work, he will normally be required to drop one semester hour of law study for each 3 hours of outside work in excess of 19 hours per week. A corresponding or greater reduction may be required for any student spending 19 hours or fewer per week in outside work whose cumulative grade average in the law school falls below 2.2 (C = 2).

PROBATION AND SUSPENSION

A student enrolled in the School of Law is placed on probation at the end of any semester in which his cumulative grade average on all law courses taken at the University, and on all non-law courses taken after enrollment in the School of Law in which he receives a grade below C, falls below 2.0 (i.e., a C average), regardless of the number of credit hours for which he is currently enrolled. If at the end of his next semester in the law school he has not qualified for removal from probation status, he is subject to suspension. A student who has been suspended is not eligible to apply for readmission for a period of one calendar year from the date of suspension. The readmission of a suspended student after the expiration of the suspension period is contingent upon the approval of the faculty of the School of Law, which approval will be granted only if there is good reason to believe that his prior record was not the result of lack of capacity for law school work and that the prior record was occasioned by factors which would not be present on readmission.

The Dean may require a student who is on probation at the time of registration to enroll for a minimum number of hours, and he may at any time require a student on probation to drop as many hours as seem to be in excess of the student's ability.

SPECIAL PROBATION OR SUSPENSION

Regulations on probation and suspension as described above apply only at the end of a semester or at the time of withdrawal from the University.

However, during the progress of any semester the Dean may refer the case of a student to the faculty, and the faculty may recommend to the Dean probation or suspension for such student if not satisfied of his earnest purpose and of his reliability and responsibility.

BAR EXAMINATIONS

The degree in law from this University will not confer the privilege of practicing law in New Mexico or elsewhere. The degree will satisfy the requirement of graduation from a law school which is a member of the Association of American Law Schools or which is approved by the American Bar Association, as a prerequisite to completing other requirements for bar admission. The curriculum of the School of Law has been registered in full with the Department of Education of the State of New York. Information concerning the New Mexico bar examinations can be obtained from the Secretary, State Board of Bar Examiners, Supreme Court Building, Santa Fe, New Mexico.

CURRICULUM

LAW SCHOOL COURSES

The course of study, casebooks and other study materials, class schedules and the like will be determined by the faculty and may be changed at any time. Attendance at special lectures and the performance of special services may be required although not listed as courses.

Legal Analysis, Legal Research, Legal Writing, and two seminars as offered, must be taken and passed. All first-year subjects must be taken, but, except as indicated in the preceding sentence, a passing grade in each course is not essential to graduation unless the faculty so rules in a particular case. A satisfactory performance in Legal Aid and The Legal Profession is also required although no grades are given in these courses. All other subjects are elective, but not all courses can be so scheduled as to make election feasible for all students. The faculty may refuse to permit or may require any course to be retaken if failed.

BAR EXAMINATION REVIEW

No instruction designed as a review course for bar examinations is offered under law school auspices.

ELECTIVES IN OTHER COLLEGES

Not to exceed 11 credits in other colleges of this University or other fully accredited institutions of higher learning may be taken after entry in the School of Law for elective law credit if permission of the Dean is secured before any such course is taken and if the student has a well-considered plan for specialization, or other valid reason.

Permission of the instructor of any course taken for elective law credit is required, and the student must undertake the responsibility of resolving with such instructor any conflict of law school class meetings or examination schedules with his class meetings and examination schedules in such elective courses. Grades of C or better secured in such courses will not be counted in the computation to determine the student's standing in the School of Law.

STUDENT AIDS

SCHOLARSHIPS

(All applications for scholarships should be filed with the Dean's office by August 15.)

Sam and Frances Joy Dazzo Scholarship Fund. The income from a trust fund of \$5,000, established by Sam and Frances Joy Dazzo in recognition of the splendid service given to The University of New Mexico School of Law by Dean A. L. Gausewitz. Awarded annually to a student in the School of Law who is in need of financial assistance and meets the academic requirements of the School of Law. The award is open to either a man or a woman student whose parents or legal guardians are residents of the State of New Mexico.

Dona Ana County Bar Association Law Scholarship. A scholarship of \$120 per semester, to be awarded primarily on the basis of financial need, to a student in the School of Law who has been a resident of the State of New Mexico for five years, and who enters the School with or thereafter achieves in the School a C average. First priority will be given to students from Dona Ana County, second priority to students who did their undergraduate work at New Mexico State University, and third priority to other students in the School of Law. Applicants who are not from Dona Ana County or from New Mexico State University must have successfully completed their first year at this or some other law school approved by the New Mexico State Board of Bar Examiners.

Dean Alfred L. Gausewitz Scholarship. A scholarship established by the Albuquerque Bar Association and other friends and admirers of Alfred L. Gausewitz, first Dean of the School of Law, who died May 31, 1960. Awarded annually on the basis of merit and need to a deserving second- or third-year law student selected by the faculty of the School of Law.

Hoshour Memorial Scholarship Fund. One or more scholarships of about \$50 each are awarded each year from the income from a fund established in memory of Harvey Sheely Hoshour, distinguished lawyer and scholar and courageous humanitarian, a professor of law at The University of New Mexico, who died October 9, 1951. These scholarships are awarded on the basis of scholarship, active and effective interest in law school affairs, with some consideration of need.

Law School Alumni Fund Scholarship. The income from a trust fund of \$2,500, contributed by the alumni of the law school. Awarded annually on the basis of merit and need.

Thomas J. Mabry, Sr. Scholarship. The income from a memorial fund established by Clara B. Mabry, Kathryn M. Egan, Thomas J. Mabry, Jr., Scott M. Mabry, and friends and admirers of Thomas J. Mabry, Sr., former Governor and Supreme Court Justice and distinguished leader of the New Mexico bar. Awarded on the basis of ability and need.

The Abraham Lincoln Mitchell Scholarship. See p. 93, *supra*.

Anna K. Reisiger Scholarship. A fund established by Mrs. Anna K. Reisiger to aid deserving students who give promise of making a substantial contribution to society. Awarded annually to the student selected by the faculty of the School of Law.

Rocky Mountain Mineral Law Foundation Research Scholarship. The sum of \$200 will be made available annually by the Rocky Mountain Mineral Law Foundation to be awarded to a student of above average scholastic standing who has taken or is taking at least one course in oil and gas or solid mineral law, who has demonstrated superior ability, and who has written a casenote or brief article upon some phase of mineral law or a recently decided case or a research paper upon some topic of mineral law.

The Pearce C. Rodey Memorial Scholarships. One or more scholarships awarded annually in memory of Pearce C. Rodey, distinguished leader of the New Mexico bar, from a fund created by his daughter, Mrs. William Calhoun Witte.

The Ilda B. Sganzi Memorial Fund. Established by Altrusa Club of Albuquerque in honor of Ilda B. Sganzi, Altrusan, whose life was devoted to service and to the aid of women seeking an education, especially in the field of law. The sum of \$200 will be made available each semester by Altrusa Club to be awarded by the law faculty on the basis of academic achievement to a full-time woman student who is in the 4th, 5th, or 6th semester of study and whose character evidences potential for success in the field of law.

Soroptimist's Law Scholarship for Women. A \$200 scholarship payable \$100 each semester to a woman law student who gives promise of completing her legal education and of becoming a respected and useful citizen who will contribute to the civic life of her community and her state, preferably New Mexico, in some field of law or public service.

State Bar of New Mexico Scholarship. The income from a trust fund of \$5,000, established by members of the State Bar of New Mexico. Awarded annually on the basis of merit and need.

The Alexander Verner Wasson Scholarship in Law. Established by The First National Bank of Santa Fe in honor of Alexander Verner Wasson. President of that institution, 1952-1962. The scholarship of \$750 is awarded by the law faculty to a third-year student on the basis of scholarship, character, and professional achievement during the first two years of study in the School of Law.

Graduate Tuition Scholarships.

(a) Three scholarships per semester, awarded on the basis of ability and need, for resident law students with a baccalaureate degree.

(b) Two scholarships per semester, awarded on the basis of ability and need, for non-resident students with a baccalaureate degree.

(Resident students without a baccalaureate degree may apply to the office of the University Dean of Men for tuition assistance.)

PRIZES AND AWARDS

Allen Smith Company Awards. Certificates for the purchase of law books awarded to the three senior students with the best cumulative scholastic averages.

American Jurisprudence Prizes. These prizes, joint gifts of the Bancroft-Whitney Company of San Francisco and The Lawyers Co-operative Publishing Company of Rochester, New York, consist of specially-bound titles from American Jurisprudence and are awarded to the students receiving the highest grades in various law courses.

Bureau of National Affairs Award. A year's subscription to the United States Law Week in recognition of the most satisfactory scholastic progress in the field of law made during the final school year.

Nathan Burkan Memorial Competition. Prizes of \$250 and \$100 provided by the American Society of Composers, Authors and Publishers are awarded annually to seniors in the School of Law for papers in copyright law.

College of Trial Lawyers Moot Court Award. An award of \$100 presented to the winning team in the annual UNM Moot Court Competition by the New Mexico Fellows of the College of Trial Lawyers.

Corpus Juris Secundum Award. One selected title of the legal encyclopedia which is awarded to the students in the first, second, and third year classes making the most significant contribution to legal scholarship.

Margaret Keiper Dailey Memorial Award in Law. The income from a fund established in memory of Margaret Keiper Dailey, a member of the class of 1951, General Counsel of the Legal Aid Society of Albuquerque for eight years, and Director of Legal Aid on the law faculty, who died June 17, 1959, provides book awards for one or more students in the School of Law. These awards will be made on the basis of satisfactory scholarship, character, and those qualities of heart and mind that distinguished Mrs. Dailey's personal and professional life: awareness of social problems, concern for people in trouble, and dedication to the professional responsibility to provide equal justice for all.

Federal Bar Association Prize. A book prize presented by the New Mexico Chapter of the Federal Bar Association to the student with the highest grade average in courses relating to federal practice.

Lawyers Title Award. A prize of \$100 and a certificate awarded annually by the Lawyers Title Insurance Corporation of Richmond, Virginia, to the senior law student found most proficient in the law of real property.

Joseph W. Meek Prize in Taxation and Commercial Law. An award in a form to be selected by the faculty to a senior student for superior work in the fields of taxation and commercial law.

Joseph W. Meek Memorial Plaque of Honor Graduates, upon which is inscribed each year the name of the Honor Graduate in the School of Law.

Pearce C. Rodey Memorial Prize in Law. An annual prize of \$75 established by Mrs. William Calhoun Witte in memory of Pearce C. Rodey, divided between two students for excellence in legal writing.

LOAN FUNDS

State Bar of New Mexico Law Student Loan Fund. With the approval of J. D. Weir, Las Cruces, then President, and other officials of the State Bar, a loan fund sponsoring committee was set up under the chairmanship of the late Sam G. Bratton, Chief Judge of the United States

Court of Appeals, Tenth Circuit. Responses by members of the bar to solicitations from this committee and from a committee of alumni of the School of Law have been most generous and have demonstrated a sincere interest in legal education and in this School. The fund is administered by a committee made up of three members of the faculty, one of whom serves as Loan Fund administrator, and two members of the bar, the Honorable Augustus T. Seymour, former justice of the Supreme Court of New Mexico, and Mr. Jackson G. Akin, both of whom are members of the Albuquerque Bar and active in practice.

OTHER UNIVERSITY SCHOLARSHIPS AND LOAN FUNDS

In addition to the above scholarship and loan funds administered by the School of Law, law students may be eligible for general University scholarships and loan funds administered by the Office of the University Dean of Men. See the section on "Financial Aid" in this catalog.

LEGAL AID

Seniors in the School of Law serve in the office of the Legal Aid Society of Albuquerque. Schedules are made up in advance, and one student reports for Legal Aid work each week. The Legal Aid Society, a Community Chest Agency serving the city and county, was incorporated March 16, 1950 and opened its office in the County Courthouse on August 1, 1950. The office is under the supervision of Mary Dunlap, General Counsel of the Society.

STUDENT BAR ASSOCIATION

All students registered in the School of Law become members of The University of New Mexico Student Bar Association. Through this organization they perform their part in the work and life of the school and assume a substantial measure of responsibility both for its administration and for the course and method of study. An Honor Code administered by the students has been in operation since the establishment of the school. The Code covers all phases of law school life, including library use and the taking of examinations without proctors.

SCHOOL OF MEDICINE

A SCHOOL OF MEDICINE for The University of New Mexico was approved in 1960, and a grant for the initial development of the school was made available by the Kellogg Foundation in the same year. The New Mexico Legislature made a token appropriation toward support of the school at its 1961 session and in 1963 provided major support for future development. The School of Medicine plans to receive its first entering class in the fall of 1964.

FACILITIES

The Medical Sciences Building will be constructed on the north campus in close approximation to the Bernalillo County-Indian Hospital. It is expected that this hospital, together with the Albuquerque Veterans Administration Hospital, will provide the primary resources for introductory student experience in clinical medicine. The Library of the Medical Sciences is housed in a remodelled building immediately north of the Bernalillo County-Indian Hospital and across the street from the site of the Medical Sciences Building.

PROGRAM

Initially the program will be for 2 years only and candidates for the Doctor of Medicine degree also will transfer to 4-year schools of medicine to complete their final 2 clinical years. The school will emphasize graduate education and research and there will be an opportunity for students to continue their education towards a Ph.D. in the basic medical sciences.

The details of the curriculum have not yet been specified. In general, the program will provide experience in the biological science areas basic to medicine: anatomy, biochemistry, physiology, microbiology, pathology, pharmacology, clinical laboratory medicine, and an introduction to clinical medicine and to history-taking and physical diagnosis. The school will plan its program to take advantage of recent advances in medical education, including increased flexibility, emphasis on small-group or individual teaching, early involvement of the student in research, and multi-disciplinary approaches when appropriate.

ADMISSION

The first entering class will be limited to 24 students. An eventual class size of approximately 50 students is planned. The requirements for admission will parallel those of most approved medical schools in this country. It is probable that a special admission plan will be developed for exceptionally talented students at The University of New Mexico who wish to identify themselves early in college with a career in the area of human biological science or medicine.

In general, the admission requirements will include a bachelor's degree from an accredited institution with a major field of concentration in an academic discipline within the arts and science college. Students who major in the humanities or social sciences will be given equal consideration with those who major in the sciences, providing, of course, they have shown the ability to handle scientific material effectively.

In addition to the general requirements indicated above, the following specific courses must be taken:

General Chemistry, including laboratory, one year;

Organic Chemistry, including laboratory, one year;

General Biology, including laboratory, one year;

General Physics, including laboratory, one year;

College Mathematics, one year. Mathematics through calculus is strongly recommended.

The courses taken to fulfill the specific requirements listed above should be those required of students majoring in the respective fields.

Applicants will be required to take the Medical College Admissions Test, and in most instances an interview with the Committee on Admissions of the School of Medicine will be necessary.

Exceptions to the general requirements outlined above may be made for special program students, for qualified students who wish to enter medical school after only 3 years of college, and at the discretion of the Committee on Admissions.

Preference for admission will be given to qualified applicants who are residents of New Mexico or of regional states which do not have their own medical schools and which participate in the Western Interstate Commission on Higher Education student exchange program.

Admission materials may be obtained by writing to the Dean of the School of Medicine. It is recommended that applications be filed not later than December 1 of the year preceding enrollment.

FEES

See p. 75.

INFORMATION REQUESTS

Inquiries are welcome and interested students may write or call at the Office of the Dean, School of Medicine.

COLLEGE OF NURSING

THE PURPOSE of the College of Nursing is to provide opportunities for students to acquire the basic knowledge and skills which they will use as professional nurses in giving nursing care, in helping individuals and families to understand their responsibilities for the maintenance of health and the prevention of disease, and in working with members of other health professions toward the goal of health for individuals and communities.

METHODS

The purpose of the College of Nursing is achieved through general liberal arts courses which contribute to the cultural development of students, through professionally-related courses in the natural sciences and the social sciences which provide a foundation for professional courses, and through professional courses which incorporate specific nursing content.

Beginning in the sophomore year and increasing in the junior and senior years, students have opportunities to correlate and apply their cumulative knowledges and skills as they are supervised in the nursing care of individuals and families in hospitals, homes, and clinics.

ACCREDITATION

The basic program in nursing was fully accredited by the National League for Nursing in December 1959. The accreditation includes approval of preparation in public health nursing.

LICENSURE OF GRADUATES

Graduates of the College of Nursing are eligible to take the State Board Examinations which provide the legal basis for becoming registered nurses.

OPPORTUNITIES IN NURSING

In New Mexico and throughout the country, there is urgent need for professional nurses in all categories of service. The continuing expansion of hospital facilities and public health programs demands increasing numbers of staff nurses, head nurses, supervising nurses, nursing administrators, and teachers of nursing.

Graduates of the College of Nursing will be prepared to accept beginning staff positions in hospitals, out-patient departments, health departments, visiting nurse associations, industries, schools, and the military services. Graduates may also become head nurses in hospitals after suitable experience.

Supervisory, administrative, and teaching positions in hospitals, health departments, and schools of nursing require advanced preparation. Those graduates of the College of Nursing who wish preparation beyond the baccalaureate program will be qualified to seek the master's degree in the special nursing field of their choice.

ADMISSION

All students seeking admission to the College of Nursing must meet requirements for admission to the University.

Freshman students are admitted to the University College. A detailed statement of entrance requirements is in the "Admission and Registration" section of this catalog.

ADMISSION FROM UNIVERSITY COLLEGE

Transfer from the University College to the College of Nursing requires:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;
or
(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Each student must make a satisfactory score on the English Proficiency Examination (administered by The University of New Mexico), or make a grade of C or better in English 010, a non-credit course offered by the Department of English.
4. Each student must make a satisfactory score on the Mathematics Placement Test (administered by The University of New Mexico), or make a grade of C or better in Mathematics 010, a non-credit course offered by the Department of Mathematics.

TRANSFERS

Students seeking to be accepted as transfer students must meet requirements for admission to the University.

Students seeking to transfer from other degree-granting colleges in the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a scholastic index of 2.0 or better on all work attempted while enrolled in the other degree-granting colleges or other collegiate institutions.

Every new student is required to take the scholastic aptitude, the English Proficiency, and the Mathematics Placement examinations.

Registered Nurses. Graduates of approved diploma or associate degree schools of nursing may apply for admission as transfer students. Applicants may be granted up to 35 semester hours advanced standing upon the attainment of satisfactory scores on the Graduate Nurse Examination, Plan C, of the National League for Nursing. Where it seems proper, special examinations administered by the University may be used to establish or validate credit.

GENERAL INFORMATION

In general, students in the College of Nursing follow the procedures outlined under "Admission and Registration" and are governed by the scholastic regulations described under "General Academic Regulations." (See sections, this catalog.) Students enrolled in the College of Nursing are expected to be progressing toward the Bachelor of Science in Nursing degree.

ACADEMIC REGULATIONS

Students are required to maintain an average of C or better for all courses** attempted while registered in the College of Nursing. No student will be permitted to enroll in the professional courses of the senior year unless the grade point average is 2.0 or better.

DEPARTMENTAL HONORS PROGRAM

A Departmental Honors program is available to qualified students in the College of Nursing.

The purposes of the Departmental Honors program are: (1) to intensify and deepen the student's knowledge in nursing; (2) to put this specialized knowledge into better relationship with knowledge in related fields and in the larger general area of nursing; (3) to bring the student under closer guidance of, and into closer acquaintance with, teachers in nursing. The student enters the program during the junior year. Qualifications include a scholastic index of 3.2 on all work taken and on all nursing courses. Transfer students must have earned at least 15 semester hours at the University.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all scholastic index of 3.2; (b) 3 hours each in Independent Study and in Senior Thesis in addition to the usual requirements for the degree; (c) at least 60 earned credits at the University. The level of honors at which the candidate shall be graduated is at the discretion of the faculty of the College of Nursing.

CLINICAL FACILITIES

Facilities for clinical instruction include: Bernalillo County-Indian Hospital, Bataan Memorial Methodist Hospital, Nazareth Hospital, Bernalillo County Health Department, and the Visiting Nursing Service, Inc. All facilities are in greater Albuquerque.

UNIFORMS

Students are required to purchase the uniforms which are worn in nursing practice periods. Orders are placed at the time of registration.

BOARD AND ROOM

Students are responsible for their living arrangements and costs. They must comply with the University regulations as stated in the "Student Housing" section of this catalog.

HEALTH SUPERVISION

Students in the College of Nursing follow the requirements for medical examinations described in the "Admission and Registration" section of this catalog and use the Health Service described in the "Student Services" section of this catalog. Nursing students are required to carry insurance for hospitalization and medical care. Students who do not have health insurance policies will find an adequate policy available through the University. It may be purchased at the time of registration.

** Exclusive of hours in nonprofessional physical education and ensemble music.

Students are required to present current immunization records for diphtheria, tetanus, typhoid fever, and smallpox when they register for nursing practice courses. The record should also give evidence of freedom from tuberculosis as determined by medical evaluation.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Nursing is granted to basic and registered nurse students on fulfillment of the following requirements:

1. Completion of 127 semester hours of course work including the prescribed curriculum.
2. Completion of 4 semester hours of physical education in accord with the University requirement.
3. Completion of at least 60 semester hours of upper-division course work. Such courses are numbered above 300.
4. Completion of the Graduate Record Examination.
5. For minimum residence requirements, see "Degree Requirements" in the section of this catalog entitled "General Academic Regulations."
6. Completion of Group Requirements described below.

GROUP REQUIREMENTS

- A. Natural Sciences. Thirty-three semester hours are to be completed including 8 in General Biology, 8 in General Chemistry, and 17 in courses in the following areas: Organic Chemistry and Biochemistry, Human Anatomy and Physiology, Microbiology, and Pharmacology.
- B. Behavioral Sciences. Twenty-seven semester hours are to be completed including 3 in Anthropology, 3 in Introduction to Sociology, 3 in Structure and Functions of the Family, and 18 in courses in the following areas: Psychology, Sociology, Human Growth and Development, Group Dynamics, and Counseling.
- C. Humanities. Three semester hours must be completed in American Literature.

CURRICULUM

Descriptions of the courses offered will be found, listed by departments, in the catalog section "Courses of Instruction." Prerequisites are included in the course descriptions.

Students planning to complete degree requirements within the time allotted will, while freshmen, complete the courses outlined for the freshman year.

The sequence of selected courses may be changed provided prerequisites are met.

Students who participate in the General Honors program may apply General Studies seminars to satisfy appropriate requirements upon approval by the Dean, College of Nursing.

Students who wish to make substitutions in the program are required to present their plans in writing.

Freshman Year		Sophomore Year	
Engl 101 Wrting w/Rdgs in Expos	3	*Humanities	3
Engl 102 Wrting w/Rdgs in Lit	3	*Natural Sciences	14
Biol 101L, 102L Gen	8	*Behavioral Sciences	9
Chem 101L, 102L Gen	8	Soc 225 Struct & Funct of the Fam	3
Anthro (Sem I)	3	Nurs 251L-252L Family Nurs	4
Soc 101 Intro to (Sem II)	3	Physical Education	1
Nurs 121-122 Nurs & Society	2		<u>34</u>
Physical Education	<u>2</u>		
	32		
Junior Year		Senior Year	
Nurs 303L Med-Surg Nurs	10	Nurs 451L Psychiatric Nurs	6
Nurs 323L Maternal-Child Nurs	10	Nurs 452L Public Hlth Nurs	9
*Natural Sciences	3	Nurs 463L Probs in Clinical Nurs	9
*Behavioral Sciences	9	Nurs 482 Seminar: Issues in Nursing	2
Physical Education	1	Electives	<u>6</u>
	<u>33</u>		32

REGISTERED NURSES

Students who are already registered nurses follow the plan of the curriculum, as outlined, to complete degree requirements. Students with appropriate advanced standing and prerequisites are admitted to upper-division nursing courses.

* See College of Nursing Group Requirements and secure approval of adviser.

COLLEGE OF PHARMACY

IT IS the primary purpose of the College of Pharmacy to prepare its students so that they may not only achieve success in the practice of the profession but may also effectively assume their responsibilities as educated citizens. In addition to providing the opportunity to acquire the necessary knowledge, the College also purposes to inculcate in its students those habits of industry and thoroughness and the qualities of loyalty and ethical behavior which the profession demands of its practitioners.

The College of Pharmacy also provides a consultant service to the profession in the State of New Mexico in connection with unusual prescriptions and other aspects of pharmaceutical practice.

In addition, the two-year certificate program in Dental Hygiene is administered by the College of Pharmacy. (See p. 217.)

OPPORTUNITIES IN PHARMACY

The profession of pharmacy offers, to properly trained individuals, a wide variety of opportunities for service in interesting and satisfying positions. Most of the graduates of colleges of pharmacy enter the retail field. Many, however, occupy positions as manufacturing pharmacists, sales representatives, hospital pharmacists in civilian and governmental hospitals, analysts for state and federal food and drug departments, and as pharmacists in the Army, Navy, Air Force, Public Health Service, and Veterans Administration. Limited numbers are engaged in editing or writing for pharmaceutical publications and as managing officers of local, state, and national pharmaceutical organizations. Positions as research workers in manufacturing plants and as teachers in colleges of pharmacy are open to those who prepare themselves by pursuing graduate work toward advanced degrees.

RECOGNITION

The College of Pharmacy is accredited by the American Council on Pharmaceutical Education, the national accrediting agency in pharmaceutical education, and holds membership in the American Association of Colleges of Pharmacy.

SCHOLARSHIPS AND LOANS

The College of Pharmacy annually grants freshman scholarships to a number of deserving graduates of New Mexico high schools who follow the freshman Pharmacy program in the University College. They are normally awarded for one semester but may be renewed for a second semester if the student maintains a satisfactory grade average. Other scholarships and loans are available to those who qualify. For information apply to the Dean, College of Pharmacy.

LAWS RELATING TO LICENSURE AS A PHARMACIST

The laws relating to the requirements for licensure as a registered pharmacist by examination in the State of New Mexico are presented below in simplified form.

Persons of good moral character who have satisfactorily completed not less than 30 semester hours in an approved college of pharmacy shall, upon application and payment of the required fee, be issued a certificate of registration as a pharmacy interne.

An applicant for examination for licensure as a registered pharmacist by the New Mexico State Board of Pharmacy must be a graduate of a recognized college of pharmacy, must be not less than 21 years old, of good moral character, and not addicted to the use of narcotic drugs or alcoholic beverages. However, before he can receive a certificate as a registered pharmacist he must have had not less than 1 year of pharmaceutical experience under the direction of a qualified pharmacist. Further information regarding licensure as a pharmacist may be obtained from the Secretary of the New Mexico State Board of Pharmacy whose address is available in the office of the College of Pharmacy.

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements is in the "Admission" section of this catalog.

ADMISSION FROM UNIVERSITY COLLEGE. The **minimum** requirements for transfer from the University College to the College of Pharmacy for the study of pharmacy are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;
or
(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.

In addition to the foregoing **minimum** requirements, the student who wishes to transfer to the College of Pharmacy from the University College should have completed Chemistry 101L and 102L and Biology 101L and 102L with grades of C or better. Students who do not obtain a grade of C or better in each of these courses may be admitted to the College of Pharmacy but will be required to obtain grades of C or better in each of these courses before being allowed to enroll in other courses in these fields or in courses for which these are prerequisite.

Students who do not complete the recommended freshman Pharmacy program in the University College will almost certainly find it necessary to spend more than the normal time to complete the requirements for graduation.

(For admission requirements for students of Dental Hygiene, see p. 217.)

TRANSFERS. Students who wish to transfer to the College of Pharmacy from other degree-granting colleges of the University or from other accredited non-pharmacy institutions must present at least 26 semester hours of acceptable credit with a grade-point average of at least 2.0 on all hours attempted in the other

degree-granting colleges or institutions. Those who present 2 years of college-level work, including the courses outlined in the preprofessional and first professional years of the Pharmacy curriculum (excepting Pharmacy 231-232, which may be taken in the second professional year), may be admitted to the second professional year.

Admission of those students desiring to transfer from other colleges of pharmacy will be based on the requirements specified above.

All transfer students must satisfactorily complete the English Proficiency Examination or the remedial English course as specified in **3** above.

SCHOLASTIC REGULATIONS

In general, students in the College of Pharmacy will be governed by the scholastic regulations described under "General Academic Regulations." In addition, the faculty of the College of Pharmacy has adopted the following rules and regulations:

1. Deficiencies in grade points incurred while in residence may not be removed by an excess of grade points earned in extension or correspondence courses.

2. Credit will not be transferred for any required course taken in another institution if an unsatisfactory grade has been previously received in the course at The University of New Mexico. For this purpose a grade of F in a non-professional course, or a grade of D in a course in the fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology, shall be considered to be an unsatisfactory grade.

3. Generally, only work of C quality or better is acceptable as credit toward graduation in the required courses of the major fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology. However, a student who receives grades of D in no more than a total of three such required courses may, upon written petition to the faculty of the College of Pharmacy, be granted credit toward graduation for the work in such courses. (For the purposes of administering this rule, each semester of a course which runs throughout the year shall be considered as a separate course.)

4. No student will be permitted to enroll in the professional courses of the fifth year if his grade average is less than 2.0.

MAXIMUM NUMBER OF HOURS

Students in the College of Pharmacy may not normally enroll for more than 17 credit hours per semester not including required physical education courses.

ACADEMIC ADVISEMENT

In order to provide proper assistance to students in the election of courses and other academic matters, the College of Pharmacy has established a system of academic advisement. Each class is assigned to a faculty adviser who is authorized to act in all academic matters which do not require the approval of the Dean. The faculty advisers assist students in planning their programs, approve all elections of courses, authorize changes in programs, and furnish advice on other academic matters. Students are urged to consult with their advisers regularly.

AFROTC AND NROTC

The courses in Air Science and Naval Science are acceptable as elective courses in the Pharmacy curriculum.

MINIMUM RESIDENCE REQUIREMENT

Students entering the College of Pharmacy with advanced standing from non-pharmacy colleges are required to complete not less than 6 semesters of full-time resident study before they will be recommended for the degree of Bachelor of Science in Pharmacy. Those transferring from other colleges of pharmacy may be given credit for more than 2 years of work provided the courses and credit are applicable to the work outlined in the curriculum of this College.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Pharmacy is granted upon completion of all the specified requirements. The candidate for this degree must:

1. Complete all of the work outlined in the pharmacy curriculum. Of the 29 elective hours, the student may not elect more than a total of 14 hours of course work in the professional and/or basic science areas; he must elect at least 15 hours in any combination of courses offered in the Colleges of Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, and Nursing, the School of Law, or the Departments of Air Science or Naval Science, as approved by his academic adviser.

2. Complete a total of not less than 160 semester hours plus 4 semester hours of physical education or its equivalent.

3. Maintain a grade average of 2.0 on all hours attempted* in satisfying the scholastic requirement of the University for the bachelor's degree.

4. Receive grades of C or better in all the required courses in the fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology, except that a candidate who has received grades of D in no more than a total of three such required courses may, upon written petition to the faculty of the College of Pharmacy, be granted credit toward graduation for the work in such courses. (For the purposes of administering this exception, each semester of a course which runs throughout the year shall be considered as a separate course.)

5. Satisfy the minimum residence requirement.

6. Complete the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or obtain a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.

7. Be unanimously recommended for the degree by the faculty of the College of Pharmacy.

* Exclusive of hours in nonprofessional physical education and ensemble music.

CURRICULUM LEADING TO THE DEGREE OF
BACHELOR OF SCIENCE IN PHARMACY

(Descriptions of the courses offered will be found, listed by departments, in the catalog section "Courses of Instruction.")

First Year			
(Preprofessional Year)			
(Program recommended for Freshmen in the University College)			
First Semester		Second Semester	
Engl 101 Wrtn g w/Rdgs in Expos	3	Engl 102 Wrtn g w/Rdgs in Lit	3
Chem 101L Gen	4	Chem 102L Gen	4
Biol 101L Gen	4	Biol 102L Gen	4
Math 101 Coll Alg	3	Math 102 Plane Trig	2
Elective	3	Elective	3
Physical Ed	1	Physical Ed	1
	<u>18</u>		<u>17</u>

The above is the recommended freshman Pharmacy program for University College students who wish to enter the College of Pharmacy. At the time of their first enrollment, such students will be assigned to an adviser from the College of Pharmacy. See p. 213 for specific requirements for admission to the College of Pharmacy.

PROFESSIONAL CURRICULUM

Second Year			
(First Professional Year)			
Phm 231 Orientation I	1	Phm 232 Orientation II	1
Chem 301 Organic Chem	3	Chem 302 Organic Chem	3
Chem 303L Organic Lab	1	Chem 304L Organic Lab	1
Physics 111 & 113L Gen	4	Physics 112 & 114L Gen	4
Biol 393L Bacteriology	4	Econ 200 Prin of	3
Elective	3	Elective	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>16</u>

Third Year			
(Second Professional Year)			
Phm 341L Intro	5	Phmcog 372L Gen	4
Chem 253L Quant Analysis	4	Chem 323 & 324L Biol Chem	4
Phmcol 381 Biol Med	3	Biol 430L Verte Physiol	4
Biol 429L Cellular Physiol	4	Spch 255 Pub Spkg	3
		Elective	2
	<u>16</u>		<u>17</u>

Fourth Year			
(Third Professional Year)			
Phm 443L Operative Phm I	5	Phm 444L Operative Phm II	5
Acct 105 Prin of	3	Phm 420 Pharmaceutical Law	3
Phmcol 475L Phmcol I	4	Phmcol 476L Phmcol II	5
Elective	3	Elective	3
	<u>15</u>		<u>16</u>

Fifth Year			
(Fourth Professional Year)			
Phm Chem 463L Med Chem I	5	Phm Chem 464L Med Chem II	4
Phm 447L Disp Phm I	5	Phm 448L Disp Phm II	5
Phm 421 Phm Management	2	Phm 434 Hist of Pharmacy	2
Phm 493 Inspection Trip	0	Elective	6
Elective	3		
	<u>15</u>		<u>17</u>

DENTAL HYGIENE PROGRAM

The Dental Hygiene Program is a 2-year curriculum leading to a Certificate in Dental Hygiene. It is open to those who meet the admission requirements and are selected by the Admissions Committee of the Program.

OPPORTUNITIES IN DENTAL HYGIENE

Dental Hygiene is a health service profession with the emphasis on prevention of dental diseases. A dental hygienist is trained and licensed to provide dental services to patients under the supervision of a dentist. These services include: cleaning patients' teeth, teaching patients home care of their mouths, examining patients' teeth and charting findings for the dentists' inspection, taking and developing dental x-rays, assisting the dentist with routine office duties, speaking on dental health to groups, applying topical fluoride, helping in community health programs.

Students receive practical training in a 20-chair clinic in the Dental Programs Building on the University of New Mexico campus.

The demand for the services of dental hygienists is great in private dental office practice, clinics, and institutions. The 2-year curriculum prepares the student for these services. Additional training is required for dental hygienists who choose to teach or serve in public health capacities. The financial rewards vary with the type of employment, community standards, and the hygienist's education but compare favorably with those in similar professions.

QUALIFYING TO PRACTICE

Upon successful completion of the prescribed curriculum, the University confers a Certificate in Dental Hygiene. This certificate entitles the recipient to take the state board examination in dental hygiene in all 50 states, the District of Columbia, and Puerto Rico.

STUDENT LOANS

Student loans are available from the New Mexico Dental Association. Recipients of loans must have been residents of New Mexico for 10 years and must be enrolled in the Dental Hygiene Program at the time application for loan is made.

A \$100 loan, a gift from the first class graduating in dental hygiene, is available to a student for use in her fourth semester. The loan is presented to a student selected by the faculty on the basis of scholarship and need.

SCHOLARSHIPS

Four \$800 scholarships are available to dental hygiene students who have completed their first year of training and have earned a scholarship index of 3.0. Students in all the dental hygiene programs in the United States compete for these four scholarships. Information concerning application for them is available from the Director.

ADMISSION

The total class enrollment in dental hygiene at The University of New Mexico is restricted to 20 students. They are admitted only in the fall semester. Students will be accepted on the basis of scholarship, aptitude, and interest. Dental hygiene students should be capable of maintaining high scholastic standards. If a

dental hygiene student withdraws from the program, that place in the class cannot be filled by a transfer student from some other field of study.

Requirements for admission are:

1. Admissibility to The University of New Mexico as described in bulletin (refer to "Admission"); completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or a grade of C or better in Remedial English; eligibility for Mathematics 101 on basis of placement test.
2. Personal interview.
3. Satisfactory scores in Dental Hygiene Aptitude Test.

There is no time during the 2-year period to remove high school deficiencies. Anyone with such a deficiency must remove it before making application to the Dental Hygiene Program.

The American Dental Hygienists' Association, in cooperation with the Council on Dental Education of the American Dental Association, conducts an aptitude testing program for applicants to dental hygiene schools. Testing periods are in February, May, and November of each year. There are various testing centers in the Western States, one of which is Albuquerque. An application for the test can be obtained from the American Dental Hygienists' Association, 304 East 45th Street, New York 17, New York or from the office of the Dental Programs. Reports on test scores are sent directly to the dental hygiene schools indicated by the applicant.

The deadline date for receipt of applications and credentials required for the Dental Hygiene Program is April 1. All requirements for admission must be fulfilled by this date. Communications regarding entrance to the Dental Hygiene Program should be addressed to the Director of Admissions of The University of New Mexico. The applicant should make an appointment directly with the Director of the Dental Hygiene Program for a personal interview before the deadline date. The Admissions Committee of the Dental Hygiene Program selects the class for the following September during the month of April. The Office of Admissions of the University notifies the applicant of acceptance or non-acceptance.

Freshman students with no previous college work will be admitted to the University College for the first year's work in dental hygiene. Students with 26 hours or more of acceptable college-level work will be admitted to the College of Pharmacy. No transfers from other schools of dental hygiene can be accepted.

EXPENSES

In addition to tuition, housing, and school supplies, students in the Dental Hygiene Program are required to purchase instruments, clinical supplies, and uniforms. The approximate cost of these expenses is \$350 for the two-year period; most of this expense is in the first year.

The Dental Hygiene Program at The University of New Mexico participates in the Student Exchange Program operated by the Western Interstate Commission for Higher Education, under which legal residents of Western States without

a professional school in this field pay the same tuition and fees at this institution as residents of the State of New Mexico. To be certified as eligible for this program, the student must write to the WICHE certifying officer in his home State, who will send the proper application forms. State eligibility requirements vary, and the number of students included from each State depends upon appropriations by the State legislature. For addresses of State certifying officers, write to the Western Interstate Commission for Higher Education, Fleming Law Building, Boulder, Colorado.

REQUIREMENTS FOR THE CERTIFICATE IN DENTAL HYGIENE

The candidate for the Certificate in Dental Hygiene must:

1. Complete all of the work outlined in the curriculum in dental hygiene.
2. Maintain a grade average of at least 2.0 on all college-level work * attempted at The University of New Mexico.
3. Complete the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or obtain a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.
4. Be unanimously recommended by the full-time Dental Hygiene Program staff.

CURRICULUM LEADING TO THE CERTIFICATE IN DENTAL HYGIENE

(Descriptions of the courses offered will be found, listed by departments, in the Catalog section "Courses of Instruction.")

First Year			
First Semester		Second Semester	
Engl 101 Wrting w/Rdgs in Expos	3	Engl 102 Wrting w/Rdgs in Lit	3
Chem 141L Elem of Gen Chem	4	Chem 142L Elem of Org Chem	4
Speech 101 Fund of Speech	3	Biol 136 Human Anat & Physiol	3
H Ed 164 First Aid	2	Biol 139L Human Anat & Physiol Lab	2
DH 100L Orientation	2	DH 102L Clin Dent Hyg	3
DH 110L Oral Anat	2	DH 112 Oral Radiography	1
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>
Second Year			
Biol 133L Paramed Microbiol	3	Soc 101 Intro to	3
H Ed 171 Pers & Commun Hlth	3	Pharmacology 276 Prin of	3
Psych 251 General	3	DH 202L Clin Dent Hyg	4
DH 200L Clin Dent Hyg	3	DH 212 Pathology	2
DH 210L Histology	2	DH 222 Dent & Pub Health Ed	2
DH 220L Dent Materials	2	DH 232 Nutrition	2
Physical Ed	1	DH 242 Practice Mgt & Ethics	1
	<u>17</u>	Physical Ed	1
			<u>18</u>

DENTAL ASSISTING PROGRAM. Refer to p. 222. (An Extension Division program.)

* Exclusive of hours in nonprofessional physical education and ensemble music.

OTHER DIVISIONS OF THE UNIVERSITY

TELEVISION PROGRAMMING

THE UNIVERSITY offers instruction via television in a number of courses selected from residence offerings. These courses are selected by the University Television Committee and are recommended to the Administration through the office of the Academic Vice President.

Like all other residence course offerings, courses taught via television receive residence credit, applicable to undergraduate degree programs of the University. These telecourses are broadcast over Channel 5—KNME, which is owned and operated jointly by The University of New Mexico and the Albuquerque Public Schools.

The University's academic course offerings in television production are coordinated with Channel 5. Students enrolled in television production courses observe, and participate to a limited degree in, on-the-air broadcast activities of Channel 5.

DIVISION OF EXTENSION, SUMMER SESSION, AND COMMUNITY SERVICES

EXTENSION

The Division of Extension of the University was established as a separate unit with a full-time director in 1928, and has been conducting instruction by correspondence and extension class continuously since that date. On May 7, 1930, the Extension Division of The University of New Mexico became a member of the National University Extension Association, the acknowledged accrediting agency for institutions which offer instruction by correspondence or extension class.

Extension and correspondence courses allow many people who are unable to attend classes in residence to pursue their educational programs. A special correspondence bulletin is issued periodically giving regulations and information concerning courses offered by the Division of Extension. For a copy of the **Correspondence Bulletin** and further information address the Director, Division of Extension, The University of New Mexico, Albuquerque.

EXTENSION CLASSES. The University is always pleased to arrange extension classes in any community in the State. Any of the regular University courses may be offered by extension provided there is a large enough group in any one center to justify doing so, and as long as the class is not dependent upon the campus library and laboratory facilities. Persons interested in having an extension class offered in a specific community should address their inquiries to the Director, Division of Extension. For questions concerning audit status refer to p. 109.

CORRESPONDENCE COURSES. A number of courses are offered which are carried on entirely by mail and are planned and conducted by qualified university personnel. Credits received in this manner may be applied toward an undergraduate degree to the extent of 30 semester hours, subject to the approval of the dean of the college in which the student is enrolled. (See additional regulations on p. 116.)

SUMMER SESSION

A summer session of 8 weeks is conducted each year on the campus. (For dates, see the Calendar.) Every attempt is made to meet specialized needs of the particular student group of the session. Emphasis is placed on advanced and graduate work. A special program is offered for teachers and school administrators. The summer climate is warm but delightful; nights are cool. The residential halls are regularly operated during the Summer Session. For a copy of the **Summer Session Bulletin** and further information, address the Director, Summer Session, The University of New Mexico, Albuquerque.

COMMUNITY COLLEGE

The Community College offers a program of late afternoon, evening, and Saturday courses, both credit and non-credit, and supervises the programs of all students enrolled in the University for non-degree work. The Community College has these objectives:

1. To make it possible for adults to supplement their education along general, cultural lines or in the fields of their special interest.
2. To make it possible for employed persons who are unable to attend the regular daytime program of the University to supplement their education through the evening offerings, and thereby become more valuable in their work and as citizens.
3. To assist those mature students who cannot meet the regular admission requirements of the University to obtain some college credit while working off their admission deficiencies.

CREDIT COURSES. The standards and requirements maintained for credit courses taken in non-degree status in the Community College are the same as those required in the 4-year degree-granting colleges of the University. The instruction is carried on by members of the regular University faculty. Credits earned are recorded on the permanent academic record of the student, and subject to the restrictions set forth on p. 70 of this catalog, are applicable in the regular degree programs of the University.

NON-CREDIT COURSES. The only prerequisite necessary for the non-credit offerings is the desire to learn. Classes are open to any adult interested in further training in either professional or vocational fields, or as a means of better enjoying leisure time.

The **Community College Bulletin** listing both credit and non-credit courses offered each semester will be supplied to anyone making a request to the Director, Division of Extension, The University of New Mexico, Albuquerque.

CONFERENCES, INSTITUTES, AND SHORT COURSES

All conferences and special courses connected with The University of New Mexico are coordinated through the Division of Extension. The development of any conference, institute, or short course is, of necessity, a cooperative process, from initiation and planning through the actual operation, between a specific department of instruction on campus and the special interest group desiring the activity.

Business, professional, or lay groups interested in a series of meetings to dis-

cuss topics of special interest should contact the Director, Division of Extension, who will make the necessary arrangements for the meetings.

ADULT EDUCATION PROGRAMS

To any community, club, or organization which wishes help in setting up adult education activities the University will be glad to give all the assistance possible. Such activities as classes for illiterates, club study groups, forums, lecture series, etc., will receive special attention. Upon request, the University will make specific written suggestions for organizing any or all of these activities.

AUDIO-VISUAL CENTER

The purpose of the Audio-Visual Center will be to promote modern methods of teaching through audio-visual materials now in use, to make accessible to the faculty and students the audio-visual equipment and materials now becoming standard, and to serve as an advisory and demonstration center for these teaching aids. Major emphasis is placed on acquiring the best in modern audio-visual equipment and in building up an adequate library of teaching materials for on-campus use.

HARWOOD FOUNDATION

The Harwood Foundation, located at Taos, New Mexico, is operated in connection with the Division of Extension, Summer Session, and Community Services as an extension and field center. Various credit classes are offered by extension during the academic college year whenever demand exists. A library is maintained the year around for the people of the vicinity.

DENTAL ASSISTING PROGRAM

The Dental Assisting Program at The University of New Mexico is a 2-semester course which starts each year in the fall semester only.

The curriculum in Dental Assisting is specific. A student **must** take all the courses and in the sequence listed in the curriculum. Only courses offered by the regular academic departments of the University earn credit for the student. All the technical courses related to dental assisting are non-credit courses and cannot be used in fulfilling requirements for any other course of study. On satisfactory completion of the dental assisting training the student will be awarded a Certificate of Proficiency in Dental Assisting from the Division of Extension of The University of New Mexico. This certificate shows that the student has been formally trained. This training fulfills the educational requirements for later certification by the Certifying Board of the American Dental Assistants' Association.

Students applying for Dental Assisting are admitted to the University in non-degree status. Application blanks and information on the program may be obtained from the Director of Dental Programs, Building B-2, The University of New Mexico, Albuquerque.

DENTAL HYGIENE PROGRAM. Refer to p. 217. (An offering of the College of Pharmacy.)

AIR FORCE RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Air Force under rules promulgated by the Department of the Air Force and The University of New Mexico.

The purpose and mission of the Air Force ROTC is to select and train students who possess the character, intelligence, desire and sense of duty to become Air Force officers.

Students may enter the Air Force ROTC from any college of the University. Completion of Air Science requirements may constitute the completion of a minor study in the College of Arts and Sciences, the College of Education, or the College of Fine Arts, with the approval of the dean concerned.

Processing of both old and new students for supplies and special records begins **two days before** registration for Semester I each year. All AFROTC students must complete this processing before academic registration. The \$8 fee makes up a cadet activity fund which is administered by the students. This fee is collected only at the beginning of the fall semester. Students entering during the spring semester must pay a \$5 fee to the University cashier prior to spring enrollment.

(For further information refer to the section on Military Training under General Information, p. 59 in this bulletin.)

DEPARTMENT OF AIR SCIENCE

Freshman Year (Air Science 1)	
First Semester Air S 100 (2) (Leadership Lab) Air S 110L (0)	Second Semester Selected & Approved University Courses (Leadership Lab) Air S 110L (0)
Sophomore Year (Air Science 2)	
Selected & Approved University Courses (Leadership Lab) Air S 110L (0)	Air S 201 (2) (Leadership Lab) Air S 110L (0)
Junior Year (Air Science 3)	
Air S 300 (4) (Leadership Lab) Air S 110L (0)	Air S 301 (4) (Leadership Lab) Air S 110L (0)
Senior Year (Air Science 4)	
Air S 400 (1) Govt 203 (3) (Leadership Lab) Air S 110L (0)	Air S 401 (4) (Leadership Lab) Air S 110L (0)

Note: There is a possibility that a new, shortened AFROTC program may be inaugurated in the fall of 1964. Interested persons should check with the Professor of Air Science.

NAVAL RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Navy and Marine Corps under rules promulgated by the Navy Department.

The mission of the NROTC is to provide, by a permanent system of training and instruction in essential naval subjects at The University of New Mexico, a source from which qualified officers may be obtained for the Navy and Marine Corps, and for the Naval Reserve and Marine Corps Reserve.

DEPARTMENT OF NAVAL SCIENCE

Students enrolled in the NROTC Unit may be enrolled in most colleges in the University. Completion of the Naval Science requirements will constitute completion of a minor study in the College of Arts and Sciences.


Freshman Year	
First Semester	Second Semester
NS 111. Naval Orientation	3 NS 122. Evolution of Sea Power 3
Sophomore Year	
NS 211. Naval Weapons	3 Psy 251. General Psy 3
Junior Year	
NS 311. Navigation	3 NS 322. Naval Operations 3
Senior Year	
NS 411. Naval Engineering	3 NS 422. Prin and Probs of Leadership 3

Marine Corps subjects, given below, are substituted by Marine Corps applicants during junior and senior years.

Junior Year	
First Semester	Second Semester
NS 333. Evolution of the Art of War Part I	3 NS 334. Evolution of the Art of War Part II, Modern Basic Strategy and Tactics 3
Senior Year	
NS 444. Amphibious Warfare Part I	3 NS 445. Amphibious Warfare Part II, Leadership, and Military Justice 3

NROTC students are required to attend 2 hours of Naval Science drill/laboratory per week.

COURSES OF INSTRUCTION

 IN THE following pages, under the respective department and division headings, are listed all the courses offered for residence credit by the University as well as requirements for major and minor studies in the various departments.

Courses are numbered from 1 through 600. Courses from 001 to 099, are sub-college level and carry no credit; from 100 to 199, lower division, are normally open to freshmen; from 200 to 299, lower division, normally open to sophomores; from 300 to 499, upper division, normally open to juniors, seniors, fifth-year undergraduates, and graduates; 500 to 699, graduate, normally open to students enrolled in the Graduate School only, The School of Law, or The School of Medicine.

Because the University's numbering system is being changed beginning with the 1964-65 academic year, this issue of the catalog carries the former course number in brackets immediately following the new number.

Symbols used in course descriptions:

*—course allowed for graduate credit to students enrolled in the Graduate School. Normally, a Graduate student enrolled in a starred course numbered below 500 is required to do extra work in the course.

[]—former course number or title

L—part of the course is laboratory work

F—course is given in field session

SS—course offered in summer session only

Yr—course offered throughout two semesters and credit for the first semester's work is suspended until the entire course is completed

()—semester hours' credit; credit hours separated by a hyphen (1-3) indicates variable credit in the course.

When a prerequisite course number is not preceded by a department designation, reference is to the department under which the prerequisite statement appears.

A schedule of course offerings, including hours of meeting, is issued at the opening of each session. The University reserves the right to cancel any listed course or to make a substitution in instructors when necessary.

The departments and fields of study are arranged in alphabetical order in accordance with the table below:

Accounting (See Business Administration)

Air Science

American Studies

Anthropology

Architecture

Art

Art Education (See Education, Art)

Astronomy (See Physics & Astronomy)

Basic Language (See Modern & Classical Languages)

Biology

Business Administration

Business Education (See Business Administration)

Chemical Engineering (See Engineering, Chemical)

Chemistry

Chemistry, Pharmaceutical (See Pharmacy)

Civil Engineering (See Engineering, Civil)

Classical Languages (See Modern & Classical Languages)

Comparative Literature

Data Processing

Dental Hygiene

Dramatic Art

Economics

Economics-Philosophy

Education, Art

Education, Business (See Business Administration)

Education, Educational & Administrative Services

Education, Elementary

Education, Health, Physical Education, and Recreation

Education, Home Economics

Education, Industrial Arts

Education, Library Science

Education, Secondary

Educational Administration (See Educational and Administrative Services)

Educational Foundations (See Educational and Administrative Services)

Electrical Engineering (See Engineering, Electrical)

Elementary Education (See Education, Elementary)

- Engineering
 Engineering, Chemical
 Engineering, Civil
 Engineering Electrical
 Engineering, Mechanical
 English
 English-Philosophy
 Fine Arts
 Folklore (See Modern & Classical Languages, and English 461)
 French (See Modern & Classical Languages)
 General Studies
 Geography
 Geology
 German (See Modern & Classical Languages)
 Government & Citizenship
 Greek (See Modern & Classical Languages)
 Guidance (See Educational and Administrative Services)
 Health, Physical Education, and Recreation (See Education, Health, Physical Education, and Recreation)
 History
 Home Economics (See Education, Home Economics)
 Ibero-American Studies
 Industrial Arts (See Education, Industrial Arts)
 Italian (See Modern & Classical Languages)
 Journalism
 Latin (See Modern & Classical Languages)
 Law
 Library Science (See Education, Library Science)
- Mathematics & Statistics
 Mechanical Engineering (See Engineering, Mechanical)
 Modern & Classical Languages
 Music
 Music Education
 Naval Science
 Nursing
 Paleocology
 Pharmaceutical Chemistry (See Pharmacy)
 Pharmacognosy (See Pharmacy)
 Pharmacology (See Pharmacy)
 Pharmacy
 Philosophy
 Philosophy-Economics (See Economics-Philosophy)
 Physical Education (See Education, Health, Physical Education & Recreation)
 Physical Science
 Physics and Astronomy
 Portuguese (See Modern & Classical Languages)
 Psychology
 Recreation (See Education, Health, Physical Education & Recreation)
 Russian (See Modern & Classical Languages)
 Secondary Education (See Education, Secondary)
 Sociology
 Spanish (See Modern & Classical Languages)
 Speech
 Statistics (see Mathematics & Statistics)

ACCOUNTING

See Business Administration.

AIR SCIENCE

William C. Naylor, Lt. Col., USAF (Chairman), Professor of Air Science; Associate Professor Kenneth O. Johnson, Captain, USAF; Assistant Professor Daniel L. Grogan, Captain, USAF.

CURRICULUM†

See p. 223.

100. [11] Air Science 1—Foundations of Aerospace Power. (2)

Introductory examination of the factors of aerospace power, major ideological conflicts, requirements for military forces in being, responsibilities of citizenship development and traditions of the military profession, role and attributes of the professional officer in American democracy, organization of the armed forces as factors in the preservation of national security, and the United States Air Force as a major factor in the security of the free world.

Air Science 1. (Second Semester) (2-3)

Selected and approved courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities, or social sciences.

Air Science 2. (First Semester) (2-3)

Selected and approved University courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities, or social sciences.

† There is a possibility that a new shortened AFROTC program may be inaugurated in the fall of 1964. Interested persons should check with the Professor of Air Science.

201. Air Science 2—World Military Systems. (2)

A comparative study of world military forces to include free world land and naval forces, free world air forces, Communist military systems, and trends in the development and employment of military power.

300-301. Air Science 3—Growth and Development of Aerospace Power. (4, 4)

The history of airpower to include present Air Force concepts, doctrine, and employment; aeronautics and space operations encompassing the U.S. space program, the spatial environment, orbits and trajectories, space vehicle systems, instrumentation, communication, guidance, and control, ground support systems, manned space flight and operations in space; contemporary military thought concerning the future use of aerospace power.

400-401. [151-152] Air Science 4—Global Relations. (1, 4)

An intensive study of global relations of special concern to the Air Force officer, with emphasis on international relations and world political geography. Also includes weather, navigation and briefing for commissioned service.

110L. [10L] Leadership Laboratory. (0)

Study of leadership, drill and ceremonies, customs and courtesies of the service, and exercise of command. This laboratory is required of all Air Science students (2 hours each week throughout the 4-year program) and provides each cadet an opportunity for leadership training and experience in a supervised environment. Leadership training is not restricted to military drill, but includes classroom activity, extracurricular functions, and informal situations in which there is interaction between cadets and their supervisors. Although no specific academic credit is designated for Leadership Lab, this activity is a major portion of the AFROTC program and is so evaluated.

AMERICAN STUDIES

Committee in Charge: Professors G. W. Arms (English), Chairman; W. M. Dabney (History), D. B. Hamilton (Economics), C. B. Judah (Government), G. W. Smith (History), E. W. Tedlock, Jr.† (English); Associate Professors Bainbridge Bunting (Art), G. D. Nash (History), Undergraduate Adviser; Assistant Professor H. Hill (English).

Two interdepartmental programs in American Studies are offered, a graduate major leading to the degree of Doctor of Philosophy and a distributed minor for undergraduates majoring in certain departments of the College of Arts and Sciences.

Requirements for the doctor's degree in American Studies are listed in the **Graduate School Bulletin**. The program presupposes a Master of Arts degree in a major such as history, English, education, sociology, government, philosophy, or economics.

An American Studies minor may be elected by undergraduate students majoring in the departments of Anthropology, Economics, English, Government, History, or Sociology.

MINOR STUDY

The requirement is 24 hours, including 9 hours in American Studies courses (English 285; American Studies 301, 302) and 15 hours in approved courses in literature, history, or social science. With the approval of the chairman of the major department, options within the major may permit the election of additional courses in the American area. Since courses counted toward a major cannot also be counted toward a minor, requirements vary somewhat according to the student's major department. In addition to 9 hours in American Studies, approved courses are as follows:

†Acting Chairman, Second Semester 1963-64.

For majors in Anthropology, Economics, Government, or Sociology:

6 hours in literature or history (normally chosen from English 432, 435, 467, 468, 469, 470; History 361 through 379); 6 hours in a social science other than the major (normally from Anthropology 301, 302, 305, 357, 358, 404; Economics 320, 350, 360; Government 306, 307, 368, 375; Sociology 351, 441, 461); 3 hours in Philosophy 332 or Art 472.

For majors in English:

9 hours in history (as above); 6 hours in a social science (as above); 3 hours in Philosophy 332 or Art 472.

For majors in History:

6 hours in literature (as above); 6 hours in a social science (as above); 3 hours in Philosophy 332 or Art 472.

301-302. [101, 102] *Interdepartmental Studies in the Culture of the United States.* (3) Nash, Hill.

Subjects, varying from year to year, will be topical in 301 (as "Crises in American History," "Individualism in the United States") and chronological in 302 (as Naturalism, 1889-1918"). (Offered in alternate years.)

***501.** [201] *Interdepartmental Seminar in the Culture of the United States.* (3) Arms, Bunting, Judah, G. Smith, Tedlock, Walter.

Religious backgrounds in the United States during the 19th century; architecture and culture of 19th century America; Jacksonian politics; American society, 1860-1900; the influence of radical politics on art and literature, 1918-1939; American society in transition; and similar topics.

***699.** [400] *Dissertation.*

ANTHROPOLOGY

Professors W. W. Hill (Chairman), H. W. Basehart, F. H. Ellis, F. C. Hibbert, S. S. Newman; Assistant Professors P. K. Bock, K. H. Schwerin; J. J. Brody, Curator.

MAJOR STUDY

Anthropology 101, 102, 493, and 28 more semester hours in courses numbered from 300 through 499 within the Department. Anthropology courses offered are divided into five major divisions: archaeology, ethnology, linguistics, topical and technical. A student must concentrate in 1 of the first 3, and must take a minimum of 12 hours in that division. Six hours must be taken in each of the 2 other major divisions, and 3 hours in each of the remaining 2 divisions. Three semester hours of field courses may be applied toward the fulfillment of the appropriate division of concentration. Upper division courses from other departments, chosen with the approval of the Chairman of this Department, are acceptable as electives toward a major in Anthropology.

MINOR STUDY

14 hours in addition to Anthropology 101 and 102, at least 6 hours to be taken in courses numbered above 300.

101. [1] General Anthropology: Origin and Antiquity of Man. (3)

102. [2] General Anthropology: Development of Culture. (3)

† On leave first semester 1964-1965.

- 260L. [60L] **Beginning Museum Techniques and Methods.** (3) Brody
Museum administration, publicity, exhibits and curatorial techniques. 1 lecture, 5 hrs. lab.
- 266F. [66F] **Archaeologic Field Method.** (2) Brody

General prerequisite: Anthropology 101 and 102 or equivalent.

Archaeology:

- *312. [112] **European Prehistory.** (3) Hibben
- *355. [155] **Southwestern Archaeology: Mogollon and Hohokam.** (3) Ellis
Field trips included.
- *356. [156] **Southwestern Archaeology: Pueblo Area.** (3) Ellis
Field trips included.
- *362. [162] **Archaeology of the Old World.** (3) Hibben
Prehistory of Africa, Asia, Oceania.
- *384. [184] **Archaeology of Mexico, Central America, and the West Indies.** (3) Hibben
- *385. [185] **American Archaeology: North America.** (3) Hibben
Prehistory of Africa, Asia, Oceania.
- *386. [186] **American Archaeology: South America.** (3) Hibben
- *391. [191] **Classical Archaeology.** (3) Hibben
Cultural beginnings of Greece and Rome with special reference to the importance of classical backgrounds in modern culture.

Ethnology:

- *305. [105] **The American Indian: North America.** (3) Hill
- *306. [106] **The American Indian: South America.** (3) Schwerin
- *310. [110] **Latin American Peasant Culture.** (3) Bock
- *321. [121] **Races and Cultures of Asia.** (3) Basehart
- *336. [136] **Ethnography of Africa.** (3) Basehart
- *347. [147] **Oceania.** (3) Hill
- *357. [157] **Southwestern Ethnology: Non-Pueblo Peoples.** (3) Ellis
- *358. [158] **Southwestern Ethnology: Pueblo Peoples.** (3) Ellis
- *382. [182] **Ethnology of Middle America and the Caribbean.** (3) Schwerin

Linguistics:

- *313L. [113L] **Linguistic Field Methods.** (3) Newman
2 lectures, 2 hrs. lab.
- *317L. [117L] **Phonetics and Phonemics.** (3) Newman
2 lectures, 2 hrs. lab.
- *354. [154] **The Nature of Language.** (3) Newman
- *418L. [118L] **Structural Analysis.** (3) Newman
A continuation of 317L. Deals with grammatical structures in the same way that 317L concerns itself with phonemic systems. Prerequisite: 313L or 317L. 2 lectures, 2 hrs. lab.
- *446. [146] **Introduction to Comparative Linguistics.** [Native Languages of America] (3) Newman
Prerequisite: 313L or 317L.

Technical:

- *303L. [103L] **Chronology.** (3) Ellis
Methods of dating in relationship to archaeological problems. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- *307L. [107L] **Physical Anthropology: Osteology.** (3) Basehart
2 lectures, 2 hrs. lab.
- 360L. [160L] **Advanced Museum Techniques and Methods.** (3) Brody
Specialized work and highly technical training in one area of anthropology, art, or folk art. 1 lecture, 5 hrs. lab.

- *408L. [108L] **Physical Anthropology: Somatology.** (3) Basehart
Racial variation and constitution. Prerequisite: 307L. 2 lectures, 2 hrs. lab.
- *409L. [109L] **Southwestern Pottery.** (3) Ellis
Prehistoric development of ceramic art. Prerequisite: 355 or 356. 2 lectures, 2 hrs. lab.

Topical:

- *301. [101] **The Individual in His Society.** (3) Ellis
A comparative study of the cultures (form and process) and their relationship to the individual culture carrier: the possibility of application of anthropological principles to the problems of foreign peoples, minority groups, and primitive tribes.
- *302. [102] **Perspectives of Anthropology.** (3) Bock
Essential concepts of the nature of culture and of racial relationship. No prerequisite.
- *316. **Applied Anthropology.** (3) Bock
- *350. [150] **Methods in Cultural Anthropology.** (3) Ellis
Methods used in the collection and ordering of anthropological data for historical, scientific, and administrative problems.
- *352. [152] **Primitive Literature.** (3) Newman
- *398. [198] **Primitive Religion.** (3) Hill
- *404. [104] **Comparative Social Structure.** (3) Basehart
- *493. [193] **History of Anthropology.** (2) Basehart

Field Courses:

- 275F. [75F] **General Field Session.** (2-6) Ellis, Hibben, Newman
Introductory summer field course in archaeology, ethnology, or linguistics.
- *475F. [175F] **Advanced Summer Field Session.** (2-6) Ellis, Hibben, Newman
For upper-division and graduate students. Prerequisite: 275F or equivalent.
- *499F. [199F] **Field Research.** (2-6)
Field course. Prerequisite: permission of staff.

Graduate Courses:

- *505. [205] **Proseminar: Introduction to Research.** (2) Hill
- *508. [208] **Processes of Culture Change.** (2) Basehart
- *512. [212] **Seminar: Ethnology.** (2) Basehart, Bock, Hill
- *514. [214] **Seminar: South American Archaeology.** (2)
- *516. [216] **Seminar: European Prehistory.** (2) Hibben
- *551. [251] **Problems.** (2) Graduate Staff
No more than 4 hours may be taken towards the M.A., nor more than 8 hours towards the Ph.D. degree.
- *552. [252] **Problems.** (2) Graduate Staff
No more than 4 hours may be taken towards the M.A., nor more than 8 hours towards the Ph.D. degree.
- *557. [257] **Seminar: Early Man in the New World.** (2) Hibben
- *582. [282] **Seminar: American Archaeology.** (2) Hibben
- *594. [294] **Seminar: Southwestern Archaeology and Ethnology.** (2) Ellis
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *610. [210] **Kinship Studies.** (2) Basehart
- *660. [260] **Methods of Comparative Linguistics.** (2) Newman
- *661. [261] **Types of Linguistic Structure.** (2) Newman
Prerequisite: 313L or 317L.
- *699. [400] **Dissertation.** Graduate Staff

ARCHITECTURE

Professor J. J. Heimerich (Chairman); Associate Professor D. P. Schlegel; Assistant Professor H. R. Benson; Lecturers (Part-time) W. A. Gathman, H. S. Hoshour, C. W. Quinlan.

CURRICULUM

See p. 185.

- 161. [21] **Architectural Appreciation.** (2)
Introduction of design concepts in architecture.
- 241L-242L. [81L-82L] **Architectural Design.** (5, 5)
Architecture, space, form, and content in the urban environment. Not open to freshmen. Corequisites: 161, 271. 15 hrs. lab.
- 261. [61] **Ancient and Medieval Architecture.** (3)
- 262. [62] **Renaissance and Baroque Architecture.** (3)
- 271. **Introduction to City Planning.** (3)
Comprehensive survey of city forms. Comparative analysis of urban behavior and its interpretation into urban physical forms among various cultures. Not open to freshmen.
- 283-284. [83-84] **Materials and Construction.** (2, 2)
The manufacture and uses of materials as applied to the architectural features of a building, emphasizing advantages and limitations of such materials, types of foundations, drawing of selected details. Not open to freshmen.
- 341L. [131L] **Architectural Design.** (5)
The integration of technical disciplines of building into the design of architecture. Not open to students enrolled in the University College. Prerequisites: 242L, Civil Engineering 210. May be repeated to a maximum of 10 hours credit. 15 hrs. lab.
- 361. [111] **The Sources of Modern Architecture.** (2)
- 362. [112] **Contemporary Architecture in Europe and the Americas.** (2)
- 441L. [181L] **Architectural Design.** (5)
The emphasis of concepts of form appropriate for building types. Prerequisites: 10 hours credit in 341L, Civil Engineering 312, Art 103, 106, 203, 293. Corequisite: Mechanical Engineering 308. May be repeated to a maximum of 10 hours credit. 15 hrs. lab.
- *462. [198] **Seminar.** (2) Benson, Schlegel
Discussion of the theory and creative process of architectural design. Prerequisite: senior standing.
- 472L. **Planning Design.** (3)
Studies of regions, megalopolises, or cities. Compilation of the basic data, formulation of a general plan of land use and transportation. Prerequisite: 271. 9 hrs. lab.
- 481. [197] **Program Writing.** (1)
The methods of developing a building program. Prerequisite: 441L.
- 483L. [193L] **Working Drawings.** (3)
The preparation of working drawings, showing the quantity and method of construction of a specified type of building. Prerequisite: senior standing. 9 hrs. lab.
- *484. [195, 196] **Office Practice and Specifications.** (3) Heimerich
Duties of the architect, relationships of architect-client-contractor, professional ethics, office management, requirements for licensing, analyses and writing of various specifications. Prerequisite: senior standing.
- 490. [190] **Interdepartmental Proseminar.** (3) Honors Staff
(Same as Fine Arts 490.)
- 491L. [191L] **Architectural Design.** (5)
Feasible solution through the collaborative method to a large scale architectural problem. The synthesis of all experiences in a final project. Prerequisites: 10 hours credit in 441L, 472L, Civil Engineering 313, 314; corequisite: 481. Thesis to be taken during last semester. May be repeated to a maximum of 10 hours credit. 15 hrs. lab.

499L. [199L] Architectural Thesis. (7)

A continuation of 491L and the solution of the architectural problem chosen in 481, and a further development of all the components of the problem. Prerequisites: 491L, 472L, Civil Engineering 313, 314, Fine Arts 490. Thesis to be taken during last semester. 21 hrs. lab.

ART

Professors C. Adams, J. Tatschl; Visiting Professor H. von Erffa**; Associate Professors G. Z. Antreasian, B. Bunting, V. D. Coke (Chairman), C. E. Paak, S. D. Smith; Assistant Professors R. Ellis, W. Kuhlman, R. W. Lewis, W. H. Thonson; Instructors R. L. Grow, L. Morais.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts, a 60-hour major is offered leading to the degree of B.F.A. in Art. (See curricula, p. 186.)

2. For the student enrolled in the College of Fine Arts and pursuing the Combined Curriculum (see p. 184), a 45-hour major is offered. This consists of 21 hours Studio including Art 103, 106, and 203; 12 hours of Art History and Criticism including Art 130, 271, 272; and 12 hours of art electives in a field of specialization. Of these, 15 hours at least must be taken in courses numbered above 300.

3. For the student enrolled in the College of Arts and Sciences, a 32-hour major may be taken in one of two fields of specialization: Studio or Art History and Criticism.

Of these 32 hours, at least 12 must be in courses numbered above 300. Those specializing in Studio take the following:

6 hours chosen from Art 101, 103, 106, or 203.

8 hours Art History and Criticism including Art 271 or 272.

18 hours additional in the field of specialization.

Those specializing in Art History and Criticism take the following:

12 hours Studio including Art 103 and 106.

20 hours of Art History and Criticism including Art 271 and 272.

If a student majors in Art in the College of Arts and Sciences, he may not count toward graduation any other hours taken outside that College. An Art adviser shall be appointed by the Art Department, and the program approved by him.

MINOR STUDY

The minor consists of 20 credit hours. The student minoring in Art is expected to specialize in a single field (such as the crafts, history of art, graphic design, painting, photography, etc.) but he should also take one or more of the general introductory courses offered by the department. Prerequisite courses shall be taken. The student must consult an Art Department adviser regarding his minor, and the advised program in his minor must be approved by his major department.

** Semester I.

MATERIALS AND STUDENT WORK

Students enrolling in Art courses furnish their own material except certain studio equipment provided by the University.

ALL WORK when completed is under the control of the department until after the exhibitions of student work. Each student may be required to leave one or several pieces of original work with the department.

CREDIT

For 1 semester hour of credit it is expected that the student do 3 clock hours work per week through the semester. This includes time spent in recitation, preparation and studio. If full studio hours are not assigned in the schedule, outside assignments will be given by the instructor.

GENERAL

- 101. [1] **Art Appreciation.** (3) Ellis
Introduction to the visual arts; acquaints the general student with various fields, media, and masterpieces.
- 490. [190] **Interdepartmental Proseminar.** (3) Honors Staff
(Same as Fine Arts 490.)

STUDIO

- 103. [3] **Two Dimensional Design.** (3)
The elements and principles of composition. No prerequisite.
- 106. [6] **Beginning Drawing.** (3)
Pictorial interpretation of form. No prerequisite.
- 203. [53] **Three Dimensional Design.** (3)
The organization of forms in space. Prerequisites: 103, 106.
- 213. [113] **Sculpture.** (3) Grow, Tatschl
Sculptural techniques in various media. Prerequisite: 203. **May be repeated for credit.†**
- 216. [116] **Intermediate Drawing.** (3)
Understanding of form through a proficiency in drawing. Prerequisite: 106. **May be repeated for credit.†**
- 257. [57] **Beginning Jewelry and Metalwork.** (3) Lewis
The handworking of various metals. Prerequisite: 203. **May be repeated for credit.†**
- 258. [58] **Beginning Textiles.** (3)
An experimental approach to textile design. Prerequisite: 103. **May be repeated for credit.†**
- 263. [63] **Beginning Painting.** (3)
Technique and concepts. Prerequisites: 103, 106. **May be repeated for credit.†**
- 268. [68] **Beginning Ceramics.** (3) Paak
Ceramic techniques. Prerequisite: 203. **May be repeated for credit.†**
- 277-278. [77-78] **Beginning Graphic Design.** (3, 3) Thonson
The problems of graphic design and communication. Prerequisites: 103, 106; corequisite: 203.
- 287-288. [87-88] **Photography.** (2, 2)
Introductory study in photographic techniques. (An adequate camera is necessary for this course.) Prerequisite: 103.
- 293. [93] **Watercolor Rendering.** (2) Lewis, Smith
Fundamentals of watercolor with emphasis on its use as a means of illustration. Prerequisites: 103, 106. **May be repeated for credit.†**
- 323. [123] **Intermediate Painting.** (3) Kuhlman, Morais, Smith
The concepts of painting; leading toward a proficiency in the technique of oil painting. Prerequisite: 263. **May be repeated for credit.†**

† Instructor and department chairman must approve all cases of repetition in this course.

334. [134] **Printmaking.** (3) Antreasian
Techniques and methods of etching, lithography, and woodcut. Prerequisite: 216. **May be repeated for credit.†**
- *343. [143] **Advanced Landscape Painting.** (2) Smith
Landscape painting in various media. Prerequisites: 216, 323. **May be repeated for credit.†**
368. [128] **Intermediate Ceramics.** (3) Grow, Paak
Experimental approaches to ceramic design. Prerequisite: 268. **May be repeated for credit.†**
378. [118] **Intermediate Graphic Design.** (3) Thonson
Experimental use of technique and material in solving problems of graphic design. Prerequisite: 278; or corequisite, 288. **May be repeated for credit.†**
- *457. [157] **Advanced Jewelry and Metalwork.** (4) Lewis
Experimental use of metal-working processes. Prerequisite: 257. **May be repeated for credit.†**
- *458. [158] **Advanced Textiles.** (4)
Experimental use of materials and techniques in textile design and weaving. Prerequisite: 258. **May be repeated for credit.†**
- *466. [166] **Drawing: Materials and Media.** [Drawing Techniques] (3) Smith, Tatschl
Techniques of drawing in various media. Prerequisite: 216. **May be repeated for credit.†**
- *473. [173] **Advanced Sculpture.** (4) Grow, Tatschl
Continuation of 213. **May be repeated for credit.†**
- *474. [174] **Advanced Printmaking.** (3) Antreasian
Continuation of 334. Prerequisites: 334, 466. **May be repeated for credit.†**
- *476. [176] **Advanced Drawing: Applications of Drawing.** (3)
Drawing as a foundation for painting. Prerequisite: 216. **May be repeated for credit.†**
478. [178] **Advanced Graphic Design.** (3) Thonson
Continuation of 378. **May be repeated for credit.†**
- *483. [183] **Advanced Painting.** (4) Adams, Kuhlman, Morais, Smith
Development of concepts and ideas as related to an individual approach to painting. Prerequisites: 323, 476. **May be repeated for credit.†**
- *484. [184] **Materials and Techniques of Painting.** (3)
Experimental study and application of traditional and contemporary techniques and material. Prerequisites: 323, 476.
- *487. **Advanced Photography.** (4) Coke
The practice of photography as a creative means of expression with emphasis on various approaches to the development of a personal vision. **May be repeated for credit.†**
- *488. [188] **Advanced Ceramics.** (4) Grow, Paak
Experimental approach to ceramic design based on a thorough knowledge of processes. Prerequisite: 368. **May be repeated for credit.†**
499. [199] **Senior Thesis.** (3)
Directed study in the major field, culminating in a written thesis or exhibition. Open to students by faculty invitation only.
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Graduate Staff
Graduate work in projects or fields not covered in the regular catalog courses. **Maximum 6 hours.**
- *573. [273] **Seminar in Painting.** (2, 2) Graduate Staff
May be repeated for credit.†
- *583. **Projects in Painting.** (3)
Directed individual assignments.
- *599. [300] **Master's Thesis.** (6) Graduate Staff

ART HISTORY AND CRITICISM

130. [30] **Contemporary Art.** (3) Adams
Current directions in art. No prerequisites.

† Instructor and department chairman must approve all cases of repetition in this course.

271. [71] **Introduction to the History of Ancient and Medieval Art.** [General Art History] (3)
Bunting
Introductory study of Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, and Medieval art.
272. [72] **Introduction to the History of Renaissance and Baroque and Modern Art.** [General Art History] (3) von Erffa
- *401. [120] **Primitive Art.** (3)
Art of Africa and Oceania. No prerequisites.
- *410. [130] **American Indian Art.** (3)
Prehistoric and historic art forms of the Indians of North America. No prerequisites.
- *411. [131] **Pre-Cortesian Art.** (3)
The arts of the Americas prior to the conquests of the Spanish in the 15th century. No prerequisites.
- *420. **History of the Graphic Arts.** (3) Tatschl
Drawing and printmaking from the 13th century to the present.
- *440. [161] **Medieval Art.** (3) Bunting
A survey of architecture, painting, and sculpture from the dissolution of the Roman empire to the 16th century, with emphasis on the religious art forms of the 12th and 13th centuries. No prerequisites.
- *450. [150] **Spanish Colonial Art.** (3) Bunting
Architecture, sculpture, and painting in the period of Spanish colonization and the relation of these art forms to both the Spanish and the native Indian traditions. No prerequisites.
- *451. **Fifteenth Century Art in Italy and Northern Europe.** (3)
Painting and sculpture from the late 14th century to the end of the 15th century.
- *452. **Sixteenth Century Art in Italy and Northern Europe.** (3)
Painting and sculpture during the High Renaissance and Mannerist periods.
- *461. **Seventeenth and Eighteenth Century Art in Italy.** (3)
Painting and sculpture during the Baroque and Rococo periods.
- *462. **Seventeenth and Eighteenth Century Art in Northern Europe.** (3)
Painting and sculpture in France, Germany, the Low Countries, and England during the Baroque and Rococo periods.
- *471. [140] **Hispanic Art.** (3) Bunting
Survey of Hispanic art in Europe and the New World. No prerequisites.
- *472. [141] **Art of the United States.** (3) Bunting, Coke, von Erffa
A survey of painting, sculpture, and architecture from Colonial times to the present. No prerequisites.
- *481. [181] **19th Century Art.** (3) Coke
History of painting and sculpture from Neo-Classicism to Post-Impressionism. No prerequisites.
- *482. [182] **20th Century Art.** (3) Adams
Painting and sculpture from Post-Impressionism to the present day. No prerequisites.
499. [199] **Senior Thesis.** (3)
Directed study in the major field, culminating in a written thesis. Open to students by faculty invitation only.
- *501. **Bibliography and Research.** (2)
Bibliography and research techniques in the study of art history.
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Bunting, Coke
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.
- *571. [291] **Problems in Renaissance and Baroque Art.** [Seminar in the History of Art] (2)
May be repeated for credit.†
- *581. [281] **Problems in 19th and 20th Century Art.** [Seminar in the History of Contemporary Art] (2) Adams, Coke
May be repeated for credit.†
- *599. [300] **Master's Thesis.** (6)

† Instructor and department chairman must approve all cases of repetition in this course.

ART EDUCATION

See Education, Art

ASTRONOMY

See Physics and Astronomy

BASIC LANGUAGE

See Modern and Classical Languages.

BIOLOGY

Professors L. D. Potter (Chairman), H. J. Dittmer, M. W. Fleck, C. C. Hoff, W. J. Koster; Associate Professor J. S. Findley; Assistant Professors W. G. Degenhardt, W. W. Johnson, W. C. Martin, M. L. Riedesel, W. K. Schoenholz; Assistant Curator C. J. Jones.

MAJOR STUDY

Biology 101L, 102L, 271L, 272L, 393L, 408, 429L or 478L, and 12 additional hours. Courses 133L, 136, 139L, 148, 326L, 433L, and 434L are not accepted toward a major. Chemistry 102L and Mathematics 101, 120, 121, 160, or 161 with "C" grades or better, are required of biology majors. The mathematics requirement may be met by examination.

A student desiring to concentrate in some special field of biology such as bacteriology, botany, ecology, physiology, or zoology, should consult an appropriate staff member early in his college career.

MINOR STUDY

Biology 101L and 102L and 12 additional hours.

MINOR STUDY IN PALEOECOLOGY

See p. 327.

**CURRICULA PREPARATORY TO DENTISTRY, FORESTRY,
MEDICAL TECHNOLOGY, OR MEDICINE**

See pp. 129-131.

Note: Credit will not be allowed for both 112L and 101L-102L; or for 133L and 393L; or for 136-139L and 429L or 430L; or for 148 and 408.

- 101L. [1L] General Biology.** (4) Yr. Degenhardt, Dittmer, Fleck, Koster
The fundamental structures and functions of higher plants and animals with emphasis on principles and the unity, rather than the diversity, of phenomena. **Credit suspended until 102L is completed.** 3 lectures, 3 hrs. lab.
- 102L. [2L] General Biology.** (4) Degenhardt, Dittmer, Fleck, Koster
A continuation of 101L. Survey of the plant and animal kingdoms; heredity, environmental relations, and evolution. Prerequisite: 101L. 3 lectures, 3 hrs. lab.
- 112L. [12L] General Zoology.** (4) Degenhardt, Fleck, Hoff
The fundamental structures and functions of the vertebrates, and a review of the animal kingdom. Open to majors in P. E. and Home Economics only. 3 lectures, 3 hrs. lab.
- 133L. Paramedical Microbiology.** (3) Schoenholz
Introduction to the principles of infection and immunity; disinfection and antibiosis; elementary bacteriologic technique. 2 lectures, 3 hrs. lab.

136. [36] **Human Anatomy and Physiology.** (3) Fleck, Riedesel
The structure and functions of the human body. Lectures emphasize physiology. May be taken with, or independently of, 139L. Not accepted toward a biology major.
- 139L. [39L] **Human Anatomy and Physiology Laboratory.** (2)
Laboratory work in elementary anatomy and physiology with emphasis on anatomy. Cannot be taken independently of 136. 3 hrs. lab.
148. [48] **Human Heredity.** (2) Dittmer, Fleck
A cultural survey of the field of inheritance.
- 271L. [71L] **Invertebrate Zoology.** (4) Hoff and Assistant
A comparative study of the structure, habits, and classification of the invertebrates. Prerequisite: 102L. 2 lectures, 4 hrs. lab.
- 272L. [72L] **Comparative Plant Morphology.** (4) Dittmer
A comparative study of the four great groups of the plant kingdom. Prerequisite: 102L. 2 lectures, 4 hrs. lab.
- 286L. [86L] **General Vertebrate Zoology.** (4) Findley, Koster
Principles of classification; ecology, behavior, and speciation of the vertebrates. One or more overnight field trips required. Prerequisite: 102L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
288. [88] **Vertebrates of the Past.** (3) Findley
A survey of vertebrate faunas of past geologic periods, their evolution and environments. One weekend field trip. Prerequisite: 102L or Geology 102. (Offered in alternate years.)
- *323. [123L] **Introduction to Biological Chemistry.** (3) West
(Same as Chemistry 323.)
- *324L. [123L] **Introduction to Biological Chemistry Laboratory.** (1) West
(Same as Chemistry 324L.)
- 326L. [126L] **Physiology of Exercise.** (3) Fleck, Riedesel, and Assistants
Physiological processes and their relation to exercise. Prerequisite: 112L or 102L. Open to P. E. majors only. 2 lectures, 3 hrs. lab.
- *393L. [93L] **General Bacteriology.** (4) Schoenholz
Taxonomy, anatomy, physiology, and ecology of bacteria; principles of bacteriological technics, sterilization, and host-parasite relationships. Prerequisites: 102L; Chemistry 301-303L recommended. 2 lectures, 6 hrs. lab.
- *401L. **Biometrics.** (4) Johnson
Collection, handling, and statistical treatment of biological data. Prerequisites: 20 hrs. of Biology and Mathematics 101, 120, 121, 160, or 161. 2 lectures, 6 hrs. lab.
- *408. [109] **Genetics.** (3) Johnson
The scientific, cultural, and philosophical aspects of inheritance. May be taken with, or independently of, 409L. Prerequisite: 102L.
- *409L. [109L] **Genetics Laboratory.** (2) Johnson
Methods of culturing and breeding fruit flies and of compiling and presenting genetic data. May not be taken independently of 408 without permission of instructor. 6 hrs. lab.
- *410. [110] **Evolution.** (3) Koster, Martin
History of the principle and theories of evolution. Prerequisite: 408.
- *412L. [112L] **Comparative Embryology of the Vertebrates.** (4) Koster
Prerequisites: 102L, 271L. 2 lectures, 6 hrs. lab.
- *414L. [114L] **General Entomology.** (4) Hoff
Structure, habits and classification of the insects. Prerequisite: 102L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *416L. [116L] **Cytology and Histology.** (4) Riedesel
General structure of the animal cell, tissues, and organs. Emphasis on correlation of structure with function. Prerequisite: 12 hours of biology. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *421L. [121L] **Comparative Vertebrate Anatomy.** (5) Findley
Prerequisites: 102L, 271L. 2 lectures, 6 hrs. lab.

- *429L. [129L] Cellular Physiology. (4) Riedesel**
Prerequisites: 102L, Chemistry 102L, Mathematics 101, 120, 121, 160, or 161. 3 lectures, 3 hrs. lab.
- *430L. [130L] Vertebrate Physiology. (4) Riedesel and Assistant**
Functions and structures with emphasis on fundamental physiological processes and mechanisms. Prerequisites: 429L or 478L, Chemistry 102L, Mathematics 101, 120, 121, 160, or 161. 3 lectures, 3 hrs. lab.
- *433L-434L. [133L-134L] Foundations of Modern Biology. (4, 4) Fleck and Staff**
Analysis of fundamental concepts and a reappraisal of the foundations of biology in light of recent advances. Concept approach supported by detailed laboratory review of form and processes. Prerequisite: permission of instructor. Credit not allowed Biology majors. 3 lectures, 3 hrs. lab.
- **435. [155b] Teaching of Biology. (3) Degenhardt**
(Same as Secondary Education 435.) Prerequisite: 102L. (Offered in alternate years.)
- *443L. [143L] Comparative Physiology. (4) Riedesel**
A comparison of physiological processes with emphasis on the invertebrates. Osmoregulation, nutrition, and metabolism are stressed. Prerequisites: 271L, 429L or 478L, Chemistry 102L. Organic chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *447. [147] Endocrinology. (2) Riedesel**
The glands of internal secretion with special reference to the vertebrates. Deals primarily with the hormones of reproduction. Prerequisite: 429L or 430L.
- *448. [148] Endocrinology. (2) Riedesel**
The glands of internal secretion with special reference to the vertebrates. Emphasis on hormones associated with metabolism. Prerequisite: 429L or 430L.
- *454L. [154L] Pathogenic Bacteriology. (4) Schoenholz**
The properties and characteristics of disease-producing bacteria and their relationship to disease. Prerequisites: 393L and Chemistry 301-303L. 2 lectures, 6 hrs. lab. (Offered in alternate years.)
- *456L. [156L] Immunology. (4) Schoenholz**
Principles of antigen-antibody reaction, hypersensitivity, and auto-immune diseases. Laboratory preparation, detection, and measurement of antibodies. Prerequisites: 454L and Chemistry 302-304L. Chemistry 323 recommended. 2 lectures, 6 hrs. lab. (Offered in alternate years.)
- *457L. [157L] Virology. (4) Schoenholz**
Structure and function of animal, bacterial, and plant viruses. Prerequisites: 454L or both 393L and Chemistry 323-324L; Mathematics 101, 120, 121, 160, or 161. 2 lectures, 6 hrs. lab. (Offered in alternate years.)
- *463L. [163L] Flora of New Mexico. (4) Martin**
Identification, classification, and nomenclature of vascular plants. Field trips required. Prerequisite: 102L. 2 lectures, 4 hrs. lab.
- *471L. [171L] Terrestrial Ecology and Geography. (4) Potter**
Animals and plants in relation to the environment; a study of biotic communities; problems of plant and animal distribution. Field trips. Prerequisite: 102L. 3 lectures, 3 hrs. lab.
- *473L. [176L] Mycology and Plant Pathology. (4) Martin**
A taxonomic study of the fungi, with some consideration of the causative factors and economic aspects of plant diseases. Prerequisites: 102L, 272L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *474L. [174L] Plant Anatomy. (4) Martin, Potter**
Structure of vascular plants. Prerequisite: 102L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *475L. [195L] Pharmacology I. (4) Duke**
(Same as Pharmacology 475L.) Not allowed for undergraduate Biology credit.
- *476L. [196L] Pharmacology II. (5) Duke**
(Same as Pharmacology 476L.) Not allowed for undergraduate Biology credit.
- *477. [177] Economic Botany. (3) Dittmer**
Plants of economic importance throughout the world, geographic distribution, relation to world economy, and population distribution. (Offered in alternate years.)

** Credit for undergraduate teaching majors and graduates in Education only.

- *478L. [178L] **Plant Physiology.** (4) Potter
General physiology of plant functions, emphasizing photosynthesis, respiration, and transpiration. Prerequisites: 102L, Chemistry 102L, Mathematics 101, 120, 121, 160, or 161. 2 lectures, 6 hrs. lab.
- *479. [179] **Conservation.** (3) Dittmer
Various aspects of conservation including soil, water, mineral, wildlife, forestry, range, and human. Lecture, demonstration, field trips. (Offered in alternate years.)
- *481L. [181L] **Medical Entomology.** (3) Hoff
The insects and arachnids of importance in human and veterinary medicine. Emphasis in the laboratory on identification. Prerequisite: 271L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *482L. [182L] **Parasitic Protozoa and Helminths.** (3) Hoff
The protozoa and worms important in human and veterinary medicine. Emphasis on the structure and life-cycle of various forms, with practice in laboratory identification. Prerequisite: 271L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *484L. [184L] **Limnology.** (4) Koster
Fresh-water habitats and aquatic invertebrates with special reference to problems of productivity. All-day field trips required. Prerequisite: 102L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *486L. [186L] **Ornithology.** (4) Findley
Classification, phylogeny, natural history and literature of birds. Early morning field trips required. Prerequisite: 102L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *487L. [187L] **Ichthyology.** (4) Koster
Classification, phylogeny, natural history and literature of fishes. All-day field trips required. Prerequisite: 102L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *488L. [188L] **Herpetology.** (4) Degenhardt
Classification, phylogeny, natural history and literature of reptiles and amphibians. All-day and one or more overnight field trips required. Prerequisite: 102L or 112L. 3 lectures, 3 hrs. lab.
- *489L. [189L] **Mammalogy.** (4) Findley
Classification, phylogeny, natural history and literature of mammals. All-day field trips and one or more over-night field trips required. Prerequisite: 102L. 3 lectures, 3 hrs. lab.
- *490L. [190L] **Histological Technique.** (3) Degenhardt, Martin, Riedesel
The preparation for microscopic examination of plant and animal structures, tissues, and cells. Additional emphasis on topics of special interest to individual students. Prerequisites: 102L, and permission of Chairman of Department. 1 lecture, 4 hrs. lab. (Offered in alternate years.)
- *491L. [191L] **Radiobiology.** (4) Fleck
Properties of radiation; principles, theory, and use of detection and counting instruments; visits to installations using radiation in industry, medicine, and research. Prerequisites: 102L, 429L or 478L, Physics 111 and 113L. One year of organic chemistry recommended. 2 lectures, 6 hrs. lab.
- *492L. [192L] **Radiobiology.** (4) Fleck
Interaction of radiation with matter; biologic effects of radiation; radiation syndrome; relative radiosensitivity of cells, organs, and organisms; health physics and practical applications of radiation. Prerequisites: 102L, 429L or 478L; pre- or corequisite: Physics 112 and 114L. One year of organic chemistry recommended. 3 lectures, 3 hrs. lab.
- *501. [201] **Seminar: Current Topics in Biology.** (2) Graduate Staff
- *503. [203] **Research Techniques.** (2) Koster
The basic techniques used in exploring biological literature, in planning experiments, and in making and recording observations. (Offered in alternate years.)
- *504. [204] **Environmental Physiology.** (3) Riedesel
Principles of physiological limits and adaptations in relation to environmental stresses. Prerequisites: 430L; Mathematics 101 and 102, 120, 121, 160, or 161; Physics 111 and 113L; or permission of instructor.
- *508L. [208L] **Advanced Invertebrate Zoology.** (4) Hoff
Emphasis on the phylogeny of invertebrate groups, principles of comparative morphology and embryology. Prerequisite: 271L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)

- *509. [209] **Advanced Genetics.** (3) Johnson
Detailed consideration of hereditary material, transfer of genetic information, and evolution and integration of genetic systems. Prerequisite: 408.
- *525. [225] **Fundamental Concepts of Biology.** (3) Fleck
Trend of scientific thought and method from earliest times to the present; origin and history of important biological principles. (Offered in alternate years.)
- *551. [251] **Problems.** (2-3) Graduate Staff
- *554. [254] **Advanced Vertebrate Zoology.** (3) Findley, Koster
Recent advances and special topics in population dynamics, distribution, paleontology, and behavior of vertebrates. (Offered in alternate years.)
- *562. [252] **Phylogeny of the Plant Kingdom.** (2) Dittmer
Evolutionary trends with emphasis on the vascular plants.
- *563L. **Advanced Plant Taxonomy.** (4) Martin
Experimental approach to plant systematics, application of nomenclatural code, and mechanics of monographic studies. Prerequisites: 408 and 463L, 471L, 474L, 478L, and 562 recommended. (Offered in alternate years.) 2 lectures, 6 hrs. lab.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

BUSINESS ADMINISTRATION

Professors H. V. Finston (Dean), R. L. Edgel, W. H. Huber, W. J. Parish; Associate Professors R. B. Goode, P. T. Mori, V. Reva, L. G. Winter†; Assistant Professors K. Christman, E. G. Dillman†, F. P. Fowler, E. I. Glaese, T. O. Kirkpatrick, J. W. Park, S. O. Park, L. Seaton†, C. J. Whitehead†; Lecturers (Part-time) R. M. Bodenhamer, S. Herman, J. W. McMahan, W. V. Owen, J. Perovich, S. H. Peres, D. M. Smith.

CURRICULA AND CONCENTRATIONS

See pp. 137-143.

For Business Education, see p. 158.

For Data Processing, see pp. 143-146.

- 101L. **Data Processing.** (3) Fowler
Evolution, language, and media of data processing; the systems concept; function, operation, and control of IBM punch card machinery; the stored program concept; CPU functions; storage and input-output media; programming the IBM 1401 in machine, symbolic, and interpretive languages; data processing applications to In Line, Random Access, and On Line-Real Time systems.
- 105-106. [5-6] **Principles of Accounting.** (3, 3)
Introductory accounting: statements, accounts, journals, adjusting and closing entries, the worksheet; the voucher system, accounting for proprietorship, partnership, and corporate equities; cost allocation devices, managerial approach to statement analysis and controls. The second semester (106) emphasizes the function of accounting in reporting data for management planning and for general evaluation of the firm. Credit in 105 can be obtained without continuing in 106. Open to students of sophomore status or to freshmen eligible to enroll in Mathematics 120 or 121 or higher level courses, and to Non-degree students with the permission of the Bus. Adm. adviser.
- ‡111. [11] **Beginning Typewriting.** (2) Glaese, Park, Reva
The learning of the keyboard by the touch system; reconstruction of basic skills. **Students who have had typewriting in high school or business school will not receive credit in 111.**
- ‡112. [12] **Intermediate Typewriting.** (3) Glaese, Park, Reva
Business forms, correspondence and letter styles, manuscripts, tabulation, speed building with individual goals. Prerequisite: knowledge of typewriter operation and keyboard.

‡ No credit allowed toward degrees in Colleges of Arts and Sciences, and Pharmacy.

† Effective September 1964.

- §113-114. [13-14] **Shorthand Theory; Beginning Dictation.** (3, 3) Glaese, Park, Reva
 Gregg theory and essentials of writing; speed goal: 50 wpm minimum. 114: Review of theory; introduction of transcription; speed goal: 80 wpm minimum. Students who have had shorthand in high school or business school should enroll in 114 or a more advanced class, as they will not receive credit in 113. Prerequisites for 114: 111, 113, or equivalent.
117. [17] **Office Machines and Filing.** (2) Park, Reva
 Laboratory work in filing, transcription from recorded dictation, mimeograph, direct process duplicators, listing and non-listing calculators. Prerequisite: 112.
- 200-201. [51-52] **Principles of Economics.** (3, 3)
 (Same as Economics 200-201.)
- §253-254. [53-54] **Transcription; Speed Dictation.** (3, 3) Glaese, Park, Reva
 Review of theory; dictation and transcription from shorthand notes correctly and speedily. Mailable letters are required. Prerequisites: 112 and 114 or equivalent. Speed goal for 253: 100 wpm; for 254: 120 wpm.
262. [62] **Advanced Typewriting.** (3) Glaese, Park, Reva
 Production, with efficiency and accuracy, of business letters, reports, manuscripts, tabulation, rough drafts, corporation reports, legal documents; study of skill performance problems from point of view of teacher and/or office supervisor. Individual speed goals. Prerequisite: 112.
263. [63] **Intermediate Accounting I.** (3) Christman, Mori
 An expansion of the fundamentals of accounting; accounting theory; problems relating to control of, and accounting for, current assets. Prerequisites: 105, 106, with minimum grade of C in 106.
264. [64] **Intermediate Accounting II.** (3) Christman, Mori
 Continuation of accounting theory; problems relating to control of and accounting for permanent assets, liabilities and reserves; the preparation and interpretation of financial statements. Prerequisite: 263.
265. [65] **Business Communications.** (3) Reva
 Prepares the student to understand terms, policies, and procedures in business relations; letter writing, reports, memoranda, and other media of communication.
289. [89] **Statistical Analysis.** (3) Fowler, Goode
 Introduction to the analysis of numerical data, pertinent to business and economics. Includes descriptive statistics, sampling, inference, index numbers, time series and correlation. Emphasis is on the logic of analysis, application, and interpretation. Prerequisite: Mathematics 120 or 121.
- **306. [106] **Business Law.** (3) Huber
 The structure of the legal system; the nature of law, its purposes, its processes, and divisions, and a comprehensive treatment of the law of contracts. Prerequisite: upper-division standing.
- **307. [107] **Business Law.** (3) Huber
 The law of principal-agent relationship, employer-employee relationship, and negotiable instruments. Prerequisites: 306 and upper-division standing.
308. [108] **Principles of Marketing.** (3) Kirkpatrick
 Economic significance, functions, middlemen and channels of trade, competition, price policies, marketing management, market planning, budgets and cost, market research; consumer problems.
310. [110] **Corporation Finance.** (3) Goode, Parish
 A survey of the organization and development of the modern profit-seeking corporation with emphasis on financial aspects. Problems of promotion, normal operation, and reorganization are considered.
314. [114] **Management of Advertising.** (3) Kirkpatrick
 Basic advertising principles and practice; how the modern executive evaluates, buys, criticizes and controls advertising. Characteristics of effective advertising, selection of media, planning and executing of campaigns are surveyed.
- **315. [111] **Money and Banking.** (3) Chung
 (Same as Economics 315.)

§ A maximum of 6 hours credit allowed in shorthand in the College of Arts and Sciences.
 No credit allowed toward degree in the College of Pharmacy.

** Graduate credit allowed toward Master of Industrial Administration degree.

- *320. [141] **Economics of Labor Relations.** (3) Udis
(Same as Economics 320.)
327. [127] **Life Insurance.** (3) Huber, Mori
The economic aspects of risk as exemplified by life insurance; basic actuarial considerations; detailed investigation of provisions and costs of policies and their suitability for various types of buyers; organization of the business.
328. [128] **Property and Casualty Insurance.** (3) Christman, Mori
Basic principles and theories of insurance will be treated generally, followed by a special study of fire, liability, marine, automobile, and aviation insurance. Fidelity and surety bonds will also be included in the study of property insurance.
- 329L. [129L] **Quantitative Analysis for Management.** (3) Fowler, Goode
The application of modern quantitative methods to business problems. Includes allocation, inventory, and waiting line models, decision theory, forecasting and advanced statistical techniques. 2 lectures, 2 hrs. lab. Prerequisite: 289.
330. [130] **Organization Theory.** [Elements of Industrial Administration] (3) Finston, Herman
Fundamentals of organization and management which apply not only to industrial organizations but to any enterprise involving sizeable groups of people. Study of the manager's job in setting goals and in utilizing both human and material resources to meet organization objectives. Introduction to human relations case problems.
- *332. [180] **Government Control of Business.** (3) Griffith
(Same as Economics 332.)
340. [143] **Transportation.** (3) Hufbauer
(Same as Economics 340.)
347. [147] **Auditing.** (3) Christman, Mori
Auditing principles and procedure; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems. Prerequisite: 421.
- *350. [152] **Public Finance.** (3) Therkildsen
(Same as Economics 350.)
357. [157] **Secretarial Office Practice.** (3) Reva
Development of the ability to apply secretarial skills to office duties and to handle efficiently the responsibilities of a secretarial position. Prerequisites: 112, 114, or equivalent.
358. [158] **Office Management.** (3) Glaese, Reva
Efficient office organization and management; methods analysis and work simplification; training and supervision of office personnel; forms and form design; work flow, content and evaluation of clerical jobs, standardization and measurement of office work.
- *362. [162] **Economic Fluctuations.** (3) Hamilton
(Same as Economics 362.)
364. [163] **Rise of Modern Industry.** (3) Hamilton
(Same as Economics 364.)
- *402. [102] **Governmental Accounting.** (3) Christman, Perovich
Essential principles of governmental accounting; account classification, budgets, statements, revenues and expenditures; general fund, bond and sinking funds, working capital and special assessment funds; utility accounts; cost accounting. Prerequisite: 263.
- *421. [121] **Advanced Accounting I.** (3) Christman, Mori, Perovich
Problems and theory relating to partnership dissolution and liquidation, consignments, installment sales, the statement of affairs, realization and liquidation, estates and trusts, and insurance. Prerequisite: 264.
- *422. [122] **Advanced Accounting II.** (3) Christman, Mori
Branch accounting; preparing consolidated financial statements; effecting combinations and mergers. Prerequisite: 264.
- *431. [131] **Financial Analysis and Credit Administration.** (3) Edgel
Principles underlying the granting and management of credit; techniques for assessing the credit-carrying ability of borrowers, including financial statement analysis; criteria for determining credit actions; methods for protection and redemption of credit.
439. [155g] **Teaching of Business Subjects.** (3) Glaese
(Same as Secondary Education 439.)

- *448. [148] **Auditing.** (3) Christman
Audit practice case: complete audit of a corporation, including examination and verification of original vouchers, journal and ledger entries; preparation of working papers, adjusting entries, financial statements and report of examination; illustrative audit work papers. Prerequisite: 347.
- *449-450. [149-150] **Income Tax Accounting.** (3, 3) Christman, Mori
Federal and state income tax laws and regulations; history and background; sources of tax law; tax services; organization and procedures of the Bureau of Internal Revenue; tax returns, rates and credits; deductions and exclusions; withholding provisions; capital gains and losses; community property clauses. Prerequisite: 105, 106 with minimum grade of C in 106. Credit may be obtained in 449 without continuing in 450.
- *482. [182] **Retail Management.** [Retail Merchandising] (3) Kirkpatrick
Principles and problems emphasizing position of the retailer; organization and administration; buying, planning, control; expense distribution; promotion; personnel administration; operating efficiency; expense reduction. Prerequisite: 308.
- *483. [183] **Marketing Research.** (3) Edgel, Kirkpatrick
How businesses can use research to solve marketing problems; analysis of the techniques and procedures used; and considerations involved in the management aspects of marketing research. Prerequisite: 308.
- *484. [184] **Cost Accounting.** (3) Mori
Industrial and distribution cost accounting principles and techniques; job and process cost systems; standard costs. Prerequisite: 106.
- *485. [185] **Marketing Management.** (3) Kirkpatrick
Coordination of all factors in distributive enterprise; consumer preferences in marketing methods; modern problems in public relations and consumer contact; social responsibility and self-discipline in distributive enterprise. Prerequisite: 308 for undergraduate students; 308 or permission of the instructor for graduate students.
- *490. **Methods Engineering.** (3)
(Same as Mechanical Engineering 490.)
- *492. [190] **Policy Formulation.** (3) Edgel, Parish
Emphasis is placed on the specific functions of top management. A variety of case studies offers the student an opportunity to develop a habit of administrative thinking as company-wide objectives and policies are formulated, and consistent plans and programs are carried into action.
- *493. [193] **Labor Law and Collective Bargaining.** (5) Finston, Mori
Case studies of common, statutory, and administrative law, with emphasis on modern labor legislation and related court and administrative agency decisions affecting labor-management relations. An examination of the game theory approach to collective bargaining strategy and tactics. Intensive analysis of negotiation and arbitration cases involving wages, employee discipline, seniority rights, management prerogatives, and other collective bargaining issues.
- *494. [194] **Wage Administration and Work Analysis.** (3) Finston, Owen
Management policies and techniques which determine basic wage levels, wage structure, methods of compensation and control. Special consideration is given to executive compensation, as well as to determination of job content and work simplification. Prerequisite: 330, or permission of instructor.
- *495. [195] **Administrative Theory and Practice I.** (3) Finston, Herman
Analysis of managerial functions and responsibilities. Extensive case studies involve formal and informal relationships among workers, supervisors, staff and line officers, and top and middle management. Special emphasis is placed upon administrative processes and techniques. Prerequisite: 330 or permission of instructor.
- *498. [198] **Investment Principles and Analysis.** (3) Edgel, Goode, Parish
The various investment media; the analytical tests and techniques used in appraising the marketability, selection, safety, and income potentials of investments and investment programs. An analysis of forecasting techniques is an integral part of this course. Prerequisites: 310, 431.
- *500. [200] **Operations Research for Management.** (3) Fowler, Goode
Modern quantitative techniques in decision-making under certainty and uncertainty.

Includes statistical inference, sampling theory, regression, decision theory, and the use of mathematical models for prediction, allocation, estimation, simulation, and decision-making. Prerequisite: 329L or equivalent.

- *502. [202] **Advanced Accounting Theory.** (3) Mori
Controversial aspects of depreciation, treasury stock, surplus, goodwill, no par capital stock, inventory valuation, fixed assets valuation, overhead costs.
- *503. [203] **Research in Administrative Problems.** (3) Edgel
Experience in the application of scientific method to the assembling, analysis, and interpretation of information for administrative use and in presenting the results of research.
- *504. [204] **Seminar in Marketing.** (3) Kirkpatrick
An evaluation of marketing theories and their application to current marketing procedure. The student is required to initiate an original project in the field of marketing a manufactured product, conduct the necessary research, and present a report on the complete marketing program.
- *505. [205] **Records Control.** (3) Graduate Staff
Control of and by records; systems studies, methods, and procedures; work measurements; work simplification; forms design; control of forms, manuals, and correspondence; work sampling; records management. Prerequisites: 105, 106.
- *506. [206] **Seminar in Industrial Administration.** (3) Finston
Manufacturing problems at the top management level in selected major American industries. Emphasis is upon an understanding of the specific industry environment, the production process, the general economic climate, and the competitive milieu. Practice in quantitative analysis and in making decisions based upon factual knowledge.
- *507. [207] **Seminar in Advanced Tax Accounting.** (3) Mori
Case studies in advanced federal income tax problems; federal estate and gift taxes; a study of those New Mexico State taxes which concern the public accountant.
- *508. [208] **Financial Administration.** (3) Goode, Parish
A case approach to internal and external financing of business and non-business organizations with special emphasis on determination of capital needs, sources for these funds, and planning for their effective use.
- *509. [209] **Legal Problems of Business Administration.** (3) Huber
Legal principles concerning corporate and partnership business organizations generally, with special problems allied with the above such as security law, trusts, bankruptcy, real and personal property, and trade regulations. Independent student research will be emphasized.
- *510. [210] **Cost Control.** (3) McMahan, Mori
Control of materials, labor, and overhead costs; budgetary control and standards; profit analysis; costs in management decisions. Prerequisites: 105, 106.
- *515. [215] **Administrative Theory and Practices II.** (3) Finston, Herman
Advanced theory of organization structure and behavior with emphasis upon behavioral science research contributions. Advanced cases focus upon management's role in resolving inter-personal, inter-group, and inter-organization problems. Prerequisite: 495.
- *516. [216] **Executive Action in a World Society.** (3) Parish
A historical appraisal of social and economic forces which have had major influence on the policy decisions and practices of administrators in various cultures and environments. Emphasis is given to the current problem of public relations in a changing environment.
- *551-552. [251-252] **Problems.** (1-2 each semester) Edgel, Finston, Fowler, Goode, Huber, Kirkpatrick, Mori, Parish
Special permission of the adviser and of the Dean of the College of Business Administration required.
- *599. [300] **Master's Thesis.** (6) Edgel, Finston, Fowler, Goode, Herman, Huber, Kirkpatrick, Mori, Parish

CHEMICAL ENGINEERING

See Engineering, Chemical

CHEMISTRY

Professors R. N. Castle (Chairman), G. H. Daub, M. Kahn, J. L. Riebsomer, S. E. Smith; Associate Professor G. A. Crosby; Assistant Professors R. D. Caton, B. D. West, M. Yamauchi; Instructor V. V. Searcy.

The program of the Department of Chemistry conforms to the standards prescribed by the American Chemical Society.

MAJOR STUDY

For the degree of Bachelor of Arts: Chemistry 101L, 102L (or 122L), 253L 301, 302, 303L, 304L, and at least 8 additional hours selected from courses numbered 300-499.

For the degree of Bachelor of Science: Chemistry 101L, 122L, 301, 302, 303L (2 hr.), 304L (2 hr.), 311, 312, 313L, 314L, 350, 352L, 415, 454L and at least 4 additional hours selected from courses numbered 300-499; or Chemistry 101L, 102L, 253L, 301, 302, 303L (2 hr.), 304L (2 hr.), 311, 312, 313L, 314L, 350, 352L, 415, 454L and at least 4 additional hours selected from courses numbered 300-499. The program must also include Physics 260, 261, 262, 263L, 264L and German equivalent to German 251 or 262.

MINOR STUDY

20 hours in Chemistry, including Chemistry 101L, 102L, 253L, and either 301, 302, 303L and 304L or 311, 312, 313L and 314L. Chemistry 141L does not count toward the minor.

101L. [1L] General Chemistry. (4)

Introduction to the chemical and physical behavior of matter. Prerequisite: Mathematics 101 or eligibility for Mathematics 101 on basis of placement test. 3 lectures, 3 hrs. lab.

102L. [2L] General Chemistry. (4)

Continuation of 101L and including qualitative analysis. Prerequisite: 101L with grade of C or better. 3 lectures, 3 hrs. lab.

122L. [22L] General Chemistry. (5)

Introduction to chemical equilibrium and the periodic properties of the elements. Application of these principles to qualitative and quantitative analysis. Prerequisite: 101L with grade of C or better and permission of instructor. 3 lectures, 6 hrs. lab. (Credit not allowed for both 122L and 102L.)

141L. [41L] Elements of General Chemistry. (4) Searcy

A one-semester course in general chemistry. 3 lectures, 3 hrs. lab.

142L. [42L] Elements of Organic Chemistry. (4) Searcy

A brief course in organic chemistry. Prerequisite: 141L or 101L. 3 lectures, 3 hrs. lab.

253L. [53L] Quantitative Analysis. (4) Caton

Theory and techniques of volumetric and gravimetric analysis. Prerequisite: 102L. 2 lectures, 6 hrs. lab.

**301-302. [101-102] Organic Chemistry. (3, 3) Castle, Daub, Riebsomer

The chemistry of the compounds of carbon. Prerequisite: 102L or 122L.

**303L. [103L] Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 301. 3 or 6 hrs. lab.

**304L. [104L] Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 302. 3 or 6 hrs. lab.

**311-312. [111-112] Physical Chemistry. (3, 3) Crosby, Kahn

The quantitative principles of chemistry, developed by numerous problems. Prerequisites for 311: 253L or 122L, Mathematics 263; pre- or corequisites: Mathematics 264, Physics 262. Prerequisite for 312: 311.

** Available for graduate credit except for graduate majors in Chemistry.

- **313L. [113L] Physical Chemistry Laboratory. (1) Crosby, Kahn**
Experimental study of the subjects discussed in 311-312. Pre- or corequisite: 311. 3 hrs. lab.
- **314L. [114L] Physical Chemistry Laboratory. (1) Crosby, Kahn**
Continuation of 313L. Pre- or corequisite: 312. 3 hrs. lab.
- **323. [123L] Introduction to Biological Chemistry. (3) West**
An introductory course dealing with the chemistry of biological compounds and their transformation in plants and animals. Prerequisite: 302, 304L. 3 lectures.
- **324L. [123L] Introduction to Biological Chemistry Laboratory. (1) West**
3 hrs. lab.
- **341L-342L. [141L-142L] The Principles of Chemistry. (4, 4) Kahn, Riebsomer**
The physical and chemical behavior of matter including a study of the gaseous, liquid, and solid states of matter; atomic and molecular structure; ionic and molecular equilibria. The principles are developed simultaneously with the careful study of the chemistry of selected elements. Numerous problems are assigned to emphasize the principles. Laboratory assignments are varied to match the background and needs of the individual student. Enrollment only by permission of instructor. 3 lectures, 3 hrs. lab.
- 350. [150] Special Methods in Quantitative Analysis. (2) Caton**
A lecture survey of the theory and practice of qualitative and quantitative analysis. An introduction to instrumental methods. Prerequisites: 122L, or 253L, 311.
- 352L. [152L] Special Methods in Quantitative Analysis Laboratory. (2) Caton**
Laboratory and conferences. Chemical and instrumental analyses; colorimetry; potentiometric and conductometric titrations. Pre- or corequisite: 350. 6 hrs. lab.
- *405L. [105L] Qualitative Organic Analysis. (3-4) Castle, Daub**
Identification of carbon compounds through the characteristic reactions of the functional groups. Prerequisites: 302, 304L and permission of instructor. 1 lecture, 6 hrs. lab. or 1 lecture, 9 hrs. lab.
- *406L. [106L] Organic Preparations. (2-4) Castle, Daub, Riebsomer**
The synthesis of organic compounds utilizing the usual reactions such as Grignard, Friedel-Crafts, etc. Prerequisite: 304L and permission of instructor. 6 to 12 hrs. lab.
- *407. [107] The Chemistry of the Alkaloids. (3) Castle**
The chemistry involved in the isolation, proof of structure and synthesis of typical representatives of the different classes of alkaloids. Prerequisite: 302 and permission of instructor.
- *415. [115] Structure of Matter. (3) Crosby**
Elements of molecular orbital theory; dipole moments; dissociation energies; quantum mechanical description of chemical bonds; hybridization; chemical consequences of structure. Enrollment only by permission of instructor.
- *420. [120] Advanced Organic Chemistry. (3) Daub**
Prerequisite: 302 with grade of B or better or permission of instructor.
- *431. [131] Inorganic Chemistry. (3) Yamauchi**
A systematic study of the chemical properties of the elements and their compounds, including an introduction to coordination chemistry. Prerequisite: 415; pre- or corequisite: 311.
- *436L. [136L] Inorganic Chemistry Laboratory. (2-3) Yamauchi**
Techniques used in synthetic inorganic chemistry. Co- or prerequisite: 431 or permission of instructor. 1 lecture, 3 or 6 hrs. lab.
- *454L. [154L] Instrumental Analysis. (4) Caton**
Instrumentation and applications of instrumental methods to chemical analysis, including spectrophotometric and electroanalytical methods. Prerequisite: 352L or permission of instructor.
- *481-482. Biological Chemistry. (3, 3) West**
Prerequisites: 302, 312.
- *483L. Biological Chemistry Laboratory. (1) West**
Pre- or corequisite: 481.
- *484L. Biological Chemistry Laboratory. (1) West**
Pre- or corequisite: 482.

**** Available for graduate credit except for graduate majors in Chemistry.**

- 497-498. [197-198] **Undergraduate Problems.** (2-5 hrs. each semester)
- *501-502. [210-3 hrs.] **The Chemistry of the Heterocyclic Compounds.** (3, 3) Castle, Daub
The chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisite: 302.
- *504-505. [204-205] **Theoretical Organic Chemistry.** (3, 3) Daub
The more important theories of organic chemistry. Prerequisites: for 504: 302, 312; for 505: 504.
- *506L. [206L] **X-ray Crystallography.** (4) Rosenzweig
(Also offered as Geology 506L.) Theory and practical application of X-ray crystallography. Prerequisite: Geology 487L or permission of instructor.
- *508. [208] **Advanced Topics in Organic Chemistry.** (3) Castle, Daub
Prerequisite: 302.
- *509. [209] **Advanced Topics in Organic Chemistry.** (3) Castle, Daub
Topics such as carbohydrates, synthesis of polycyclic compounds, relation of chemical structure to physiological activity. Prerequisite: 302.
- *511. [211] **Advanced Seminar in Physical Chemistry.** (3) Crosby, Kahn
Includes such topics as the application to chemistry of quantum mechanics, statistical mechanics, and atomic and molecular spectra; thermodynamics and kinetics of chemical reactions. May be repeated for credit at the discretion of the Department Chairman. Prerequisite: 312 or permission of instructor.
- *513. [213] **Radiochemistry.** (3) Kahn
Elementary nuclear theory; radiations and their interactions with matter; detection of radiation. Prerequisite: 312.
- *514. [214] **Radiochemical Techniques.** (3) Kahn
Principles, ideas, and tracer techniques in the application of radioactivity to chemistry. Prerequisite: 513 or permission of instructor.
- *532. [232] **Advanced Topics in Inorganic Chemistry.** (3) Yamauchi
Prerequisites: 311, 431.
- *534. [234] **Advanced Topics in Analytical Chemistry.** (3) Caton
Prerequisite: 312
- *599. [300] **Master's Thesis.** (6) Castle, Caton, Crosby, Daub, Kahn, Riebsomer, West, Yamauchi
- *650. [350] **Research.** (2-6 to a maximum of 12) Graduate Staff
- *699. [400] **Dissertation.** Castle, Caton, Crosby, Daub, Kahn, Riebsomer, West, Yamauchi

CHEMISTRY, PHARMACEUTICAL

See Pharmacy

CIVIL ENGINEERING

See Engineering, Civil

CLASSICAL LANGUAGES

See Modern and Classical Languages

COMPARATIVE LITERATURE

Committee in Charge: Professors W. F. J. DeJongh (Languages), Chairman; G. W. Arms (English), R. M. Duncan (Languages), W. D. Jacobs (English), R. R. MacCurdy (Languages), D. A. McKenzie (Languages); Associate Professor F. M. Dickey, (English); Assistant Professor J. B. Zavadil (English).

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages.

MAJOR STUDY

The minimum requirement of 30 hours includes: English 275-276; Greek 339 or Latin 340; Comparative Literature 466; British or American literature (9 hours, including at least 6 in courses numbered above 300); a foreign literature (9 hours from French, German, Portuguese, or Spanish). For descriptions of individual courses see the listings under the two departments. Students may minor in literature (British or American or any foreign language), but courses taken to satisfy the major cannot be used to satisfy the minor requirement. Other minor fields particularly recommended are anthropology, art history, history, and philosophy.

Students planning to major in Comparative Literature are requested to consult with an adviser either in their sophomore year or early in their junior year. Programs will be carefully planned in both the major and the minor.

MINOR STUDY

15 hours including:

Group 1, 6 hours in literature in a foreign language;

Group 2, 6 hours from courses listed under Comparative Literature in this bulletin;

3 additional hours from either Group.

275. [75] *World Literature from Homer to Dante.* (3) Jacobs, Kuntz
(Same as English 275.)

276. [76] *World Literature from Rabelais to Mann.* (3) Jacobs, Kuntz
(Same as English 276.)

***338.** [138] *Russian Literature in Translation.* (3)
(Same as Russian 338.)

***339.** [139] *Greek Drama in Translation.* (3)
(Same as Greek 339.)

***340.** [140] *Latin Literature in Translation.* (3)
(Same as Latin 340.)

***437.** [137] *Contemporary Drama.* (3) Freedman, Jacobs
(Same as English 437.)

***456.** [156] *Literature of Medieval Europe.* (3) Zavadil
Selected authors and genres, Augustine to Petrarch.

***465.** [165] *Tragedy.* (3) Dickey, MacCurdy, Trowbridge
Selected tragedies from world literature in translation and theories of the tragic form.
Prerequisite: 3 hrs. in literature.

***466.** [166] *Literary Criticism.* (3) Arms, Dickey, Trowbridge
A history of major critical attitudes toward literature. Prerequisite: 6 hrs. in literature.

DATA PROCESSING

Assistant Professor F. P. Fowler (Director); Part-time Lecturers R. M. Bodenhamer, J. H. Feise, R. Jeffrey; Part-time Instructors D. Kerschion, J. Marcilla.

CURRICULUM

See p. 145.

Courses offered only according to the curriculum schedule and restricted to enrollees of the Program.

005. Data Processing Mathematics. (0)

The mathematics of business and finance, including elementary statistical analysis, from the point of view of systems requirements. Solution of problems by analytical and numerical processes using the data processing hardware. 5 class hrs.

010. Systems Programming. (0)

Systems flow-charting; programming the IBM 1401 for card, tape, and magnetic disc systems; programming topics in sub-routines, indexing, looping, and macro-instructions. 3 class hrs.

011. Systems Programming. (0)

Translators, compilers, and assemblers; macro- and report generators; I-O control and supervisory routines; simulators; system languages (COBOL, SIMSCRIPT, IPLV, etc.). Exploration of the full potential of the IBM 1401 data processor and examination of the function and operation of other EDP hardware. 3 class hrs.

015. Systems Design and Development. (0)

Information requirements as established by system objectives; data collection, reduction, and processing protocol; machine configuration and specification; system evaluation and implementation techniques; basic elements of the Operations Research approach to problem-solving. 2 class hrs.

016. Field Project. (0)

An independently conceived and executed system designed to solve a stipulated problem will be required of each student. A "managerial" report in proper form will describe all phases of the system, from card and forms design to wiring diagrams and programs, with feasibility to be demonstrated by "live" output. 1 class hr.

017. DP Supervision and Training (0)

The use of behavioral science concepts in human situations, particularly those arising in and unique to technical installations. Discussion of means for resolving conflict, using cases and role-playing techniques. 2 class hrs.

DENTAL HYGIENE

Associate Professor M. Novitski (Director); Part-time Lecturers H. R. Campbell, C. E. Cullen, L. duFault, M. Latini, H. Naeve, R. J. Walpole; Part-time Instructors B. Brabb, T. D. Breshears, P. Clark, L. Keeffe, W. Keeffe, V. R. Mellott, I. Navarre

CURRICULUM

See p. 219.

100L. [1L] Orientation. [Preclinical Dental Hygiene] (2) Keeffe, Novitski

Orientation to dental hygiene and introduction to the techniques of oral prophylaxis; training in mouth examination and patient education. Laboratory practice of techniques on manikins. 2 lectures, 1 hr. lab.

102L. [2L] Clinical Dental Hygiene. (3) Staff

Continuation of 100L. Experience in oral prophylaxis gained by working on patients in dental clinic. Prerequisites: 100L, 110L. 2 lectures, 9 hrs. lab.

110L. [11L] Oral Anatomy. (2) Novitski

The morphology of head, neck, and oral structures. 2 lectures, 2 hrs. lab.

112. [55L] Oral Radiography. (1) Naeve

The physics of roentgenology, the operation of the X-ray machine, and the practice of taking and developing dental X-rays.

200L. [51L] Clinical Dental Hygiene. (3) Staff

Continuation of 102L. Student starts gaining experience in oral radiography. Prerequisite: 102L. 2 lectures, 13 hrs. lab.

202L. [52L] Clinical Dental Hygiene. (4) Staff

Continuation of 200L. Prerequisite: completion of satisfactory work in all courses of first 3 semesters of Dental Hygiene Curriculum. 1 lecture, 14 hrs. lab.

- 210L. [53L] **Histology.** (2) Walpole
Introductory study of cells, tissues, and organic structures of human body with emphasis on oral structures. 1 lecture, 2 hrs. lab.
212. [62L] **Pathology.** [General and Oral Pathology] (2) Walpole
Introduction to general pathology; pathology of diseases affecting teeth and their supporting structures; oral manifestations of systemic disturbances. Prerequisites: Biology 136, 139L, 133L; DH 210L.
- 220L. [84L] **Dental Materials.** (2) Campbell
A survey of materials used in dentistry; training in common dental laboratory procedures. 1 lecture, 2 hrs. lab.
222. [66] **Dental and Public Health Education.** (2) duFault
Teaching of dental health; methods and materials to use; theory and practice of preventive dentistry and public health.
232. [57] **Nutrition.** (2) Latini
The chemistry of food; adequate nutrition and its relation to dental health. Prerequisite: Chemistry 142L.
242. [82] **Practice Management & Ethics.** (1) Navarre, Novitski
The principles of professional ethics; the laws and regulations related to dentistry and dental hygiene, essentials of office management, record keeping, and practice building.

DRAMATIC ART

Professor E. Snapp (Chairman); Associate Professor J. E. Yell; Assistant Professors N. Blackburn, B. McMullan.

MAJOR STUDY

For Dramatic Art Curriculum in Fine Arts and for Major with Emphasis in Television, see pp. 187-189.

For the purposes of Combined Curriculum in Fine Arts: 45 hours in Dramatic Art including 101, 102, 115, 116, 129, 275, 276, 285, 286, 305, 306, 336, plus 9 hours to be chosen from 255, 256, 335, 375, 376, 385 and 386.

College of Education: Dramatic Art 101, 102, 115, 116, 129, 275, 276, 305, 306, 336, 361, and English 441. Total 34 hours.

MINOR STUDY

College of Education and College of Fine Arts: Dramatic Art 101, 102, 115, 116, 129, 305, 306, 336, English 441. Total 25 hours.

College of Arts and Sciences: A minimum of 22 hours including Dramatic Art 115, 116, 305, 335, English 441 or 442; 3 hours to be chosen from Dramatic Art 129, 306, or 336; 6 additional hours in Dramatic Art numbered above 200.

- 101-102. [1-2] **Fundamentals of Speech and Reading.** (3, 3) Yell
The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.
- 115-116. [15-16] **Theatre Appreciation.** (2, 2) McMullan
An introduction to the theatre in terms of the rewarding experience and personal enjoyment it affords both those who create it and those who appreciate it.
- 129-130 [29-30] **Stage Craft.** (3, 3) McMullan
Methods, materials, and techniques of stage carpentry. Students construct scenery for season's productions. 3 lectures, 3 hours lab.
140. [40] **Make-Up.** (3) Blackburn
A practical course on the art of make-up for stage and television, covering both basic principles and specific techniques.

- 255-256. [55-56] Stage Lighting. (3, 3) Blackburn**
Theory and practice of present-day methods of lighting the stage.
- 275-276. [75-76] Technical Production. (3, 3) McMullan**
Analysis, planning, and construction of stage scenery and properties; study of the theatre plant. Prerequisite: minimum of one semester of stage craft.
- 285-286. [85-86] Acting Technique. (3, 3) Snapp**
Basic methods of interpretation for stage, television, and screen.
- 305-306. [105-106] Rehearsal and Performance. (3, 3) Yell**
Elementary techniques of both actor and director; analysis of plays for methods of interpretation in production.
- 314. [114] Educational Theatre. (3) Snapp**
The organizing and teaching of drama and dramatic activities in the junior and senior high schools. Special emphasis to the uses of educational theatre as an integral part of the school curriculum and the student activities program.
- 315. [115] Theatre Production for Teachers: Acting and Directing. (3)**
Essentials of acting and directing; rehearsal methods and production organization. May not be taken by drama majors for credit. 3 lectures, 2 hrs. lab.
- 316. [116] Theatre Production for Teachers: Technical Production. (3)**
Essentials of stagecraft, lighting, make-up, scene and costume design; backstage organization and production techniques. May not be taken by drama majors for credit. Students are required to serve on a technical crew for one production. 3 lectures, 2 hrs. lab.
- 335-336. [135-136] Theatre History. (3, 3) Blackburn**
The development of dramatic art from the Greeks to the present day, with a study of historical backgrounds of dramatic thought and with special emphasis on production techniques.
- 350. [150] Theatre Organization and Management. (3)**
A practical and correlated study of the university theatre, the civic and community, and the professional theatre; principles of production, organization, programming, house management, budgets, advertising, and box office. Prerequisite: upper-division standing and permission of instructor.
- 351. [151] Radio-Television Drama Production. (3)**
Basic directing techniques for the dramatic radio and television program. Workshop. 3 lectures, 3 hrs. lab.
- 352. [152] Advanced Radio-Television Drama Production. (3)**
Advanced directing techniques, adapting and editing the dramatic radio-television program. Workshop. Prerequisite: 351 or permission of instructor. 3 lectures, 3 hrs. lab.
- 355-356. [155-156] Playwriting. (2, 2) Snapp**
Writing, reading and analysis of student plays is supplemented by a critical examination of their playing qualities as revealed in laboratory performance before invited groups. Prerequisite: upper-division standing or permission of instructor. 2 lectures, 2 hrs. lab.
- 361-362. [161-162] Advanced Rehearsal and Performance. (3, 3) Snapp**
Detailed study of directing techniques; analysis of scripts. Rehearsal by students, under supervision, of one-act plays for class presentation. Prerequisites: 305, 306.
- 375-376. [175-176] Scene Design. (3, 3) Yell**
Materials, techniques, and methods of scene design and scene painting. Student designs compete for season's productions.
- 385-386. [185-186] Costume Design. (3, 3) Blackburn**
Historic, modern, and stylized costume and how to design it for the stage. Students execute costumes for season's productions.
- 490. [190] Interdepartmental Proseminar. (3) Honors Staff**
(Same as Fine Arts 490.)
- 499. [199] Senior Thesis. (3) Honors Staff**
Directed study in any major field of the theatre arts. Open to seniors approved by the departmental honors committee.

ECONOMICS

Professors N. Wollman (Chairman), D. B. Hamilton; Consulting Professor B. Bow-er; Associate Professors W. Liepe, B. Udis; Assistant Professors P. Chung, G. C. Hufbauer, P. T. Therkildsen.

MAJOR STUDY

Economics 200, 201, 300, 303, 315 and 15 additional upper-division hours in Economics plus Business Administration 289 or equivalent.

MINOR STUDY

Economics 200, 201, and 12 hours in upper-division courses in Economics of which at least one course must be either Economics 300 or 303.

100. [1] **Introduction to Economics.** (3)
Resources, institutions, and problems of the economic system.
200. [51] **Principles of Economics.** (3)
Basic economic concepts, economic organization, national income, money and banking.
201. [52] **Principles of Economics.** (3)
Market price behavior, income distribution, international trade. Prerequisite: 200.
- *300. [160] **Economic Theory.** (3) Wollman
Intermediate economic analysis with emphasis on general equilibrium models under perfect and imperfect competition. Prerequisite: 201.
- *303. [186] **National Income Analysis.** (3) Hufbauer
Composition, fluctuations, growth, and distribution of national income. Prerequisite: 200.
- *306-307. [170-171] **Introduction to Mathematical Economics.** (3, 3)
Maximization procedures, derivatives, theory of costs and production, utility and consumer demand, oligopoly, macro-economic models, and an introduction to linear programming. Prerequisites: 201, Mathematics 120 or 121, or 306 prerequisite to 307.
310. [110] **Corporation Finance.** (3) Goode, Parish
(Same as Business Administration 310.)
- *315. [111] **Money and Banking.** (3) Chung
Principles of money, credit, and banking; organization and operation of the banking system. Prerequisite: 200.
- *320. [141] **Economics of Labor Relations.** (3) Udis
Labor force, unions, labor-management relations, legislation, wages, and level of employment. Prerequisite: 201.
- *321. [142] **Wage Theory and Labor Markets.** (3) Udis
Wage theory, policies, and structures; patterns of labor mobility and the nature of labor markets. Prerequisite: 320 or permission of instructor.
- *325. [144] **Economic Security.** (3) Therkildsen
Public and private annuity, unemployment compensation, workmen's compensation, and medical programs. Prerequisite: 200.
- *330. [103] **Consumer Economics.** (3) Hamilton
The theory of consumption. Especially recommended for students in Education and Home Economics. Prerequisite: 200.
- *332. [180] **Government Control of Business.** (3)
Government and social control of business enterprise, including public utilities; the economics of rate making in public utilities. Prerequisite: 200 or permission of instructor.
340. [BA 143] **Transportation.** (3) Hufbauer
Principles and problems of transportation. Prerequisite: 200.
- *350. [152] **Public Finance.** (3) Therkildsen
Taxation, governmental borrowing, financial administration, and public expenditures. Prerequisite: 201.

- *355. [175] **National Defense.** (3)
Strategies and policies, allocation of resources, economic controls. Prerequisite: 201.
- *360. [159] **History of Economic Thought.** (3) Therkildsen
Development of the principal economic doctrines and schools of economic thought from the Physiocrats to Keynes. Prerequisite: 200.
- *362. [162] **Economic Fluctuations.** (3) Hamilton
The history of the theory of economic fluctuations, including contemporary theory; proposals to increase economic stability. Prerequisite: 200.
- *364. [163] **Rise of Modern Industry.** (3) Hamilton
Institutional and technological forces in the evolution of the industrial economy. Prerequisite: 200.
- *420. [121] **Economic Problems of Underdeveloped Countries.** (3) Liepe
Theories, policies, and practices with particular applications to Latin America. Prerequisite: 200.
- *421. [122] **Latin American Economic Development Problems.** (3) Liepe
Economic analysis of international and domestic development problems and foreign aid programs applying to the area. Prerequisite: 200.
- *424. [181] **International Economic Relations.** (3) Liepe
Trade and balance of payments adjustments, theories of the gains from trade, policy issues. Prerequisite: 201 or permission of instructor.
- *440. [187] **Regional Analysis.** (3)
Analysis of regional economies, economic models. Prerequisite: 201.
- *442. [130] **Natural Resources.** (3) Wollman
Food, water, mineral, energy resources; development, allocation, pricing; productivity and effects on national income and balance of payments. Prerequisite: 201.
- *450. [154] **Comparative Economic Systems.** (3)
A critical analysis of the proposed major reforms of the existing economic system. Prerequisite: 200.
- *455. [190] **The Soviet Economic System.** (3) Udis
Structure, institutions, growth rate, international position, and economic and military potentials of U.S.S.R. economy. Prerequisite: 201.
- *485. [195] **Philosophical Foundations of Economic Theory.** (3) Evans, Hamilton
(Same as Economics-Philosophy 485). Prerequisite: 201.
- *490. [104] **Economic Problems.** (3) Graduate Staff
Selected problems. Normally given only in the summer.
- 497. **Reading for Honors.** (3)
- 498. [198] **Reading for Honors.** (3)
- 499. [199] **Senior Honors Thesis.** (4)
- *500. [239] **Micro-economic Theory.** [Recent Economic Theory] (3) Wollman
Competition and monopoly; value and distribution; general equilibrium; welfare economics. Prerequisite: 300 or equivalent.
- *505. [240] **Macro-economic Theory.** (3) Hufbauer
Comparative statics, dynamics, and money flows. Prerequisite: 303.
- *515. **Theory of Money and Banking.** (3) Chung
Major developments in monetary and banking theory.
- *551. [251] **Problems.** (2-3 hrs. each semester) Graduate Staff
- *560. [213] **Theory of Public Finance.** (3) Therkildsen
Economic theory and its application to the public economy: welfare economics and other theoretical tools applied to taxation, public expenditure, and public debt. Prerequisite: 350 or equivalent.
- *570. [237] **Institutional Economics.** (3) Hamilton
The "American contribution" to economic thought as found in the work of Veblen, Mitchell, Commons, and other institutional economists.

- *580. **International Trade Theory.** (3) Liepe
Theory of trade and welfare and its applications. Prerequisite: 424 or permission of instructor.
- *583. **Seminar in Economic Development and International Trade.** (3) Liepe
Economic theory applied to case studies in development and international trade; interrelations between domestic and foreign sectors. Prerequisite: either 420, 424, or 580.
- *599. [300] **Master's Thesis.** (6) Graduate Staff

ECONOMICS-PHILOSOPHY

The combined major in Economics and Philosophy is an interdepartmental major administered jointly by the two departments. Students interested in this program should consult the chairmen of both departments.

This major is directed toward a deepened and fuller understanding of the theoretical phases of economics and toward the extension of philosophy into one of its traditional areas of interest; namely, that of value theory and its application.

MAJOR STUDY

Students completing an Economics-Philosophy major are not required to have a minor. The minimum requirement is 45 hours, including: Economics 200, 201, 300, 303, 315, 360 or 450, and three hours to be selected from 320, 325, 332, 340, 350 or 424; Philosophy 145, 201, 255, 256, 301, 302, 308, 332 or 385, and three additional hours above 300; and Economics-Philosophy 485.

MINOR STUDY

Not offered.

- *485. [195] **Philosophical Foundations of Economic Theory.** (3) Evans, Hamilton
Philosophical backgrounds of classical and neo-classical, socialist and communist, and institutionalist economics. Prerequisite: Economics 201.

EDUCATION, ART

Professor A. S. Masley (Chairman); Instructor J. P. Meyers.

CURRICULUM

See p. 157.

MINOR STUDY

See p. 157.

- 110. [17] **Creative Art in Elementary School.** (3) Masley, Meyers
Developing art awareness through comprehension and expression.
- 115. [18] **Creative Craft in Elementary School.** (3) Masley, Meyers
Developing craft awareness through comprehension and participation.
- 120-121. [20-21] **Techniques of Craft Education.** (2, 2)
Beginning crafts.
- 130-131. [30-31] **Techniques of Design Education.** (3, 3) Masley, Meyers
Design in everyday life.
- 210-211. [48-49] **Creative Art in Secondary School.** (3, 3) Masley
Fundamentals of art education.
- 320. [124] **Pre-teaching Experience in Art.** (3) Masley
Introductory art teaching.
- 351. [151] **Problems.** (1-3) Masley, Meyers

- 400. [120] **Children and Art.** (3) Masley
Pre-school through adolescence.
- *410. [148] **Creative Paper Crafts.** (2) Masley, Meyers
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin**.
- 434. [155a] **Teaching Art in Secondary School.** (3, 3) Masley
Objectives, motivation and procedures. Prerequisite: Secondary Education 310.
- *500. [298] **Seminar.** (2) Masley
- *529. [229] **Workshop.** (2) Masley
For degree restrictions consult the **Graduate School Bulletin**.
- *551. [251] **Problems.** (1-3) Masley, Meyers
- *599. [300] **Master's Thesis.** (6) Masley
- *699. [400] **Doctoral Dissertation.** Masley

EDUCATION, BUSINESS

See Business Administration.

EDUCATION, EDUCATIONAL AND ADMINISTRATIVE SERVICES

Professors P. V. Petty (Chairman), C. C. Travelstead (Dean), G. L. Keppers; Associate Professors F. Angel, J. G. Cooper, D. A. Ryan, W. O. Wilson; Assistant Professors P. D. Lynch, A. W. Vogel, H. Whiteside, J. T. Zepper; Lecturers C. Walker, R. Ruble.

Three areas are included in this Department: Foundations of Education, Guidance, and Educational Administration. The degree program in all three areas is at the graduate level. Program information concerning master's and doctoral degree plans available is contained in the **Graduate School Bulletin**.

EDUCATIONAL ADMINISTRATION

- *410. [164] **Introduction to Educational Administration.** (3) Angel, Petty, Ryan
An overview of the field of educational administration including school organization, operational areas, and principles. Required of all school administration majors.
- *412. [107] **Public Education in New Mexico.** (2) Angel, Petty
A comprehensive survey of the New Mexico public school system and its tax supported system of higher education.
- *420. [166] **The School Principalship.** (3) Angel, Drummond, Ivins, Ryan
The organizational, administrative, and supervisory responsibilities of the school principal—elementary and secondary.
- *422. [112] **Current Educational Problems.** (3) Graduate Staff
A group study of specific problems in education. Usually offered as an off-campus course.
- *430. [105] **Adult Education.** (3) Travelstead
Origin, development, philosophy, objectives, methods, and materials.
- *460. [238] **Supervision of Instruction (Elementary and Secondary).** (3) Angel, Petty
Purposes of supervision in the instructional program; theory and nature of instructional leadership; supervision as group leadership; classroom visitation and conferences as supervisory techniques; and evaluation of supervision. Special attention to role of principal and general supervisor in instructional improvement.
- *510. [245] **School-Community Relations.** (3) Petty, Ryan, Travelstead
The underlying principles of satisfactory and constructive relationships between the school and the community along with the development of practices which will implement these principles.

- *521. [268] **Public School Finance.** (3) Angel, Ryan, Wilson
Basic principles underlying the financing of public schools. Special attention is given to New Mexico.
- *522. [269] **School Business Management.** (3) Petty, Ryan, Wilson
Practices in school budgeting, purchasing, funds accounting, auditing, payroll administration, supply management, and miscellaneous business transactions.
- *529. [229] **Workshop in Educational Administration.** (4) SS Graduate Staff
For degree restrictions consult the **Graduate School Bulletin**.
- *531. [271] **Administration of Staff Personnel.** (3) Petty
The principles of educational administration applied to the organization and administration of the staff personnel.
- *551-552. [251-252] **Problems.** (1-3, 1-3) Graduate Staff
- *561. [261] **School Law.** (3) Angel, Petty
Legislation and court decisions, with special reference to New Mexico school law.
- *564. [264] **School and Community Surveys.** (3) Lynch, Ryan, Wilson
Practices and techniques in all phases of school and community surveys.
- *571. [263] **State and Federal Educational Administration.** (3) Angel, Ryan
State school systems; federal and state policy; and forms of control.
- *581. [206] **Seminar in Educational Administration.** (2) Angel, Lynch, Petty, Travelstead
Advanced reading and problem study in educational administration. Required of majors; others may be admitted upon consultation with instructor.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *612-613. [272-273] **Field Experiences in Educational Administration.** (3, 1-3) Angel, Petty, Ryan, Travelstead
Planned, practical experiences in connection with the actual administration of a school system. Designed to provide supervised administrative practice for those school administration students who lack actual experience.
- *626. [277] **Educational Buildings and Equipment.** (3) Angel, Wilson
Problems of building construction and maintenance. Standards and practices. Field trips are included.
- *629. [289] **Seminar for Practicing School Administrators.** (1-3) SS Graduate Staff
A graduate seminar for practicing school administrators offered only during summer sessions. It provides study of the latest practices and trends in specialized areas of school administration.
- *630. [265] **Administration in Higher Education.** (3) Zepper
An overview of higher education principally for students who are likely to have some administrative as well as teaching responsibilities in higher education. Prerequisite: master's degree or permission of instructor.
- *699. [400] **Doctoral Dissertation.** Graduate Staff

EDUCATIONAL FOUNDATIONS

- 290. [90] **Foundations of Education.** (3) Zepper
An introduction to the philosophical, social, historical and comparative foundations of education.
- 300. [El Ed 118] **Human Growth and Development.** [Child Growth and Development] (3) Doxtator, Drummond, Schroeder
Principles of growth and development and implications for the school curriculum.
- 310. **Learning and the Classroom.** (3) Cooper, Rosenblum
The basic principles of learning and their application to classroom situations.
- 331. [110] **The Use of Audio-Visual Aids in Teaching.** (3) Runge, Ryan
Chief attention will be given to the aims and techniques of audio-visual aids in the classroom.
- 351. [151] **Problems.** (1-3)
- *412. [101] **History of Education in Western Civilization.** (3) Angel, Ryan, Zepper
The development of education in Europe and in the United States. An analysis of contributions of prominent educators.

- *415. [104] **Philosophies of Education.** (3) Zepper
Prerequisite: 290 or equivalent.
- *418. [205] **Comparative Education.** (3) Zepper
A comparative and evaluative study of the purposes, objectives, organization, and methodology of contemporary educational systems of representative European, Latin American, and Afro-Asian countries. Prerequisite: permission of instructor.
- *421. [109] **Educational Sociology.** (3) Angel, Zepper
Sociological aspects of school problems.
- *429. [129] **Workshop in Foundations of Education.** (1-4) Graduate Staff
For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin**.
- 471. [179] **Statistics in Education.** (2) Lynch, Petty
The use of basic statistics in the field of education. Frequency distribution, measure of central tendency, applications of the normal probability curve and linear correlation will be emphasized.
- *474. [180] **Evaluation in the School Curriculum.** (3) Crawford, Keppers, Lynch, Cooper
Designed to help the classroom teacher better evaluate the progress of pupils. Major emphasis is placed on constructing teacher-made tests in various subject-matter areas. The use and interpretation of standardized tests are also considered.
- *481. [127] **Education Across Cultures in the Southwest.** (3) Angel, Zintz
(Same as Elementary Education 481.)
- *501. [201] **Research Methods in Education.** (3) Cooper, Lynch
Required of all candidates for a graduate degree in the College of Education. Methods, content, techniques of educational research. Pre- or corequisite: an introductory course in statistics.
- *502. [202] **Research Seminar in Education.** (2) Cooper, Crawford, Lynch
Application of research techniques to a current educational problem. Required of all candidates for a graduate degree in education under Plan II, with the following exceptions: (1) candidates in Elementary Education; (2) candidates in Educational and Administrative Services may substitute Educational Administration 581. Prerequisite: 501.
- *515. [204] **Comparative Philosophies of Education.** (3) Zepper
Inquiry into differences of basic outlook and their implications for educational practice of competing philosophical positions. Prerequisite: 290 or equivalent.
- *541. [243] **Principles of Curriculum Development.** (3) Angel, Drummond, Ivins
Designed as a culminating experience in the study of curriculum. Social, philosophical, and psychological bases related to common principles and procedures of curriculum development as applied in the several areas and at the several levels of formal education. Articulation among these levels is also stressed.
- *551-552. [251-252] **Problems.** (1-3, 1-3) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *603. [279] **Advanced Statistics in Education.** (3) Cooper, Keppers, Lynch
Application of advanced techniques in statistical treatment of education data. These techniques include testing experimental hypotheses, regression and prediction, analysis of variance, non-parametric methods, and partial and multiple correlation. Prerequisite: a course in statistics.
- *645. [295] **Advanced Seminar in Education.** (3) Drummond, Ivins, Petty, Travelstead
For doctoral and post master's students in Education. Ideas, concepts, problems, and critical issues facing education today. Designed to help students integrate and synthesize course work taken in Education and cognate fields, as this work may be related to and helpful in the solution of the problems under consideration. Individual student preparation and reports followed by critical reaction from other students and faculty members participating in the seminar.
- *699. [400] **Doctoral Dissertation.** Graduate Staff

GUIDANCE

- *415. [115] **Introduction to Guidance.** (3) Cooper, Keppers
To assist the student to develop an adequate philosophy of guidance services and to understand the principles of guidance practice in keeping with this philosophy.

- *431. [188] **Mental Hygiene in the Classroom.** (3) Cooper, Crawford, Keppers
Aims to help classroom teachers, supervisors, principals, deans, advisers of students, and guidance workers to understand the personal problems affecting success and failure of pupils.
- *513. [213] **Socio-Economic Information in Guidance.** (3) Cooper, Keppers
The essential nature of environmental information in educational, vocational, and personal-social guidance services and of the methods of collecting, organizing, filing, evaluating, and using such information. Prerequisite: 415 or permission of instructor.
- *514. [214] **Organizing and Supervising Guidance Services.** (3) Cooper, Keppers
Includes such topics as sound organization practice and patterns, understanding of the total pupil personnel program, qualifications and acquisition of staff, facilities, budgetary needs, evaluation, and possible ways of initiating a guidance program. Prerequisite: basic guidance courses or permission of instructor.
- *516. [216] **The Case Study in Guidance.** (3) Cooper, Keppers
The techniques available for understanding an individual, the values and limitations of each technique, and methods of synthesizing the data about an individual. Prerequisite: Educational Foundations 474 or Psychology 331.
- *517. [217] **Group Techniques in Guidance.** (3) Cooper, Keppers
The place and functions of group methods in the guidance program, the values and limitations of each method and the techniques to be utilized. Prerequisite: 431 or Psychology 302.
- *518. [218] **Techniques of Counseling.** (3) Cooper, Keppers
Various techniques employed in counseling and in developing competence in applying the techniques consistent with the basic personality and philosophy of the individual counselor. Prerequisites: 513, 516; Psychology 302 or permission of instructor.
- *519. [219] **Practicum in Guidance.** (1-4) Cooper, Keppers
To provide the student experience in the practical application and integration of the principles and methods of guidance which he has studied. Pre- or corequisite: 518.
- *529. [229] **Workshop.** (1-4) Graduate Staff
For degree restrictions consult the **Graduate School Bulletin**.
- *550. [212] **College Personnel Work.** (3) Whiteside
Philosophy and principles of college personnel services, as well as the nature and extent of various personnel services on college campuses. Prerequisite: permission of instructor.
- *551-552. [251-252] **Problems.** (1-3, 1-3) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *620. [220] **Seminar in Guidance.** (3) Cooper, Keppers
Current problems and research in the field of guidance. Prerequisites: experience as a school counselor; basic courses in guidance or permission of instructor.
- *621. **Client-Centered Counseling.** (3) Cooper, Keppers
An approach to counseling through a consideration of personal problems of the client. Prerequisite: 518, 519.
- *622. **Multiple Counseling.** (3) Cooper, Keppers
Counseling through various group approaches. Prerequisite: 517.
- *623. [223] **Play Therapy.** (3) Keppers
To develop in the student the ability to utilize techniques of play therapy and to provide experiences and applications that will provide insights into the inner world of childhood problems. Prerequisite: 518.
- *699. [400] **Doctoral Dissertation.** Graduate Staff

EDUCATION, ELEMENTARY

Professors H. D. Drummond (Chairman), M. V. Zintz; Associate Professor L. H. Walters; Assistant Professors E. A. Reuwsaat, D. Tredway.

CURRICULUM

See p. 159.

- 211. [84] **General Methods.** [Materials and Methods of Teaching in Elementary Schools]
(3) Drummond, Tredway
For non-majors. Guided visits to schools are scheduled.

319. [119] **Physical Education in the Elementary School.** (2) Gugisberg
Five class meetings per week.
321. [122] **Social Studies in the Elementary School.** (2) Drummond
331. [121, 123] **Reading in the Elementary School.** (3) Walters, Zintz
333. [126] **Teaching Oral and Written English.** (2) Walters, Zintz
351. [151] **Problems.** (1-3)
353. [124] **Science in the Elementary School.** (3) Tredway, Zweig
Prerequisites: 1 yr. biological science; 1 yr. physical science.
361. [135] **Arithmetic in the Elementary School.** (2) Tredway
Prerequisites: Mathematics 111, 212.
400. [136] **Student Teaching in Elementary Schools.** (3, 6, 9) Tredway and Staff
Prerequisites: 321, 331, 353, 361. See also additional requirements on p. 152.
- *405. [125] **Curriculum for Early Childhood.** (3)
Education of children 2-5 years of age. Prerequisite: Home Economics 408L.
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin**.
- *435. [139] **Remedial Reading Problems.** (3) Walters, Zintz
Prerequisite: 331.
- *441. [120] **Children's Literature.** (2) Walters
Prerequisite: 331.
- *471. [141] **Education of the Exceptional Child.** (3) Reuwsaat
Teaching atypical children in the regular classroom. Prerequisite: Psychology 313.
- *473. [145] **Teaching the Mentally Retarded.** (3) Reuwsaat
Objectives, curriculum, content, methods, organization of work. Prerequisite: Psychology 314.
- *481. [127] **Education Across Cultures in the Southwest.** (3) Angel, Zintz
Educational implications of the Pueblo, Navajo, Apache, and Spanish-American cultures. Research on New Mexico school problems will be reviewed and evaluated.
497. [197] **Reading and Research in Honors.** (3-6)
Prerequisites: see p. 148.
- *511. [237] **Curriculum in the Elementary School.** (2) Drummond, Tredway
Problems of selecting, organizing, and presenting content in the elementary school.
- *521. [232] **Seminar in the Social Studies.** (2) Drummond
Prerequisite: 321.
- *529. [229] **Workshop.** (4) SS
For degree restrictions consult the **Graduate School Bulletin**.
- *531. **Seminar in Teaching Reading.** (3) Walters, Zintz
Prerequisite: 331.
- *533. [221-222] **Seminar in the Language Arts.** [Investigations in Primary and Intermediate Language Arts] (3) Walters, Zintz
Prerequisite: 333.
- *541. [225] **Seminar in Children's Literature.** (2) Walters
Prerequisite: 441.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
Prerequisite: Educational Foundations 501.
- *561. [235] **Seminar in Arithmetic.** (2) Tredway
Prerequisite: 361.
- *573. [245] **Seminar in Educating the Mentally Retarded.** (3) Reuwsaat
Prerequisite: 473.
- *577. [220] **Education of Gifted Children.** (3) Reuwsaat
Prerequisite: 471.

- *581. [253] **Bilingual Education.** (3) Zintz
Prerequisite: 481.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
Prerequisite: Educational Foundations 501.
- *699. [400] **Doctoral Dissertation.** Graduate Staff

EDUCATION, HEALTH, PHYSICAL EDUCATION, AND RECREATION

Professors A. H. Seidler (Chairman), L. R. Burley, E. M. Small; Associate Professors W. W. Clements, M. Gugisberg, W. U. Weeks, A. K. Young; Assistant Professors W. A. Bynum, B. H. Geba, E. H. Heath, F. McGill, G. Milliken, F. E. Papcsy, G. T. Petrol; Instructors R. K. Barney, L. F. Diehm, G. G. Gilmore, N. Mills, C. Piper, E. Waters; Part-time Instructors M. Busch, R. Gregory, V. Holbrook, L. Martinez, S. Rasmussen, J. Schuster, P. Villegas, R. Woods.

ALL UNIVERSITY REQUIREMENTS

Four semester hours of nonprofessional activity physical education shall be completed by all undergraduate students in the University. Veterans, Air and Navy ROTC students, students over 30 years of age, and handicapped students excused by the University physician are exempted from the physical education requirement. ROTC and medical excuse exemption is on a semester-by-semester basis. Not more than 1 hour may be earned in a semester except by physical education majors and minors. Not more than 4 semester hours of required physical education may count toward a degree. Men may substitute participation in major sports for required physical education for that part of the semester during which they are actively engaged in a sport, provided that they are enrolled in the section designated by the Department Chairman. Physical education majors and minors may not substitute their participation in sports for the required physical education classes. Men physical education majors must pass a departmental Physical Fitness Test before admission to the College of Education.

The instructor in each course should be consulted concerning proper clothing or uniform.

CURRICULA

See pp. 160-162.

PHYSICAL EDUCATION

NONPROFESSIONAL COURSES—PHYSICAL EDUCATION

- 101. [M5, W66] **Beginning Swimming.** (1) Barney, Mills
- 102. [W67] **Intermediate Swimming.** (Women Only) (1) McGill
- 103. [M6, W68] **Advanced Swimming.** (1) Barney, Piper
Prerequisite: ability to swim.
- 104. [M7, W69] **Lifesaving.** (1) Barney, McGill
Prerequisite: ability to swim.
- 107. [MW93] **American Country Dance.** (1) Mills
- 108. [MW91] **Ballroom Dance.** (1) Villegas
- 109. [MW94] **Beginning Contemporary Dance.** (1) Waters

111. [MW92] **Mexican & New Mexican Dance.** (1) Villegas
115. [W80] **Gymnastics.** (1) Holbrook
116. [M14] **Apparatus Stunts.** (1) Gilmore
117. **Individual Tumbling.** (1) Papcsy
118. [W80] **Movement Fundamentals.** (1) Small
119. [M10] **Personal Defense. (Men Only)** (1) Seidler
120. [M11] **Wrestling. (Men Only)** (1) Bynum
121. [M17] **Weight Lifting. (Men Only)** (1) Heath
122. [W80] **Individual Activities.** (1) Staff
123. **Outward Bound.** (1) Heath
124. **Developmental Physical Education.** (1) Heath
125. [W71] **Badminton.** (1) Burley, Mills
126. [MW61] **Beginning Golf.** (1) Petrol, McGill
127. [W62] **Intermediate Golf. (Women Only)** (1) Gugisberg
128. [M34, W51] **Beginning Tennis.** (1) Geba, Mills
129. [W52] **Intermediate Tennis. (Women Only)** (1) Mills
130. [W80] **Bowling.** (1) Mills
131. [M55] **Horseback Riding.** (1) Gillis
134. [W81] **Volleyball-Softball.** (1)
135. [M33] **Basketball-Softball.** (1) Schuster
136. [W81] **Field Hockey.** (1)
137. [M32] **Flickerball-Bowling.** (1) Gregory
138. [W81] **Speedaway-Basketball.** (1)
139. [M28] **Soccer.** (1) Barney
140. [M31] **Volleyball-Badminton.** (1) Burley

PROFESSIONAL COURSES—PHYSICAL EDUCATION

Some of the following courses are scheduled to meet more periods per week than indicated by the number of credit hours. These courses, in addition to lectures, include professional activity, laboratory, or field types of class experiences. To identify these courses, the number of class meetings per week is stated after the course description.

151. [48] **Body Mechanics and Self-Testing Activities.** (1) Piper
Five class meetings per week.
152. [49] **Team Sports.** (1) Milliken
Five class meetings per week.
160. [45] **Physical Fitness Programs.** (2) Bynum
The professional course in physical fitness programs. 5 class meetings per week.
161. [75] **Theory and Practice of Basketball.** (2) King
The professional course in the coaching of basketball. 5 class meetings per week.
162. [74] **Theory and Practice of Football.** (2) Weeks
The professional course in the coaching of football. 5 class meetings per week.
163. [44] **Swimming.** (2) Barney
The professional course in swimming. Prerequisite: ability to swim. 5 class meetings per week.
201. [40] **Gymnastics.** (2) Gilmore
The professional course in gymnastics. Prerequisite: 117. 5 class meetings per week.

202. [77] **Theory and Practice of Baseball.** (2) Petrol
The professional course in the coaching of baseball. 5 class meetings per week.
203. [46] **Combatives.** (2) Bynum
The professional course in combatives. 5 class meetings per week.
204. [76] **Theory and Practice of Track and Field.** (2) Hackett
The professional course in the coaching of track and field. 5 class meetings per week.
210. [98] **Folk Dance.** (1) Small
Five class meetings per week.
211. [99] **Individual and Dual Sports.** (1) McGill
Five class meetings per week.
307. [107] **Team Sports in the Secondary School.** (2) Mills, Milliken
Prerequisite: 152 or permission of instructor. 5 class meetings per week.
308. [108] **Individual and Dual Sports in the Secondary School.** (2) McGill
Prerequisite: 211 or permission of instructor. 5 class meetings per week.
309. [109] **Aquatics and Gymnastics.** (2) Piper
Prerequisite: 151 or permission of instructor. 5 class meetings per week.
310. [106] **Folk Dance in the School Program.** (2) Small
Prerequisite: 210 or permission of instructor. 5 class meetings per week.
319. [119] **Physical Education in the Elementary School.** (2) Gugisberg
(Same as Elementary Education 319.) 5 class meetings per week.
- 326L. [126L] **Physiology of Exercise.** (3) Fleck, Riedesel & Assistant
(Same as Biology 326L.)
345. [145] **Professional Laboratory Experiences in Health, Physical Education, and Recreation.**
(1-3)
May be repeated to a maximum of 4 semester hours.
351. [151] **Problems.** (1-3)
360. [121] **Officiating in Sports.** (2) McGill
Discussion and practice in officiating techniques in soccer, speedball or field hockey, basketball, etc. Prerequisite: permission of instructor. 4 class meetings per week.
366. [156] **Teaching of Contemporary Dance.** (2) Waters
Selection of methods and materials for teaching modern dance. 4 class meetings per week.
373. [128] **The Treatment of Athletic Injuries.** (2) Diehm
397. [104] **Kinesiology.** (4) Burley
Prerequisites: Biology 136, 139L.
398. [171] **Principles of Physical Education.** (3) Seidler
The aims and objectives of physical education: physiological, psychological, and sociological principles which underlie practices in the profession. Prerequisite: permission of instructor.
399. [172] **Organization and Administration of Physical Education.** (3) Gugisberg, Clements
Program building including criteria for the selection of activities and progression, and other factors affecting course of study construction such as facilities, equipment, budget, laws, policies, professional responsibilities. Prerequisite: permission of instructor.
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin**.
444. [155p] **Teaching of Physical Education.** (3) Gugisberg
(Same as Secondary Education 444.)
461. [169] **Adaptive and Corrective Physical Education.** (3) Papcsy
The field of adaptive and corrective physical education and its relationship to the regular curriculum in P.E. Prerequisite: 397.
- *489. [167] **Tests and Measurements in Physical Education.** (3) Burley
Techniques to determine abilities, needs, and placement in the physical education program.

- *490. [190] **Supervision of Health and Physical Education Programs.** (3) Burley, Clements, Gugisberg, Small
(Also offered as Health Education 490.) Supervisory techniques stressing cooperative planning will be applied to city and county programs in New Mexico. Each student will be required to develop a problem in terms of his particular needs and situation. Prerequisite: permission of instructor.
- *492. [192] **History of Physical Education.** (3) Papcsy
- 497. [197] **Reading and Research in Honors.** (3-6)
Prerequisites: see p. 148.
- *505. [205] **Foundations for a Philosophy of Physical Education.** (3) Burley, Seidler
Prerequisite: at least 3 hours in history, principles, or methods of physical education.
- *510. [210] **Curriculum Construction in Physical Education.** (3) Burley, Seidler
- *514. [214] **The Remedial Program in Physical Education.** (3) Burley, Papcsy
- *516. [216] **Seminar in Physical Education.** (3) Burley, Seidler
- *523. [223] **Analysis of Physical Education Activities.** (3) Seidler
Analysis of a selected number of physical education activities by application of principles and methods of advanced physiology of exercise, mechanics, and kinesiology.
- *529. [229] **Workshop.** (1-4)
For degree restrictions consult the *Graduate School Bulletin*.
- *551. [251] **Problems in Physical Education.** (1-3) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Burley, Seidler
- *699. [400] **Dissertation.** Burley, Seidler

HEALTH EDUCATION

- 164. [64] **First Aid.** (2) Clements
Prevention and treatment of the common injuries and accidents occurring in and about the school.
- 171. [72] **Personal and Community Health.** [Health Education] (3) Clements, Small
- 351. [151] **Problems.** (1-3)
- 370. [138] **Teaching of Health Education in the Schools.** (3) Clements, Gugisberg, Small
Responsibilities of the teacher in providing certain health services, desirable environmental conditions, and health instruction in elementary and secondary grades; basic health principles, unit planning, methods, and use of community resources. Prerequisite: 171.
- 401. [164] **General Safety Education.** (3) Bynum, Clements
Safety in the home, on the farm, in industry, in play, in the school will be discussed. Stress on community organization, school responsibility, and safety problems in New Mexico.
- 402. [165] **Traffic Safety Education in Secondary Schools.** (3) Bynum, Clements
Those enrolling must be licensed drivers. Discussion includes improvements of traffic conditions; the school's part in the safety program; the need for high school courses; methods and equipment for skill tests; insurance costs, and records for behind-the-wheel training; classroom teaching methods; and physical tests for drivers.
- *410. [185] **Administration of a School Health Program.** (3) Clements, Gugisberg, Small
Prerequisite: 370.
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the *Graduate School Bulletin*.
- *490. [190] **Supervision of Health and Physical Education Programs.** (3) Burley, Clements, Gugisberg, Small
(Also offered as Physical Education 490.) Supervisory techniques stressing cooperative planning will be applied to city and county programs in New Mexico. Each student will be required to develop a problem in terms of his particular needs and situation. Prerequisite: permission of instructor.

- *495. **Studies in Community Health Problems.** (3) Clements, Gugisberg, Small
- *496. **Investigations in School Health Programs.** (3) Clements, Gugisberg, Small
- 497. [197] **Readings and Research in Honors.** (3-6)
Prerequisite: see p. 148.
- *516. [216] **Seminar in Health Education.** (3) Burley, Seidler
- *529. [229] **Workshop.** (1-4)
For degree restrictions consult the **Graduate School Bulletin.**
- *551. [251] **Problems in Health Education.** (1-3) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Burley, Seidler, Small
- *699. [400] **Dissertation.** Burley, Seidler

RECREATION

- 290. [90] **Social Recreation.** (2) McGill
Experience in selection of materials, and leadership techniques in group work in social and recreational games, mixers, and dances for use in recreation programs. 5 class meetings per week.
- 301. [41] **Recreational Sports.** (2) Papcsy
The professional course in recreational sports. Prerequisite: P.E. 160 or permission of instructor. 5 class meetings per week.
- 303. [103] **Principles of Recreation.** (3) Heath
Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques.
- 331. [131] **Principles and Practices of Camping.** (3) Burley, Heath, Mills
The objectives of this course are to introduce students to camp experiences, to study needs for camping with emphasis on school-camp programs, and to study organizational and administrative aspects with emphasis on leadership functions. Prerequisite: permission of instructor.
- 351. [151] **Problems.** (1-3)
- 374. [174] **Organization of Community Recreation.** (3) Heath
The organization, administration, and conduct of recreation programs on the community level. Prerequisite: 303.
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin.**
- 452. [125] **Organization of Sports Programs.** (3) Clements, McGill, Seidler
Organization and administration of games and sports in intramural, interschool, and community recreation programs. Prerequisite: permission of instructor.
- 475-476. [175-176] **Field Work in Recreation.** (3, 3) Heath, McGill
Theory and practice in recreation leadership in centers, playgrounds, etc. Prerequisite: 374 or permission of instructor.
- *477. [177] **Industrial and Institutional Recreation.** (2) Heath, Seidler
Planning, organizing, and conducting recreation programs in industry and in hospitals and other types of institutions. Prerequisite: 303 or permission of instructor.
- *478. [178] **Outdoor Recreation.** (3) Burley, Bynum, Heath
Organization and administration of all types of outdoor recreation-leadership, programming, financing, etc. Includes programs in camps, resorts, ranches, lodges, and state and national parks. Prerequisite: 303 or permission of instructor.
- 497. [197] **Reading and Research in Honors.** (3-6)
Prerequisites: see p. 148.
- *507. [207] **Foundations for a Philosophy of Recreation.** (3) Burley, Heath, Seidler
- *516. [216] **Seminar in Recreation.** (3) Burley, Heath, Seidler
- *524. [224] **Evaluation of Recreation Resources and Programs.** (3) Heath, Seidler
Determining recreational needs, interests, and opportunities of individuals and communities through surveys, studies, and appraisals; evaluating and appraising community recreation programs and services; and research in the field of recreation.

- *529. [229] **Workshop.** (1-4) Graduate Staff
For degree restrictions consult the **Graduate School Bulletin**.
- *551. [251] **Problems in Recreation.** (1-4) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Burley, Heath, Seidler

EDUCATION, HOME ECONOMICS

Associate Professors G. L. Elser (Chairman), F. M. Schroeder; Assistant Professors I. H. McMurray, R. B. Harris.

CURRICULUM IN EDUCATION

See p. 163.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS

See p. 163.

MAJOR STUDY IN ARTS AND SCIENCES

A major study in Home Economics in the College or Arts and Sciences prepares the student for the role of homemaker and for a career in Home Economics in business. A special curriculum is planned for those who wish to prepare for a career in dietetics.

Home Economics 102L, 120L, 150L, 222L, 325, 341, 408L, 418, 431L, 443, and one of the following courses: 252 or 254L. Chemistry 141L and 142L and Biology 112L, 136, and 133L are also required.

If a student majors in Home Economics in the College of Arts and Sciences, she may not have any other hours outside the College.

For requirements for a major in dietetics consult the Dean of the College and the Home Economics Department Chairman.

MINOR STUDY IN COLLEGE OF EDUCATION

See p. 163.

MINOR STUDY IN COLLEGE OF ARTS AND SCIENCES

Home Economics 102, 120L, 150L, 222L and at least 7 additional hours approved by the Chairman of the Department. At least 6 hours must be taken in courses numbered above 300.

- 102L. [2L] **Infant Growth and Development.** (3) Schroeder
An introduction to the basic needs and growth factors of the child with emphasis on the prenatal period, infancy, and through the second year. 2 lectures, 2 hrs. lab.
- 120L. [53L] **Food and Nutrition.** (3) Harris
Principles of selection and preparation of food including economic aspects. 1 lecture, 4 hrs. lab.
- 150L. [12L] **Clothing Selection and Construction.** (3) McMurray
Clothing selection and construction from the standpoint of artistic, economic, and hygienic standards for the individual. 1 lecture, 4 hrs. lab.
- 222L. [54L] **Food and Nutrition.** (3) Harris
Principles of selection and preparation of food. Meal planning and service. Prerequisite: 120L or equivalent. 1 lecture, 4 hrs. lab.
- 240. [62] **Personal and Family Health.** (2) Elser
Personal and family health, sanitation; prevention and control of communicable diseases; fundamentals of home care of the sick.
- 252. [60] **Textiles.** (3) McMurray
Construction, identification, use and care of clothing and household textiles.

- 254L. [63] **Tailoring.** [Advanced Clothing Construction] (3) McMurray
Construction of a wool suit or coat emphasizing fitting and techniques of finishing. Consumer information in relation to clothing. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
325. [104] **Nutrition.** (3) Elser
The relation of nutrition to the health program; normal nutrition for all ages, prenatal through old age.
341. [109] **The House and Its Furnishings.** (3) McMurray
Guides in the selection of a house and furnishings with emphasis upon the use of space for function, economy, and beauty.
351. [151] **Problems.** (1-3)
- *408L. [138L] **Child Growth and Development.** [Child Care and Development] (4) Schroeder
Pre-school through adolescence. For laboratory work, observation, and participation in nursery school and in kindergarten. 3 lectures, 2 hrs. lab.
418. [128] **Family Relationships.** (3) Schroeder
Family relationships as they affect courtship, marriage, parenthood, old age, and community responsibilities and activities.
429. [129] **Workshop.** (1-4)
For degree restrictions see p. 155 of this catalog.
- 431L. [107L] **Experimental Foods.** (3) Elser
Experimental methods applied to food preparation and preservation; food marketing and food laws. Prerequisites: 222L; Chemistry 141L, 142L. 2 lectures, 3 hrs. lab.
- *433L. [127L] **Nutrition and Dietetics.** (4) Harris
Nutritive value of foods, analyses of adequate diets for normal individuals of all ages, and the relation of nutrition to the health of the world's populations. Prerequisites: 120L-222L or equivalents, Chemistry 141L and 142L or equivalents, Biology 136. 3 lectures, 2 hrs. lab.
437. [155d] **Teaching of Home Economics.** (3) Elser
(Same as Secondary Education 437.)
443. [132] **Home Management.** (3) Schroeder
Use of money, time, and energy for the satisfaction of family needs. Selection, use and care of equipment in the home.
- 445L. [133L] **Home Management Residence.** (4) Schroeder
Six weeks' residence with supervised planning, buying, preparation, and serving of meals, housekeeping; care of a resident infant. Pre- or corequisite: 102L, 443. Special fee.
- 456L. [64L] **Flat Pattern Design.** [Advanced Clothing Construction] (3) McMurray
Flat pattern designing adapted to a fitted basic pattern and a commercial pattern. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
465. [196] **Home Economics Seminar.** (1-2) Elser
History and trends in home economics, professional organizations for home economists; Federal and state laws pertaining to, and research facilities available for, home economics.
497. [197] **Reading and Research in Honors.** (3-6)
Prerequisite: see p. 148.

EDUCATION, INDUSTRIAL ARTS

Associate Professor C. R. Brown; Instructor R. A. Warner.

CURRICULUM

See p. 164.

I. Technical

101. [1] **Shop Computation.** (4) Brown
Practical application of algebra, geometry, and trigonometry in the solution of applied problems found in the Industrial Arts laboratories. 5 class meetings per week.

125. [25] **Design in Industrial Arts.** (2) Brown
Theory and utilization of design principles in the development and use of the various materials of industry. 4 hrs. per week.
245. [45] **Slide Rule.** (2) Brown
The use of the various scales for solving technical problems.
- 280L. [80L] **General Electricity and Electronics.** (3) Brown, Warner
An introductory course in electrical theory and its application in the field of lighting, heating, communication, and electronics. Individual and group experiences are derived through experimentation and the construction of electrical projects. 1 lecture, 6 hrs. lab.
- 330L. [130L] **Power Mechanics.** (2) Brown, Warner
A basic course pertaining to the internal combustion engines. Experiences in the maintenance and repair, with reference to the consumer level, on the automobile and various other small engines. 6 hrs. lab.

II. Woods

- 110L. [10L] **Wood Area I.** (3) Brown, Warner
Introduction to the woodworking area. Emphasis on the proper use of hand tools, power machinery, and basic finishing methods. 1 lecture, 6 hrs. lab.
- 115L-116L. [15L-16L] **General Woodwork.** (2, 2) Brown, Warner
Designed to meet the various individual needs of non-majors. Basic instruction in the care and use of hand tools, power machinery, and finishing methods used in the processing of woods. 6 hrs. lab.
- 265L. [65L] **Wood Area II.** (2) Brown
Techniques, processes and application of finishes on the various kinds of wood. Practice in tool and machine maintenance and repair, tool fitting and sharpening, and saw filing.
- 315L. [115L] **Wood Area III.** (3) Brown, Warner
Use of wood turning tools and equipment in spindle, faceplate, and special turning processes. Construction and use of the different types of chucks in metal spinning. Construction of the various patterns and core boxes used in pattern making. 1 lecture, 6 hrs. lab.
- 350L. [150L] **Wood Area IV.** (3) Brown
Advanced instruction in the use of power woodworking machinery. Emphasis on cabinet and furniture designing and construction. Basic techniques and processes in upholstery. Prerequisite: 110L or equivalent. 1 lecture, 6 hrs. lab.
- 462L. [162L] **Wood Area V.** (3) Brown
Plot layouts, foundations, floor and wall framing, roof construction, rafter cutting, inside and outside finishing, and the use of the steel square. A scaled model house is constructed. Prerequisite: 110L or equivalent. 1 lecture, 6 hrs. lab.
- 480L. [180L] **Wood Area VI.** (1-3) Brown
Advanced course designed to meet the individual needs of students wishing to concentrate in a specialized area of woodworking. 3 to 9 hrs. lab.

III. Metals

- 117L-118L. [17L-18L] **General Metalwork.** (2, 2) Warner
Designed to meet the various individual needs of non-majors. Basic instruction in the care and use of hand tools and power machinery in the fabrication of metals. Includes experiences in the sheet metal, art metal, foundry, welding, forging, and machine shop areas. 6 hrs. lab.
- 120L. [20L] **Metal Area I.** (3) Warner
Introduction to the metalworking area. Emphasis on the proper use of hand tools and the operation of the engine lathe, drill press, grinders, and shapers. 1 lecture, 6 hrs. lab.
- 285L. [85L] **Metal Area II.** (2) Brown, Warner
Arc and oxyacetylene welding with some resistance welding. Techniques, methods, and processes are considered with emphasis on the welding and cutting of the common metals. 6 hrs. lab.
- 386L. [86L] **Metal Area III.** (3) Brown, Warner
Introduces the various aspects of the sheet metal and ornamental iron industries and the fundamental principles and practices involved. Experience in the operation of the various machines and equipment, and the forming and fabrication of metals. 1 lecture, 6 hrs. lab.

- 390L. [140L] Metal Area IV. (3) Brown, Warner**
The forging and foundry industries with the various principles and practices involved. Experience in the operation of the forge and foundry equipment. Emphasis on the forging and casting of various metals. 1 lecture, 6 hrs. lab.
- 465L. [165L] Metal Area V. (3) Warner**
Advanced course in the machine shop. Includes experiences in the various processes and practices of metal machining. Emphasis on work with the engine lathe, shaper, surface grinder, and the horizontal and vertical milling machines. Maintenance and repair of tools and machinery. 1 lecture, 6 hrs. lab.
- 475L. [175L] Metal Area VI. (1-3) Warner**
Advanced hand tool and machine processes in the areas of forging, bench metal, sheet metal, welding, foundry, art metal, and other areas of metal working used in the school shop situation. Students will choose the area or areas in which they desire to concentrate additional experiences. 3 to 9 hrs. lab.

IV. Professional

- 105. [5] Introduction to Industrial Arts. (2) Brown**
Orientation of the student to industrial arts and its place in general education.
- 429. [129] Workshop in Industrial Arts. (1-4)**
For degree restrictions, see p. 155 of this catalog.
- 351. [151] Problems. (1-3)**
- 433. [155i] Teaching of Industrial Arts. (3) Brown**
(Same as Secondary Education 433.)
- 466. [166] Theory and Organization of General Shop. (3) Brown, Warner**
An analysis of organizing and teaching under general shop conditions found in the modern school. 5 class meetings per week.

EDUCATION, LIBRARY SCIENCE

Professor D. O. Kelley.

MAJOR STUDY

Not offered.

MINOR STUDY

Library Science 424, 425, 426 or 428, 427, 429, 430, and 441.

- *424. [124] Fundamentals of Library Science. (3) Graduate Staff**
A survey of the history of libraries; the library as a social institution; the objectives and functions of modern libraries; types of library service; the library profession, its philosophy, publications and organizations; major trends and problems.
- *425. [125] Reference and Bibliography. (3) Graduate Staff**
Training in the use of standard works of reference.
- *426. [126] Public Library Administration. (3) Graduate Staff**
The place of the library in the community; its organization, financing, and administration.
- *427. [127] Classification and Cataloging. (3) Graduate Staff**
Principles of classification and the techniques of cataloging for libraries.
- *428. [128] School Library Administration. (3) Graduate Staff**
Practical study of the management of the school library, including the organization of the book collection, housing, equipment and maintenance.
- *429. [129] Book Selection for Young People. (3) Graduate Staff**
A survey course covering tools and principles of selection of books for young people.
- *430. [130] Reading Guidance. (3) Graduate Staff**
Study of research concerning reading with implications for libraries; reading interests and habits and evaluation of books for various purposes, such as for recreation, information, therapy, etc.; advisory services in relation to the library's general educational function.
- *441. [120] Children's Literature. (2) Walters**
(Same as Elementary Education 441. See El. Ed. for prerequisite.)

EDUCATION, MUSIC

See Music Education.

EDUCATION, PHYSICAL

See Education, Health, Physical Education and Recreation.

EDUCATION, SECONDARY

Professors W. H. Ivins (Chairman), B. M. Crawford, H. O. Reid, W. B. Runge;
Associate Professor R. J. Duxtator; Assistant Professor P. Prouse; Instructor
C. G. Zweig.

CURRICULUM

See p. 166.

301. [141] **Foundations of Secondary Education.** (3) Crawford, Duxtator, Ivins, Runge
Development of the secondary school in the United States, emphasizing its social and philosophical backgrounds. The purposes of secondary education, theories of curriculum and their application in the contemporary program of the secondary school. Includes a study of the secondary school population, the organization of the educational system, and status of the modern secondary school.
310. [153] **Materials and Methods of Teaching.** (3) Crawford, Duxtator, Ivins, Prouse, Runge
Special attention given to methods applicable to all secondary teachers, such as socialized procedures, experimental and problems; observation and demonstration; question and answer; lecture; and the project. Examination and analysis of instructional materials used in secondary schools. Observation in the public schools required. Prerequisite: 301 or permission of instructor.
351. [151] **Problems.** (1-3)
- *429. [129] **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the **Graduate School Bulletin**.
430. [155f] **Teaching of Communication Arts.** (3) Prouse
Prerequisite: 310.
431. [155h] **Teaching of Sciences.** (3) Zweig
Prerequisite: 310.
432. [155k] **Teaching of Social Studies.** (3) Duxtator
Prerequisite: 310.
433. [155i] **Teaching of Industrial Arts.** (3) Brown
Prerequisite: 310.
434. [155a] **Teaching Art in Secondary Schools.** Masley
(Same as Art Education 434.) Prerequisite: Sec. Ed. 310.
- **435. [155b] **Teaching of Biology.** (3) Degenhardt
Prerequisites: Biology 102L, Sec. Ed. 310. (Offered in alternate years.)
436. [155c] **Teaching of English.** (3) Simons, Staff
Prerequisites: English 102, Sec. Ed. 310. Carries credit both in Education and in English.
437. [155d] **Teaching of Home Economics.** (3) Elser
Prerequisite: 310.
- *438. [155e] **Teaching of Mathematics.** (3) Mitchell
Prerequisite: 310.
439. [155g] **Teaching of Business Subjects.** (3) Glaese
Prerequisite: 310. Carries credit both in Education and in Business Administration.
- *440. [155l] **Teaching of French.** (3) Book
Prerequisite: 310.

** Credit for undergraduate teaching majors and graduates in Education only.

441. [155m] **Teaching of Spanish.** (3)
Prerequisite: 310. (Offered in alternate years.)
442. [155n] **Teaching of Reading.** (2)
Prerequisite: 310.
- *443. [143] **Work Experience in Secondary Schools.** (3) Runge
The development of present practices in work experience programs for secondary school students. Special emphasis is given to organization and administration of vocational education cooperative part-time work plans for distributive occupations.
444. [155p] **Teaching of Physical Education.** (3) Gugisberg
Prerequisite: 310.
- 461-462. [156-157] **Student Teaching.** (3-6, 3-6, maximum total allowed 9)
Observation and teaching in New Mexico schools. May be completed in one or two semesters. Assignments during a second semester will place more emphasis on teaching in an additional subject, or grade level, and will provide fewer hours in observation and participation. Weekly seminar meetings with University staff members are required. Prerequisites: 301, 310; 2.3 grade-point average in teaching major (2.5 for students under jurisdiction of Sec. Ed. Department); minimum of 12 hours in professional education. See also additional requirements on pp. 152, 153, and 166.
497. [197] **Reading and Research in Honors.** (3-6)
Prerequisite: see p. 148.
- *501. [242] **High School Curriculum.** (3) Crawford, Doxtator, Ivins, Prouse, Runge
Setting, development, and present form of the secondary school curriculum. Includes specific attention to problems of development of classroom instruction, guidance and activity programs, and related parts or auxiliaries of the total secondary school program.
- *502. [244] **The Junior High School.** (3) Crawford, Doxtator, Ivins, Prouse, Runge
Backgrounds of the junior high school and its purposes related to pupils' characteristics. The fundamental learning program, guidance and exploration, the pupil population, the teacher's role, leadership and organization in the curriculum.
- *503. [247] **Student Activities in the Secondary School.** (3) Crawford, Ivins, Prouse, Runge
The activity concept in learning; relationship of activities to needs and characteristics of adolescents; and purposes of the activities program. The basic principles and problems in the organization and administration of activities programs, as well as sponsorship and the teacher's role in activities.
- *520. [254] **Secondary School Communication Arts.** (3) Prouse
Analysis of the associative use of the language arts and communication skills for the development of communicative competency, with emphasis upon recent research and instructional trends in the field.
- *521-522. [260-261] **Seminar in Science Teaching.** (2, 2) Zweig
Discussions, lectures, practice sessions, critiques in teaching of science. Distinguished visiting professors and resident professors in science and mathematics will lecture and conduct discussions centered on problems of effective presentation of science and mathematics.
- *529. [229] **Workshop.** (4) SS Graduate Staff
For degree restrictions consult the *Graduate School Bulletin*.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Crawford, Doxtator, Ivins, Prouse, Runge
- *590. [241] **Seminar.** (3) Crawford, Doxtator, Ivins, Prouse, Runge
- *599. [300] **Master's Thesis.** (6) Crawford, Doxtator, Ivins, Prouse, Runge
- *699. [400] **Dissertation.** Crawford, Doxtator, Ivins, Prouse, Runge

ELECTRICAL ENGINEERING

See Engineering, Electrical.

ELEMENTARY EDUCATION

See Education, Elementary.

ENGINEERING

Professor R. H. Clough (Dean); Associate Professor G. A. Whan; Part-time Lecturers C. A. Anderson, P. D. O'Brien, N. G. Nereson.

- **430. [197] Introduction to Nuclear Engineering. (3) Graduate Staff**
Principally for non-nuclear engineering majors. The nucleus and nuclear properties; fission process and chain reaction; survey of design and operation of reactors and associated equipment; effects, uses, and detection of radiation.
- *460L-461L. [191L-192L] Fundamentals of Nuclear Engineering. (3, 3) Graves, Whan**
Nuclear reactions, cross sections, scattering and moderation, and their applications to reactor design and operation. Laboratory includes experiments on counting, radioactive decay, scattering, moderation, cross sections, absorption of radiations, and health monitoring. Prerequisite: Physics 330 or equivalent; corequisites: for 460L: Mathematics 311; for 461L: Mathematics 312.
- *463L. [193L] Nuclear Engineering Laboratory I. (1) Nereson, Whan**
Laboratory studies to demonstrate neutron and gamma properties and reactions in fuels, moderators, and shielding. Experiments to demonstrate the characteristics and operation of nuclear reactors. Pre- or corequisite: 460L; or prerequisite: 430 and permission of instructor. 3 hrs. lab.
- *464L. [194L] Nuclear Engineering Laboratory II. (1-2) Nereson, Whan**
A continuation of 463L. Prerequisites: 463L; 460L or 430 and permission of instructor. 3 or 6 hrs. lab.
- *470L. [227L] Materials for Nuclear Applications. [Nuclear Metallurgy] (3) Graduate Staff**
Selection and fundamental properties of materials for nuclear applications. Physical and extractive metallurgy as related to nuclear materials. Behavior of materials under irradiation. Corrosion of materials. 2 lectures, 3 hrs. lab.
- *476. [216] Reactor Fuel Processing. (3) Graduate Staff**
Fuel cycles in nuclear reactors; production of reactor fuels; processing of spent fuels by precipitation, solvent extraction, etc.; and separation of isotopes. Prerequisite: 460L or equivalent.
- *480. Nuclear Design Analysis. (3) Graduate Staff**
Design analysis of integrated nuclear systems. Optimization studies including criticality, heat transfer, shielding, and economics. Prerequisite: 460L.
- *501-502. [201-202] Advanced Engineering Analysis. (3, 3) Graduate Staff**
Engineering analysis of linear and non-linear systems. Techniques of the engineering sciences, similitude, statistics and probability, and data analysis are applied to a variety of problems.
- *510-511. [213-214] Reactor Principles and Engineering. (3, 3) Anderson, Chezem, Whan**
Basic theory of reactors: multiplication, slowing down, and diffusion of neutrons. Applications to bare and reflected reactor systems. Engineering principles of reactor design and construction. Prerequisites: 460L-461L or equivalent; pre- or corequisite: Mathematics 312 or equivalent.
- *515. [215] Seminar in Nuclear Engineering. (1-3) Graduate Staff**
Review of reactor types; examination of the main variables in reactor design: nuclear system, heat removal systems, economics, structure, controls, shields, etc. Special topics in nuclear engineering. Prerequisite: 511.
- *520. [218] Nuclear Reactor Theory. (3) Hansen, Whan**
Development of the theory of reactor systems and description of calculational methods for homogeneous and heterogeneous reactors. Prerequisites: 510-511, and Mathematics 312-313 or the equivalent, or permission of instructor.
- *530. Radiation Shielding. (3) Graduate Staff**
Radiation sources. Methods of calculating the attenuation of gamma rays, high energy electrons, and fast neutrons. Shielding of reactors, accelerators, and radioactive materials. Prerequisite: 461L.

** Available for graduate credit except for graduate majors in Nuclear Engineering.

- *540. [217] **Radiation Effects on Materials.** (3) Graduate Staff
Theory of radiation interaction with matter; application to crystalline lattices, fluids, plastics, and elastomers. Radiation chemistry and chemical reactions in intense radiation fields. Reactor materials and radiation effects on reactor design. Prerequisite: 460L-461L or equivalent.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
Advanced reading, analysis, design, or research.
- *560. [EE263] **Control of Nuclear Reactors and Power Plants.** (3) Graduate Staff
Reactor control systems and associated instrumentation. Dynamics of integrated nuclear plants. Transient and steady state response of feed back systems. Use of simulators. Prerequisite: 511.
- *561L. [EE263L] **Laboratory in Control of Nuclear Reactors.** (1) Graduate Staff
Pre- or corequisite: 560. 3 hrs. lab.
- *591. [231] **Theoretical Physical Metallurgy.** (3) Smith
Electronic structures and the bonding of solids, crystal structures and crystal imperfections. The physical and mechanical behavior of metals. Prerequisite: Physics 430 or EE 471.
- *592. [232] **Physical Metallurgy of Alloys.** (3) Smith
Equilibrium and nonequilibrium phase relations in binary and ternary alloys. Interrelations of microstructures and physical and mechanical properties. Control of structures and properties by alloying and by thermal and mechanical treatment. Prerequisites: 591, Chemistry 312.
- *593. [233] **Ceramics.** (3) Stoddard
Properties, applications, and manufacture of electrical ceramics, refractory intermetallic compounds, ceramic-metal and glass-metal composites, and cermets. Sintering and solid state reaction, glassy state, thermodynamics of ceramics. High temperature techniques. Prerequisites: Chemistry 312 and Physics 430 or EE 471.
- *594. [234] **Plastics.** (3) Church
Properties, applications, and fabrication of plastic adhesives, foams, castings, and coatings. Basic polymerization chemistry. Material selection, machining, molding techniques, thermoforming, embeddings. Effects of fillers, plasticizers, and modifiers. Prerequisite: permission of instructor. Recommended: Chemistry 301, 302, or 420.
- *595. [235] **Seminar in Materials.** (1-3) Graduate Staff
- *596L. [236L] **Physical Metallurgy Laboratory.** (1) Graduate Staff
The techniques and applications of metallography; preparation of metallographic sections; microscopy and photomicrography; physical, chemical, and mechanical evaluation of metal specimens. Pre- or corequisite: 592. 3 hrs. lab.
- *599. [300] **Master's Thesis.** (6) Whan
- *699. [400] **Dissertation.** Whan

ENGINEERING, CHEMICAL

Professor T. T. Castonguay (Chairman); Associate Professor E. D. Oliver; Assistant Professor G. D. Bizzell.

CURRICULUM

See p. 174.

- 251. [51] **Chemical Calculations.** (3)
More extensive problem work in the stoichiometric principles of chemistry, including composition changes; the material balance; units and dimensions. Prerequisite: Chemistry 102L or the equivalent.
- 252. [52] **Industrial Stoichiometry.** (3)
The application of the fundamental laws of chemistry, physics, and mathematics to industrial chemical calculations. Prerequisites: 251 or the equivalent, Physics 261, Mathematics 263.
- 317. [117] **Process Engineering Calculations.** (3)
Problems in translating the findings of the laboratory, through pilot plant development into a basic commercial plant design. Prerequisite: 252.

- 353. [153] Advanced Chemical Engineering Calculations. (3)**
Prerequisite: Mathematics 264.
- 350. [160] Natural Gas Production and Transmission. (3)**
Prerequisite: 411 or ME 301.
- **362. [162] Inorganic Unit Processes. (2)** Castonguay, Oliver
The processes and manufacturing methods used in more important industries based on inorganic chemistry. Prerequisites: Chemistry 311, 313L; corequisite: 412.
- **364. [164] Organic Unit Processes. (3)** Castonguay, Oliver
The theoretical basis and application of unit processes to the organic chemical industries; studies involving nitration, halogenation, sulfonation, oxidation, alkylation, hydrolysis, polymerization, and similar topics. Prerequisites: 412, Chemistry 301, 302, 303L, 304L.
- *368L. [168L] Lubricants, Fuels, and Combustion. (3)** Castonguay, Oliver
Laboratory examinations, analysis and testing of water, fuels, and lubricants, and the evaluation of their properties as applied in the chemical industry. Prerequisites: 252, Chemistry 253L. 2 lectures, 3 hrs. lab.
- 398. [198] Field Trip. (0)**
Required for graduation. Annual inspection tour to leading chemical plants in different sections of the country. Approximately one week is spent on these visits. Prerequisite: senior standing.
- **401. [191] Principles of Thermodynamics I. (3)** Bizzell, Castonguay, Oliver
The laws of thermodynamics; irreversible processes; development of the energy properties; applications to chemical and physical systems. Prerequisites: Mathematics 264, Physics 262.
- **402. [192] Principles of Thermodynamics II. (3)** Bizzell, Castonguay, Oliver
Continuation of 401 with applications to chemical engineering processes; physical and chemical equilibria.
- **411. [111] Unit Operations I. (3)** Bizzell, Castonguay, Oliver
Transport phenomena. The mechanisms and the related mathematical analysis of heat, mass, and momentum transfer. Macroscopic balances. Prerequisites: 252 or the equivalent, Math 264, Physics 262.
- **412. [112] Unit Operations II. (3)** Bizzell, Castonguay, Oliver
A continued lecture and recitation of the Unit Operations and their applications to the chemical industries: problems in heat transfer, evaporation, humidification, drying, crystallization, phase separation, and related topics. Prerequisite: 411 or the equivalent.
- **413. [113] Unit Operations III. (3)** Bizzell, Castonguay, Oliver
A continuation of Unit Operations; problems in mass transfer, phase relationships, extraction, distillation, and related topics. Prerequisite: 414L.
- **414L. [114L] Unit Operations Laboratory I. (2)** Castonguay, Oliver
Laboratory practice and experimental study of Unit Operations covered in 411 and 412. Corequisite: 412. 6 hrs. lab.
- **415L. [115L] Unit Operations Laboratory II. (2)** Castonguay, Oliver
Experimental laboratory study of the Unit Operations covered by 412 and 413. Prerequisite: 414L; corequisite: 413. 6 hrs. lab.
- 451-452. [151-152] Seminar. (1, 1)**
Senior year. Reports on selected topics and surveys; presentation and discussion of papers from current technical journals, and topics of interest to the chemical engineer.
- **470. Applied Chemical Kinetics. (3)** Bizzell, Castonguay, Oliver
The kinetics of homogeneous and heterogeneous catalytic and non-catalytic reactions for flow and non-flow processes. Prerequisites: 353, 402.
- 472. [172] Chemical Engineering Economics. (2)**
Factors other than engineering and chemical which determine the feasibility of putting a chemical on the market. Particular reference to control of raw materials, markets, competition, patent situation, and related topics. Prerequisites: 413, Economics 200 or the equivalent.

** Available for graduate credit except for graduate majors in Chemical Engineering.

- 481L. [181L] Chemical Engineering Process Laboratory I. (2)**
Experimental laboratory studies employing a series of unit operations and unit processes to produce small quantities of chemicals by pilot plant methods. Emphasis on literature review, laboratory notebook, and reports. Prerequisites: Chemistry 311, 313L; corequisite: ChE 362 or 364. 6 hrs. lab.
- 482L. [182L] Chemical Engineering Process Laboratory II. (2)**
Continuation of 481L, but may be taken as an independent unit. Prerequisites: Chemistry 311, 313L; corequisite: ChE 362 or 364. 6 hrs. lab.
- **494L. [194L] Chemical Engineering Design. (2)** Castonguay, Oliver
Selection and design of process equipment; layout of building and cost estimates. Prerequisites: 412, 401. 1 lecture, 3 hrs. lab.
- *501. [201] Chemical Engineering Seminar. (1-2)** Castonguay, Oliver
Individual study on advanced phases of chemical engineering and industrial chemistry. Research, reports, and conferences. Offered each semester.
- *521. [221] Advanced Chemical Engineering I. (3)** Castonguay, Oliver
An advanced study of the unit operations of chemical engineering; problems of heat transmission, fluid flow, air conditioning, and drying.
- *522. [222] Advanced Chemical Engineering II. (3)** Castonguay, Oliver
Continuation of 521, but may be taken as an independent unit. Problems of distillation, absorption, and extraction.
- *531. [231] Refinery Process Engineering. (3)** Castonguay, Oliver
The design of equipment for processing petroleum, with emphasis on the unit operation and thermodynamics of chemical engineering as applied to these processes.
- *532. [232] Gas Process Engineering. (3)** Castonguay, Oliver
The fundamentals applied to the processing of natural gas with emphasis placed on the unit operation and thermodynamics involved in the design.
- *541. [241] Catalysis and High Pressure. (3)** Castonguay, Oliver
Principles involved in the use of catalysis and high pressure in the chemical industry.
- *542. [242] Advanced Chemical Engineering Thermodynamics. (3)** Castonguay, Oliver
Advanced thermodynamics with reference to its application in chemical engineering.
- *551-552. [251-252] Problems. (1-3 hrs. each semester)** Castonguay, Oliver
Advanced reading, design, or research.
- *561. [261] Chemical Engineering Calculation and Kinetics. (3)** Castonguay, Oliver
Applications of kinetics to industrial problems in Chemical Engineering.
- *599. [300] Master's Thesis. (6)** Castonguay, Oliver
- *699. [400] Dissertation. Castonguay, Oliver**

ENGINEERING, CIVIL

Professors J. R. Barton (Chairman), R. H. Clough, R. G. Huzarski, M. C. May, E. M. Zwoyer; Associate Professors W. R. Gafford, J. E. Martinez; Assistant Professors M. M. Cottrell, B. J. Donham, E. J. Rhomberg, L. J. Thompson, J. T. P. Yao; Instructor L. M. Younkin.

CURRICULUM

See p. 176.

- 101L. [1L] Engineering Graphics. [Engineering Graphics I] (3)**
Graphical communications; point, line, and plane relationships; distances, angles, and intersections. 2 lectures, 4 hrs. lab.
- 102L. [2L] Engineering Computational Methods. [Engineering Graphics II] (3)**
Graphical computations, nomography, flow diagramming, digital computer systems and language. Prerequisite: 101L; corequisite: Mathematics 160 or 161. 2 lectures, 4 hrs. lab.
- 103. [3] Engineering Lectures. (1)**
A discussion of the engineering profession.

**** Available for graduate credit except for graduate majors in Chemical Engineering.**

†111L. [11L] **Drafting I.** (3)

Essentials of drafting, including the use of instruments, lettering, orthographic projects, dimensioning, auxiliary views, pictorials, sections, graphic symbols. 2 lectures, 3 hrs. lab.

†112L. [12L] **Drafting II.** (2)

A continuation of 111L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 111L. 6 hrs. lab.

†201L. [61L] **Drafting III.** (3)

Problems involving the point, line, and plane; and practical problems involving the above principles with emphasis on triangulation, developments, intersections, perspective. Prerequisite: 111L. 2 lectures, 3 hrs. lab.

202L. [60L] **Engineering Statics.** (3)

Statics of particles and rigid bodies in two and three dimensions using vector algebra as an analytical tool; centroids; distributed loads; trusses, frames, and machines; friction; cables; moments of inertia. Corequisites: Physics 261, 263L, Mathematics 263. 2 lectures, 3 hrs. lab.

†210. **Introduction to Structural Analysis.** (3)

Qualitative study of loads on architectural structures and their resulting behavior, structural materials and structural requirements. Determination of reactions and force resultants in structural components, study of stability of systems and form. For architectural students only. Prerequisite: Physics 111 or equivalent.

270L. **Construction Materials.** (1)

A laboratory study of the physical, mechanical, and chemical properties of engineering materials. 3 hrs. lab.

280L. [4L] **Surveying.** (2)

Lectures and field practice in plane surveying with emphasis on the use of plane table for topographic and geologic mapping. 4 hrs. lab.

281L. [51L] **Engineering Measurements.** (3)

Principles and theories of physical measurements of spatial quantities; theory of probable error and adjustment of observations; use of measuring instruments and systems using surveying techniques where desirable. Corequisite: Mathematics 162. 1 lecture, 6 hrs. lab.

282L. [52L] **Engineering Surveys.** (3)

Engineering applications of theories and principles developed in 281L; horizontal and vertical control surveys, topography, alignment curve geometrics, modern survey systems, and instruments; introduction to photogrammetry and geodasy. Prerequisite: 281L. 2 lectures, 3 hrs. lab.

†301L. [62L] **Drafting IV.** (2)

Residential working drawings, with emphasis on construction details. Selected field trips. Prerequisite: 111L. 6 hrs. lab.

302. [102] **Mechanics of Materials.** (3)

Stresses and strains associated with elastic and plastic behavior of members stressed in tension, compression, torsion, and flexure; Mohr's circle construction; principles of combined stresses and resultant deformation; columns and buckling phenomena; preliminary consideration of statically indeterminate members. Prerequisite: 202L.

303L. [103L] **Mechanics of Materials Laboratory.** (1)

Laboratory practice in the application of strain measuring and indicating devices directed at verification of fundamental principles developed in 302; mechanical, electrical, photo-elastic, and stresscoat equipment usage. Corequisite: 302, 3 hrs. lab.

305. [121] **Structural Analysis I.** (3)

Analysis of determinate structures including beams, frames, roof and bridge trusses subjected to both fixed and moving loads by algebraic and graphical method; introduction to deflection theory, moment-area, conjugate beams, and virtual work. Corequisite: 302.

306. [140] **Structural Analysis II. (3) Cottrell, Yao

Statically indeterminate structures; use of moment-area, conjugate structure column analogy, virtual work, slope deflection and moment-distribution methods; sidesway and multi-degree of freedom structures; introduction to structural dynamics. Prerequisite: 305 or permission of instructor.

** Available for graduate credit except for graduate majors in Civil Engineering.

† No credit allowed in College of Engineering.

- †311. **Strength of Structural Materials and Systems I.** (3)
Qualitative study of behavior of structural form, beams, frames, arches, plates, and plate systems membranes and thin shells. Deformation analysis of structural members and frames. Elastic and ultimate resistance of structural materials. For architectural students only. Prerequisites: 210, Mathematics 162.
- †312. **Strength of Structural Materials and Systems II.** (3)
Analysis of members subjected to axial force, shear, moment, and torque. Buckling of compression members. Introduction to the analysis of indeterminate structures. Design of structural components in steel. For architectural students only. Prerequisite: 311.
- †313. [124] **Design of Structures I.** (3)
Qualitative behavior of structural systems; choice and planning of structural systems. Design of truss and frame structures in steel and wood. For architectural students only. Prerequisite: 312.
- †314. **Design of Structures II.** (3)
Approximate and simplified methods of proportioning reinforced concrete members. Design of reinforced concrete buildings, including foundations, in accordance with current codes. Qualitative behavior and simplified design of arches, shells, and folded plates. For architectural students only. Prerequisite: 312.
- 324L. [166L] **Structural Design in Metals.** (3)
Methods of design of tension, compression, and flexure members of metal including their connections; the analysis and design of complete structural elements of metal as consistent with modern practice. Prerequisite: 302. 2 lectures, 3 hrs. lab.
- *330. [107] **Fluid Mechanics.** (3) Barton, Martinez
The mechanics of incompressible and compressible flow; fluids at rest, geometry of fluid motion; general equations of motion; laminar and turbulent flow, boundary layer, lift, form drag; flow through pipes, pipe systems, and open channels. Prerequisite: 202L; corequisite: ME 206L.
370. [117L, ME 161] **Engineering Materials Science.** [Construction Materials; Engineering Metallurgy] (3)
The structure of matter; phase relations; mechanical, thermal, electrical and magnetic properties of polymers, metals and ceramics; fracture mechanics; corrosion, protective materials, cementing materials and concrete. The use and selection of materials. Corequisite: 302.
380. [105] **Cartography.** (3)
Map projection and use of maps to show areal distribution and graphic representation of statistical data. Prerequisite: 101L and permission of instructor.
382. [118] **Transportation Engineering.** (2)
The planning, economics, finance, location, geometric design, and administration of transportation systems. Prerequisite: junior standing in Civil Engineering.
- *401. [173] **Advanced Mechanics of Materials I.** (3) Cottrell, Yao
State of stress, strain at a point, stress-strain relations, theories of failure, advanced beam theory, stress concentrations, residual stresses, thick-wall cylinders, energy principle, introduction to stability, curved flexural members. Prerequisites: 302, Mathematics 264.
- *402. [174] **Advanced Mechanics of Materials II.** (3) Cottrell, Yao
Torsion, elastic and inelastic, non-circular section, elementary topics in theory of elasticity, inelastic behavior, introduction to limit analysis and design, column theory, beam-columns, beams on elastic foundation. Prerequisites: 302, Mathematics 264.
411. [157] **Reinforced Concrete Design.** (3)
Structural mechanics of concrete beams, slabs, columns, walls, and footings; checking and proportioning of members and connections in accordance with specifications for elastic, ultimate, and prestressed concrete design. Prerequisite: 302.
- *416L. [178L] **Structural Design of Civil Engineering Structures.** (3) Thompson, Yao
Analysis and design of bridges, buildings, and other structures of metal, concrete, and timber in conformance with modern practice and codes. Prerequisites: 306, 324L, 411. 2 lectures, 3 hrs. lab.

† No credit allowed in College of Engineering.

** Available for graduate credit except for graduate majors in Civil Engineering.

- *430. [183] **Intermediate Fluid Mechanics.** (3) Barton, Martinez, Younkin
Principles of dimensional analysis, dynamic similarity, flow nets, irrotational flow, gravity flow, unsteady flow, boundary layer theory, separation, cavitation, drag; pumps and turbines. Prerequisite: 330.
- **431L. [108L] **Fluid Mechanics Laboratory.** (1) Barton, Martinez, Younkin
Laboratory work and field trips to illustrate the basic principles of fluid mechanics as developed in 330. Corequisite: 330. 3 hrs. lab.
- **432. [120] **Hydrology and Engineering Hydraulics.** (2) Barton, Martinez
Components of the hydrologic cycle; analysis and prediction of basic quantities required for engineering design, ground water flow, variations in stream flow, storage requirements, flood flows and routing; dams and weirs; spillways and energy dissipators; conveyance by canals, flumes, tunnels, and pipe systems. Prerequisite: 330.
- *434. [184] **Hydraulic Structures.** (3) Barton, Martinez
Design of hydraulic structures such as spillways, stilling basins, concrete dams, canals, measuring devices, sediment excluders, and other hydraulic devices. Prerequisite: 330.
- **435L. [161L] **Water Supply and Waste-Water Disposal.** (3) Barton, Martinez
Quantities of water and waste-water; collection, transmission, and distribution of water; design of drainage systems; water purification; waste-water treatment; examination of water and waste-water. Prerequisite: 432. 2 lectures, 3 hrs. lab.
- *436. [188] **Sanitary Science.** (3) Barton, Martinez
The principles of sanitary science as applied to the control of environment; sanitary and economic factors of air and water pollution; collection and disposal of liquid and solid wastes; health aspects of housing and food supplies; industrial hygiene; radiological health aspects of sanitary engineering. Prerequisite: 435L.
- *440. [185] **Arid Land Engineering.** (3) Barton, Huzarski, Thompson
Engineering studies related to problems of air, water, ground, and culture, relevant to arid and semi-arid regions. Prerequisite: senior standing and permission of instructor.
- *441. [186] **Water in Arid Regions.** (3) Barton, Martinez
Sources, utilization, and problems of water in arid areas of the earth. Prerequisite: 330.
- *442. [187] **Soil and Rock Engineering in Arid Regions.** (3) Thompson
The engineering properties, uses, and management of consolidated and unconsolidated rock in arid regions. Prerequisite: 460L.
- 460L. [165L] **Soil Mechanics.** (3)
Physical and mechanical properties of soils as they affect engineering problems; permeability and flow nets; capillarity; soil classifications; consolidation; shear strength and its application to bearing capacity of footings and pile foundations. Prerequisites: 202L, Mathematics 162. 2 lectures, 3 hrs. lab.
- *462. [176] **Engineering Foundations.** (3) Cottrell, Thompson
Types and methods of construction of foundations for buildings, bridges, and other major structures; spread footings, rafts, piles, open and pneumatic caissons, cofferdams, underpinning. Prerequisites: 411, 460L.
- *471L. [171L] **Building Construction.** (3) Gafford
Engineering and architectural details within the framework of a building; floor and roof systems; bearing curtain walls; use and relative costs of materials; building codes; selected field trips. Prerequisite: senior standing in Engineering. 2 lectures, 3 hrs. lab.
- *472. [181] **Construction Management.** (3) Clough
Management principles as applied to the conduct and control of construction projects; estimating methods, bidding, construction contracts, bonds, insurance, cost accounting, labor law, labor relations, and safety. Prerequisite: senior standing in Engineering.
- *475L. [195L] **Materials Technology.** [Plain Concrete Technology] (3) Martinez, Rhomberg
Theories of concrete-mix proportioning, use of concrete additives; testing of concrete aggregates and cement; asphalts; design of bituminous paving mixtures. Prerequisite: senior standing in Engineering. 2 lectures, 3 hrs. lab.
- *476. [196L] **Highway and Airport Pavements.** (3) Martinez, Thompson
Principles of highway and airport pavement design. Prerequisite: 460L.

** Available for graduate credit except for graduate majors in Civil Engineering.

- *480. [190] **Municipal Engineering.** (3) May
Forms of municipal government; municipal functions, organization, and management; city finance; engineering functions of city government; city planning and zoning; public utilities, recreational development. Prerequisite: senior standing in Engineering.
- *482. [191] **Traffic Engineering.** (3) May
Application of engineering principles to the problems of highway traffic; traffic counts, origin and destination surveys, accident studies, traffic estimates, planning studies; highway and intersection capacities; traffic control; geometric design principles. Prerequisite: senior standing in Engineering.
- 490. [152] **Professional Problems in Engineering.** (2)
Ethical and professional considerations in the engineer's relationship to other engineers, his clients, and society; contractual agreements common to engineering; preparation of plans and specifications; professional economics. Prerequisite: senior standing in Engineering.
- *491-492. **Special Topics in Civil Engineering.** (1-3 to a maximum of 6)
Advanced studies in various areas of civil engineering.
- 495L. [168L] **Civil Engineering Projects.** (3)
Introduction to the civil engineering profession; the general features of planning, design, and construction of civil engineering projects. Prerequisite: senior standing in civil engineering. 2 lectures, 3 hrs. lab.
- *501. [209] **Advanced Indeterminate Structures.** (3) Cottrell, Yao
Advanced topics in indeterminate structural analysis using conjugate structure column analogy, slope deflection, moment-distribution, and energy methods; shearing stiffness and flexibility methods for analyzing multi-story structures; the analysis of multi-gable bents. Prerequisite: 306 or permission of instructor.
- *505. [215] **Advanced Reinforced Concrete.** (3) Rhomberg, Yao
Behavior of reinforced concrete members and structures; ultimate strength design; review of current literature. Prerequisites: 306, 411.
- *510. [210] **Advanced Structural Design in Metals.** (3) Yao
Advanced structural design in steel and aluminum alloys; use of design codes; relation of code requirements to theories of material behavior; introduction to the theories of plastic analysis and design. Prerequisite: 324L.
- *516. [212] **Advanced Structural Mechanics.** (3) Cottrell
Introduction to the theory of elasticity with application to structural problems; theory, analysis, and design of flat and folded plate structures; membrane and bending theory of shells. Prerequisite: 401 or permission of instructor.
- *518. [218] **Elastic Stability.** (3) Cottrell
Elastic and inelastic bending and buckling of prismatic bars, beams, curved bars, thin shells, and thin plates under axial and lateral loads. Prerequisites: 401, Mathematics 311.
- *520. **Dynamics of Structures.** (3) Cottrell
Principal modes and natural frequencies of discrete and continuous elastic systems. Approximate methods: numerical, Rayleigh-Ritz, Stodolla. Forced motion including arbitrary excitations. Elasto-plastic response. Prerequisite: Mathematics 311 and permission of instructor.
- *521. [217] **Design of Structures for Dynamic Loads.** (3) Cottrell
Nature of dynamic loading from earthquakes and bomb blasts; nature of dynamic resistance of structural elements and complete structures; criteria for design of blast and earthquake resistance structures; application to actual problems. Prerequisites: 520 or permission of instructor.
- *535. [240] **Open Channel Hydraulics.** (3) Barton, Martinez
Surface curves in open channels; steady and unsteady flow; boundary resistance; standing waves in supercritical flow; hydraulic jump; surges and waves; slowly varied flow involving storage. Prerequisite: 330.
- *560. [230] **Advanced Soil Mechanics.** (3) Thompson
Detailed study of mechanical properties of soils; stress-strain-time characteristics of soils under static and dynamic loading; strength characteristics of cohesionless and cohesive soils; theories of elasticity and plasticity as applied to soils, sub-soil exploration. Prerequisite: 460L.

- *561L. [231L] **Advanced Soil Mechanics Laboratory.** (1) Thompson
Advanced soil testing procedures; soil classification, consolidation, swelling pore pressure and shear strength. Corequisite: 560. 3 hrs. lab.
- *562. [233] **Advanced Foundation Engineering.** (2) Thompson
Sub-soil exploration programs, theoretical and practical aspects of various foundation problems; bearing capacities of footings, lateral loads on piles, vibration problems in foundation design; retaining structures. Prerequisites: 560, 561L.
- *563. [232] **Earth Structures.** (3) Thompson
Design and construction of earth dams, embankments and excavations; flow nets, seepage forces, slope stability, compaction, stabilization and settlement. Prerequisites: 560, 561L.
- *591-592. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
Advanced reading, analysis, design, or research.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *627-628. [227-228] **Mechanics of a Continuum.** (3, 3) Cottrell, Ju, Skoglund
Application of tensor calculus in mechanics, non-linear theory of elasticity, a study of the various assumptions leading from a non-linear theory to the classical theory, mathematical theory of plasticity, fluid mechanics, the mathematical theory of visco-elasticity. Prerequisite: ME 516 and permission of instructor.
- *650. **Research.** (1-6 to a maximum of 12). Graduate Staff
- *691-692. [291-292] **Seminar.** (3, 3) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

ENGINEERING, ELECTRICAL

Professors A. H. Koschmann (Chairman), A. Erteza, W. W. Grannemann; Associate Professors W. J. Byatt, J. Djuric, R. D. Kelly, J. S. Lambert, H. D. Southward, D. C. Thorn; Assistant Professors M. D. Bradshaw, S. Karni, R. H. Williams; Visiting Assistant Professor L. T. Boatwright; Instructor K. Rao; Instructor (Part-time) N. Ahmed.

CURRICULUM

See p. 177.

- 201. [55L] **Electrical Engineering I.** [Field Bases of Electrical Engineering] (3)
Electric fields, potentials, dielectrics and capacitors; current density. Ohm's and Kirchhoff's laws; magnetic fields and forces; interaction of electric and magnetic fields; applications to circuits, electron devices and electromechanical devices. Prerequisite: Physics 260; corequisite: Mathematics 263.
- 202. [56L] **Electrical Engineering II.** [Circuit Bases of Electrical Engineering] (3)
Review of pertinent field concepts, Kirchhoff's laws, free and forced response analysis of circuits, complex algebra, power in circuits, resonance, network equations, polyphase circuits, basic electric instruments. Topics are covered for electric and other circuits. Corequisites: Physics 261, Mathematics 264.
- 205L. **Electrical Engineering Laboratory I.** (1)
Fundamentals of electrical measurement, instruments and laboratory techniques. Pre- or corequisites: 201, 202. 3 hrs. lab.
- 305L. [117L] **Electrical Engineering Laboratory II.** [Fields and Circuits Laboratory] (1)
Prerequisite: 205L; pre- or corequisites: 311, 361. 3 hrs. lab.
- 311-312. [113-114] **Electric Circuit Analysis.** (3, 3)
Transient and steady-state behavior of electric networks; introduction to Laplace transform methods, pole-zero plots, and generalized impedance functions; magnetic circuits. Prerequisite: grade of C or better in 202. A special examination may be used in place of the C grade requirement. Pre- or corequisite: Mathematics 311.

- **321. [131] Electronics I. (3) Graduate Staff**
Physical electronics of electron tubes and semiconductor devices. Rectifiers and power supplies, multi-element vacuum tubes and transistors, piece-wise linear equivalent circuits, graphical analysis, classes of amplifiers. Prerequisite: grade of C or better in 311, or permission of instructor. The C grade requirement may be satisfied by a special examination.
- **322. [132] Electronics II. (3) Graduate Staff**
Tube and transistor linear amplifiers—gain, phase and pulse characteristics. Distortion, Bode diagram, feedback, oscillators, switching and pulse circuit analysis, power amplifiers, modulation and demodulation. Prerequisite: 321.
- **325L. [131L] Electronics Laboratory I. (1) Graduate Staff**
Corequisite: 321. 3 hrs. lab.
- **326L. [132L] Electronics Laboratory II. (1) Graduate Staff**
3 hrs. lab.
- 361. [111] Electromagnetic Fields. (3)**
Static electric and magnetic fields, vector calculus, Maxwell's equations, plane waves. Prerequisite: grade of C or better in 201. A special examination may be used in place of the C grade requirement. Pre- or corequisite: Mathematics 311.
- **364L. [112L] Traveling Waves. (3) Graduate Staff**
Concepts of traveling waves and distributed parameters; application to transmission lines and electromagnetic waves, acoustic waves, waves in solids, heat conduction, diffusion and related phenomena; power and communication lines; resonance; lumped models. Prerequisites: 311, 361. 2 lectures, 3 hrs. lab.
- *421. [192] Computer and Waveforming Circuits. (3) Grannemann, Kelly**
Theory and design of generators and shapers of nonsinusoidal waves. Includes clippers, clippers, stretchers, selecting circuits, circuits to perform mathematical operations, special digital computing circuits, counters, multivibrators, blocking oscillators, and sweep circuits. Prerequisites: 321 and senior standing or permission of instructor.
- *423. [183] Advanced Electronics and Instrumentation. (3) Graduate Staff**
Standard measuring techniques and limitations; oscilloscopes, vacuum-tube voltmeters, bridges. Use of electronics instrumentation in obtaining and recording data from various transducers. Corequisite: 322 or permission of instructor.
- *425L. [192L] Electronics Laboratory III. (1) Graduate Staff**
Corequisites: 421 and permission of instructor.
- *431. [188] Servomechanisms. (3) Graduate Staff**
Theory and applications of servomechanisms to control problems. Prerequisite: 312.
- *432L. [188L] Servomechanisms Laboratory. (1) Graduate Staff**
Corequisite: 431.
- *435. [194] Introduction to Digital Computers. (3) Graduate Staff**
Computer logic; coding; binary and decimal arithmetic units; computer organization; basic programming. Prerequisites: Mathematics 264 and permission of instructor.
- *436L. [161L] Introduction to Digital Computer Programming. (1) Graduate Staff**
Flow diagramming, machine language programming, assemblers and compilers. Use of computer in problem solution. Prerequisite: permission of instructor. 3 hrs. lab.
- *441. [187] Introduction to Communication Systems. (3) Graduate Staff**
Principal types of communication systems, including radar systems; amplitude, angle, and pulse modulation; noise; capacity of communication channels. Prerequisites: 312, Mathematics 311.
- *445L. [187L] Communications Laboratory I. (1) Graduate Staff**
Corequisites: 441 and permission of instructor.
- *461. [181] Electromagnetic Propagation. (3) Graduate Staff**
Application of Maxwell's equations to the solution of simple wave propagation problems; reflection and refraction of plane waves; Poyntings' vector; radiation from dipoles and loop antennas; ground and tropospheric wave propagation; the role of the ionosphere in propagation. Prerequisite: 364L.

**** Available for graduate credit except for graduate majors in Electrical Engineering.**

- *462.** [182] **Microwave Theory.** [Applied Electromagnetic Waves] (3) Graduate Staff
Theoretical and practical considerations associated with microwave devices and circuits. Prerequisite: 364L.
- *465L.** [182L] **Microwave Laboratory.** [Applied Electromagnetic Waves Laboratory] (1) Graduate Staff
Laboratory problems in microwave measurements and microwave subsystems. Corequisite: 462. 3 hrs. lab.
- *471.** [190] **Solid State Engineering.** (3) Erteza, Grannemann, Southward
Elastic, thermal, electric and magnetic properties of crystals and metals. Magnetostrictive and piezoelectric effects. Conduction in metals and semiconductors with applications. Prerequisite: Physics 330 or equivalent.
- *475L.** [190L] **Solid State Engineering Laboratory.** (1) Graduate Staff
Co- or prerequisite: 471.
- *481L.** [151L] **Electromechanical Energy Conversion Principles.** (3) Erteza, Thorn
Application of field principles, conservation of energy, linear and non-linear magnetic circuit theory to the study of two-way flow of energy between electrical and mechanical systems. Analysis of selected ac and dc machines and transformers. Prerequisites: 311, 361. 2 lectures, 3 hrs. lab.
- *482L.** [154L] **Principles of Direct Energy Conversion.** (3) Erteza, Grannemann
Conversion of various forms of energy into electrical form. Study of use of thermo-electric, electro-chemical, photo-voltaic, thermionic, and magnetohydrodynamic effects for direct energy conversion. Prerequisites: 201, Physics 330, ME 301 or ChE 401. 2 lectures, 3 hrs. lab.
- *484.** [184] **Active Microwave Devices.** (3) Graduate Staff
The construction, operation and application of microwave devices such as magnetrons, klystrons, traveling wave tubes, masers and parametric amplifiers. Prerequisite: 321.
- 491.** [169] **Undergraduate Problems.** (1-3 hrs. each semester)
- 493.** [179] **Honors Seminar.** (1-3 hrs. each semester)
A special seminar open only to honors students. Registration requires permission of the Department Chairman.
- 494.** [180] **Honors Individual Study.** (1-6 hrs. each semester)
Open only to honors students. Registration requires permission of the Department Chairman and of the supervising professor.
- 498-499.** [171-172] **Seminar.** (1-3 hrs. each semester)
Prerequisite: senior standing and permission of instructor.

All courses following are understood to have the prerequisite of graduate standing in Electrical Engineering or permission of instructor.

- **502.** [198] **Electrical Engineering Principles for Advanced Students.** (3) Graduate Staff
Electrostatics, steady currents, magnetostatics, and Maxwell's equations. Lumped circuit approximation. Linear circuits, transforms, transients, and feedback. For students not majoring in Electrical Engineering. Prerequisite: knowledge of differential equations, vector analysis, and elementary electric circuits.
- *511.** **Principles of Network Theory.** (3) Graduate Staff
Properties of linear networks in frequency and time domains. Matrix analysis. Network topology; analytic properties of network functions; block diagrams; signal flow graphs; classical filter theory.
- *531.** [261] **Advanced Control Systems.** (3) Koschmann
Logarithmic plots of transfer functions; multiple-loop and multiple-input systems; root loci; sampling servos; statistical properties of noise and servo-inputs. Prerequisites: 431, 511.
- *533.** [259] **Systems Engineering and Operations Research.** [Seminar in Systems Engineering]. (3) Karni, Koschmann
Analysis of engineering systems using methods of linear programming, dynamic programming, game theory.

** Available for graduate credit except for graduate majors in Electrical Engineering.

- *535. [245] **Design of Digital Systems.** (3) Erteza, Koschmann
Over-all design of digital systems; basic gating and storage elements, digital control units; arithmetic units; input and output to digital systems; digitalization of analog data. Prerequisite: 435.
- *541-542. [191, 204] **Communication Theory I and II.** (3, 3) Djuric, Erteza, Koschmann
Statistical theory of communication. Analysis of signal spaces; random processes. Optimum filters. Information in discrete and continuous systems; coding; decision theory.
- *561 [205]-562. **Electromagnetic Waves I and II.** (3, 3) Graduate Staff
Electrostatic and magnetostatic problems. Maxwell's equations and their application to plane, cylindrical and spherical electromagnetic waves.
- *571. [253] **Theory of Solid State Electronic and Magnetic Devices.** (3) Grannemann, Southward
Applications of quantum theory to photoelectric and thermionic emission, and to the conduction of electricity through solids. Transistor theory, transistors, p-n junctions, theory of magnetism and magnetic materials. Prerequisite: 471.
- *582. [281] **Advanced Direct Energy Conversion.** (3) Erteza
Review of quantum physics, thermostatics and statistical physics, irreversible thermodynamics, and transport theory. Energy conversion techniques utilizing the thermoelectric, thermionic, photovoltaic, electrochemical and magnetohydrodynamic phenomena. Analysis of models of energy conversion devices. Prerequisites: 471, 482L or equivalent.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *611. [216] **Network Synthesis.** [Advanced Linear Network Synthesis] (3) Karni
Realizability conditions. Synthesis of one- and two-port networks. Approximation techniques. Topics in N-port synthesis and active network synthesis. Prerequisite: 511.
- *612. **Advanced Transient Analysis.** (3) Graduate Staff
Transients in linear distributed systems. Z-transforms and sampled-data systems. Inverse transforms; contour integration. Prerequisite: 511.
- *613. [213] **Nonlinear Analysis.** (3) Byatt, Karni, Koschmann
Numerical and graphical methods, singular points, analytical methods, free and forced oscillating systems, time-varying parameters, stability considerations. Prerequisite: 511.
- *614. [217] **Linear Active Network Theory.** (3) Karni, Kelly, Koschmann
Review of physical principles of transistor action; three-terminal linear non-reciprocal networks, relation to two-ports; characterization of networks over a wide frequency band; high-frequency transistor network representations; power gain and stability in amplifiers; thermal design in transistor amplifiers. Prerequisites: 471, 511.
- *619. [292] **Seminar in Network Theory.** (3) Graduate Staff
- *641. [223] **Principles of Communication Systems.** (3) Djuric, Koschmann
Analysis of various types of modulation and their relative advantages for communication in the presence of noise; detection systems and their optimization, coding, applications to wire and radio communications; radar, navigation systems and others. Prerequisite: 542.
- *651-652. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
- *661. [234] **Antennas.** (3) Williams
Elements in antenna theory; pattern synthesis. Cylindrical antenna theory. Aperture antennas; Babinet's principle. Fundamentals of traveling wave antennas, structures with reflectors, and lenses. Prerequisite: 562.
- *662. [236] **Microwave Techniques.** (3) Byatt, Thorn
The interactions of electronic currents with microwave fields with applications to magnetrons, klystrons, traveling wave tubes and related physical devices; wave guide circuits. Prerequisite: 562.
- *663. [238] **Magnetohydrodynamics.** (3) Byatt, Erteza, Grannemann
Particle dynamics in electromagnetic field. Cyclotron and Larmor frequency. Macroscopic viewpoint and Boltzmann equation. Perturbation concepts. Study of pinch phenomena and pinch stability. Current experimental machines. Prerequisite: 562.
- *664. [235] **Advanced Electromagnetic Propagation.** (3) Lambert, Williams
Theories dealing with anomalous wave propagation; evaluation of fields considering a spherical earth and the ionosphere; use of geometric-optical and residue series to compute fields; propagation through a non-homogeneous atmosphere. Prerequisite: 562.

- *669. [293] **Seminar in Electromagnetic Waves.** (3) Graduate Staff
- *671. [254] **Charge Transport Phenomena in Solids.** (3) Byatt, Grannemann
Theory of charge transport in solids involving such topics as band structure, the Fermi surface, scattering by electrons, electron-phonon interaction, scattering by lattice imperfections, grain boundaries, dislocations and electron theory of imperfection resistance, surface and size effects. Prerequisites: 471 and permission of instructor.
- *679. [294] **Seminar in Solid State Theory.** (3) Graduate Staff
- *695. [291] **Seminar.** (3) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

ENGINEERING, MECHANICAL

Professors R. C. Dove (Chairman), A. P. Bailey, F. A. Gerard, V. J. Skoglund;
Associate Professors A. V. Houghton, F. D. Ju; Assistant Professors F. O. Calvert, M. W. Wildin; Instructors W. E. Baker, J. D. Gibson, C. H. Treat, J. C. Wambold, L. E. Wilson.

CURRICULUM

See p. 179.

- 203L. [63L] **Manufacturing Processes.** (3)
The theories and techniques of manufacturing articles of metal; pattern making, foundry practice, machining, welding, and the relation of design to production. 2 lectures, 3 hrs. lab.
- 206L. [106L] **Dynamics.** (3)
Principles and applications of dynamics. Prerequisites: CE 202L; corequisite: Mathematics 264. 2 lectures, 3 hrs. lab.
- 301. [101] **Thermodynamics.** (3)
Principles of thermodynamics. First and second laws, properties and equations of state, kinetic theory. Prerequisites: Chemistry 102L, Physics 261, 263L; corequisites: Mathematics 264 and junior standing.
- **302. [102] **Thermochemistry and Gas Dynamics.** (3)
Thermodynamics of reactions and requirements of equilibrium. Isentropic flow, thermodynamics of shock waves, supersonic characteristics of internal and external flow. Prerequisite: 301; corequisite: 317 or permission of instructor.
- 308. [108] **Mechanical Equipment of Buildings.** (3)
For architecture students only. Theory and practice of heating equipment; heat loss of buildings; heating layouts; plumbing and heating codes. Prerequisite: junior standing.
- 314L. [114L] **Dynamics of Machinery.** (3)
Velocity, acceleration, and force analysis of machines with special emphasis on high-speed machinery, balancing of rotating and reciprocating machine elements. Prerequisite: 206L. 2 lectures, 4 hrs. lab.
- 316L. [116] **Space Flight Dynamics.** (3)
Principles of momentum and moment of momentum, Euler and Lagrange's equations of motion; theory of vibration and balancing; dynamic stability; aerodynamic forces and moments; rocket flight motion, pitch, roll and yaw. Prerequisite: 206L; corequisite: Mathematics 311. 2 lectures, 4 hrs. lab.
- **317. [117] **Fluid Mechanics.** (3) Graduate Staff
Kinematics of fluid motion; elements of hydrodynamics; effects of viscosity, compressibility, and drag. Prerequisite: 206L; corequisite: 301.
- 318L. [118L] **Mechanical Engineering Laboratory I.** (2)
Modern instrumentation techniques; dynamics, vibrations, and thermodynamics experiments. Prerequisite: 301; corequisites: 314L or 316L, 317. 6 hrs. lab.
- **320. [120] **Heat Transfer.** (3) Graduate Staff
Principles and engineering applications of heat transfer by conduction, radiation, and free and forced convection. Prerequisites: 301, 317; corequisite: 302, or permission of instructor.

** Available for graduate credit except for graduate majors in Mechanical Engineering.

- 350. [150] Engineering Economy. (3)**
A study of methods and techniques used in determining comparative financial desirability of engineering alternatives. Includes time value of money (interest), depreciation methods and modern techniques for analysis of management decisions. Prerequisite: junior standing.
- 351L. [151L] Mechanical Engineering Laboratory II. (2)**
Continuation of 318L. Prerequisites: 302, 317, 370. 6 hrs. lab.
- 352L. [152L] Mechanical Engineering Laboratory III. (2)**
Experimental projects in heat transfer, thermodynamics, dynamics and analogues. Prerequisites: 320, 351L. 6 hrs. lab.
- 356. [156] Industrial Engineering. (2)**
The principles of management applied to the general operation of engineering projects and manufacturing plants. Prerequisite: senior standing, or permission of instructor.
- 357L. [157] Analysis of Machines. [Design Analysis I] (3)**
Application of the principles of the physical sciences, engineering sciences, and technology to the analysis of machine elements. Prerequisites: 314L or 316L, CE 302. 2 lectures, 3 hrs. lab.
- 358L. Analysis of Solid Systems. (3)**
Engineering analysis of solid systems. Prerequisite: 357L. 2 lectures, 3 hrs. lab.
- 359L. [159L] Mechanical Engineering Design. (3)**
Analysis and design of some piece of equipment or system. Prerequisites: 358L, 363 or 367. 1 lecture, 6 hrs. lab.
- 360. [160] Internal Combustion Engines. (3)**
Theories of Otto and Diesel type engines. Prerequisite: 302.
- 363. [163] Analysis of Fluid Systems. (3)**
Engineering analysis of fluid systems based on the principles of fluid mechanics, heat transfer, and thermodynamics. Prerequisites: 302, 317, 320, or permission of instructor.
- **365. [165] Environmental Control System Design. [Refrigeration and Air Conditioning Design] (3) Graduate Staff**
Space vehicle atmospheric control systems, climatic test chambers, atmospheric control for manufacturing processes, cooling of miniaturized electronic equipment, space radiator design, noise control, clean rooms, and comfort air conditioning. Prerequisites: 301, 317, 320.
- 367. [167] Analysis of Space Vehicle Performance. (3)**
Engineering analysis of a space vehicle for a specified mission. Prerequisites: 302, 317, 320.
- 368. [168] Design of Space Vehicles. (3)**
Requirements, preliminary and detailed design of a space vehicle for a specified mission. Prerequisites: 316L, 358L, 367.
- 370. Engineering Materials Science. (3)**
(Same as CE 370.)
- 375. [170] Aerospace Structural Analysis. (3)**
Static and dynamic analysis of aerospace structures. Corequisites: 358L, 367.
- 380. Analysis of Mechanical Control Systems. (3)**
Dynamic analysis and design of thermodynamic, hydraulic, and mechanical control systems; concept of feedback; performance and stability of systems; introduction to inertia guidance controls. Prerequisites: 302, 314L or 316L, 317; Mathematics 311 or equivalent.
- *477. [177] Physical Metallurgy. (3) Graduate Staff**
The physical properties of metals, and how alloying, mechanical treatment, surface treatment, and heat treatment affect the physical properties of both high- and low-melting-point alloys. Prerequisites: Chemistry 102L and a course in engineering materials. (Offered at the Los Alamos Scientific Laboratory only).
- *481-482. [181-182] Petroleum Production. (3, 3) Huzarski**
Oil field development, methods of drilling and oil recovery; preliminary refining, storage, and transportation. Prerequisite: senior standing.

** Available for graduate credit except for graduate majors in Mechanical Engineering.

***487-488. [187-188] Principles of Missile Guidance. (3, 3) Foote**

Equations of motion, theory of orbits, control theory, types of guidance, theory of inertial guidance. Prerequisites: Mathematics 311 or equivalent, mechanics, aerodynamics. (Offered at Halloman Graduate Center only.)

***490. Methods Engineering. (3) Graduate Staff**

Introduction to problems of work methods and work measurements associated with increasing productivity and decreasing the cost of producing goods and services. Methods used in developing procedures for effective utilization of effort in industrial operations. Analytical study of manufacturing systems. Prerequisites: 350, 356, and senior standing.

***492. [192] Design Analysis II. (3) Graduate Staff**

Special problems in design involving combined stresses, stress concentration, and cases beyond the limitations of conventional tensile, flexure, and torsion formulas; study of theories of failure; and an introduction to methods of experimental stress analysis and their application to design. Corequisite: 358L, or permission of instructor.

***494L. [194L] Mechanical Vibration. (3) Graduate Staff**

Kinematics of vibration; the single degree of freedom; two degrees of freedom; many degrees of freedom; natural frequency; forced vibration; effect of dry and viscous damping; torsional vibrations of crankshafts and geared systems; suppressions and elimination of vibration. Prerequisite: Mathematics 311, senior standing in engineering. 2 lectures, 3 hrs. lab.

***501. [201] Advanced Heat Transfer I. (3) Graduate Staff**

Analytical, numerical and analogical solution to heat conduction. Transient systems, unsteady boundary conditions, stationary and moving sources. Analytical methods in radiant heat transfer. Prerequisites: 320 or equivalent, Mathematics 311.

****502. [198] Mechanical Engineering Principles for Advanced Students. (3) Graduate Staff**

Principles and applications of thermodynamics, fluid mechanics, and heat transfer. For students not majoring in Mechanical Engineering. Prerequisites: 301, 206L, Mathematics 311, or their equivalents.

***503. [203] Fluid Dynamics I. (3) Graduate Staff**

Advanced principles and applications of fluid mechanics with emphasis on compressible flow. Prerequisites: 301, 302, and 317 or equivalents, Mathematics 311.

***506. [206] Advanced Thermodynamics I. (3) Graduate Staff**

Precise development of thermodynamic definitions, principles, and analytical methods. Prerequisites: 301, 302, or equivalents, Mathematics 311.

***507. [207] Similitude in Engineering. (3) Graduate Staff**

Basic theory and applications of similitude. Metrology, similarity, dimensional analysis, and design and interpretation of similar and distorted models.

***509. [209] Gas Dynamics. (3) Graduate Staff**

One and two dimensional flow of gases including friction, shock waves, heat transfer, and chemical reactions. Prerequisites: 503, 506.

***510. [210] Contemporary Problems of Aerodynamics. (3) Graduate Staff**

Modern aerodynamic problems of missile and airplane trajectories and stability; aeroelasticity; aerodynamic interference; and propulsion. Prerequisites: 503, and either 506 or 509.

***515L. [215L] Experimental Stress Analysis. (3) Graduate Staff**

Modern techniques for experimental determination of stresses in complex machine parts; study of mechanical gages, optical gages, electrical gages and circuits, brittle lacquer methods, photoelasticity, strain grids, and certain models and analogies.

***516. [216] Applied Elasticity I. (3) Graduate Staff**

Fundamental principles of the mechanics of elastic bodies; analyses of stress and strain, basic equations of elasticity, plane problems of elasticity and fundamental boundary value problems; torsion of a prismatic bar and analogy methods. Prerequisites: CE 302 or equivalent, Mathematics 311; corequisite: Mathematics 312.

** Available for graduate credit except for graduate majors in Mechanical Engineering.

- *518. [218] **Advanced Applied Dynamics.** (3) Graduate Staff
Fundamental concepts in mechanics; vector analysis and its application in statics and dynamics; Newton's laws of motion; principles of momentum and moment of momentum; energy principles and Lagrange's equations of motion; gyroscopic motion; small oscillation; mechanical transient and operational calculus. Prerequisites: 206L or equivalent, Mathematics 311; corequisite: Mathematics 312.
- *519. [219] **Applied Elasticity II.** (3) Graduate Staff
Muskhelishvili method and boundary value problems of elasticity. Energy principle and variational methods in elasticity. Prerequisite: 516.
- *520. [220] **Analysis of Thermal Stresses.** (3) Graduate Staff
Basic equations of stress and strain, elementary temperature equations, thermal stresses in one and two dimensions, transient thermal stress, special topics on thermal effects on material properties. Prerequisite: 516.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
Advanced reading, design or research.
- *561-562. **Special Topics.** (1-3 hrs. each semester) Graduate Staff
- *591-592. **Seminar.** (1-3 hrs. each semester) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *601. [221] **Advanced Heat Transfer II.** (3) Graduate Staff
Topics in radiant heat transfer and rarified gas mechanics. Convective heat transfer in laminar and turbulent regions. Prerequisites: 501, 503.
- *602. [222] **Plates and Shells in Mechanical Engineering.** (3) Graduate Staff
Equilibrium of thin metal plates; large deflections of plates; buckling problems; general theory of metal shell structures. Prerequisite: 516.
- *603. [223] **Fluid Dynamics II.** (3) Graduate Staff
Analysis of fluid processes, including potential theory, sources; steady, laminar and turbulent flow; jets; and unsteady flow. Prerequisite: 503 or equivalent.
- *604L. [224L] **Experimental Methods in Mechanics.** (3) Graduate Staff
Modern techniques for vibration and shock testing. An extension of experimental stress analysis to measurement of thermal stresses and of strains at interior points in solids. Prerequisite: 515L.
- *627-628. [227-228] **Mechanics of a Continuum.** (3, 3) Cottrell, Ju, Skoglund
(Same as CE 627-628.)
- *699. [400] **Dissertation.** Graduate Staff

ENGLISH

Professors G. W. Arms, N. B. Crowell, M. Freedman, W. D. Jacobs, E. W. Ted-
Lock, Jr., H. Trowbridge (Dean), D. Wynn; Associate Professors F. M. Dickey
(Chairman), E. W. Baughman, J. M. Kuntz, K. G. Simons; Assistant Professors
J. Baltzell†, E. Buchanan, P. B. Davis, H. L. Hill, M. B. Whidden, J. B. Zava-
dil; Lecturer in English, Robert Creeley; Instructors W. R. Hanrahan, D.
Wylde; Part-time Instructors W. F. Carstens, J. L. Fife, M. H. Raymond.

MAJOR STUDY

Normally an English major consists of 253 and 254, 441 or 442, 446 or 451, and 21 additional hours of which at least 3 hours must be taken in each of the following groups. Of the total number of hours for the major, 21 should be taken in courses numbered above 300.

- I. Writing and Contemporary Literature:
261, 262, 321, 432, 435, 437, 438
- II. British Literature:
441, 442, 444, 445, 446, 448, 451, 454, 457, 477, 478, 481, 482, 485, 486

† Effective September 1964.

III. American Literature:

282, 285, 467, 468, 469, 470

IV. General and Comparative Literature:

275, 276, 339, 340, 456, 461, 465, 466, 480

V. Linguistics:

292, 403, Anthropology 354.

Course 490 may be used for any one of the 5 groups when applicable. This course may be repeated for credit as its content varies.

Students preparing to teach English in secondary schools are required to take English-Secondary Education 436 (Teaching of English).

Students failing to achieve a grade point average of 2.5 in English 101-102 combined (or a B in English 102 if exempted from English 101) will add English 264.

Students who wish to substitute writing courses in the Departments of Speech, Journalism, or Dramatic Arts may do so with permission from their advisers.

MINOR STUDY

18 hours in English courses numbered above 103, including at least 6 hours numbered above 300.

GROUP REQUIREMENTS

English 101 is a required course for all students except those who are exempted upon the basis of a placement test. English 102 is required of all students, except transfers who may offer an equivalent course toward the satisfaction of the group requirements. Students in the lowest percentiles of the Placement Test or students who have twice failed the test, will take English 010 in addition to English 101. Workshop sections are provided for other students weak in English 101 or 102. Additional group requirements are as follows:

College of Arts and Sciences: 3 credit hours in a course in literature numbered above 250. Up to 6 additional hours in literature may be offered in meeting the requirements under Group III: Humanities.

College of Business Administration: 3 credit hours in a course in literature numbered above 250, and Speech 255. But see "General Requirements" of the College of Business Administration.

College of Education: see Education curricula.

COURSES IN GENERAL LITERATURE FOR GROUP REQUIREMENTS IN ALL COLLEGES

The following courses in the lower division are recommended for students selecting hours for the group requirements or for general reading: 140, 256, 257, 275, 276, 277; 282, 285; not accepted as literature are 255, 261, 262, 321, 403.

DEPARTMENTAL HONORS

Students interested in registering for Honors in English should see the Chairman of the Department for details.

COMPARATIVE LITERATURE

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. See p. 248.

I. WRITING

010. [A] **English Review.** (0)

A non-credit course in grammar, usage, and reading comprehension for students needing additional background and drill. Especially designed for students preparing for the English Proficiency Examination, though open to others. Special fee of \$20.

English Tutoring. (0)

Two hours of tutoring for students needing special instruction in the essentials of composition.

101. [1] **Writing with Readings in Exposition.** (3) Buchanan, D. Wylder, Staff
Expository writing, paragraph methods, and readings.102. [2] **Writing with Readings in Literature.** (3) Buchanan, D. Wylder, Staff
The types of literature with readings and reports.103. [3] **English for Foreign Students.** (3)

A course in speaking, writing, and understanding English, designed for students to whom English is a foreign language. With the permission of the Chairman of the Department, credit in English 103 may be substituted for English 101. 5 hours of classroom work.

261. [61] **Creative Writing: The Essay.** (3) Freedman, Graff

An intermediate course with emphasis on the types, structure, and style of expository writing.

262. [62] **Creative Writing: Description and Narration.** (3) Creeley, Freedman, Graff
The types, materials, and techniques of descriptive and narrative writing.264. [64] **Informative Writing.** (3)

Professional expository composition and the preparation of elementary reports.

320. [120] **Advanced Technical Writing.** (3)

Practice in the writing and editing of technical, engineering, and scientific reports and articles. Prerequisite: 261, 262, or 264; or permission of instructor.

*321. [121] **Advanced Creative Writing.** (3) Creeley, Freedman

An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: 261, 262 or permission of instructor. **May be repeated once at the discretion of the instructor.**

436. [155c] **Teaching of English.** (3) Simons, Staff
(Same as Secondary Education 436.)

II. LITERATURE**

1. British

253-254. [53-54] **Survey of English Literature, Early and Later.** (3, 3)

253: From the Old English writings through Neo-classicism. 254: From Pre-romanticism to the contemporary period.

*441. [141] **Shakespeare: Histories and Comedies.** (3) Dickey, Simons
A detailed study of the comedies and historical plays.*442. [142] **Shakespeare: Tragedies.** (3) Dickey, Simons
A detailed study of the problem plays and tragedies.*444. [144] **The Early Seventeenth Century.** (3) Buchanan, Dickey
Cavalier and metaphysical poets, major prose writers.*445. [145] **The Later Seventeenth Century, Exclusive of Milton.** (3) Freedman, Staff
Restoration drama and poetry, scientific and philosophical prose, etc.*446. [146] **Milton.** (3) Buchanan, Freedman
The major works, poetry and prose.*448. [148] **Elizabethan Drama Exclusive of Shakespeare.** (3) Dickey, Simons
Special attention to the plays of Marlowe and Jonson.*451. [151] **Chaucer.** (3) Baltzell, Dickey, Zavadil
A detailed study of the *Canterbury Tales* with some attention to Chaucer's other works.

** With the exception of English 320, 321, and 466, for which specific prerequisites are listed, all courses in English numbered between 300 and 499 have the same prerequisite: 3 hrs. in literature.

- *454. [154] **Middle-English Literature.** (3) Baltzell, Zavadil
A general survey of the types of 13th- and 14th-century literature.
- *457. [157] **Elizabethan Non-Dramatic Literature.** (3) Dickey, Simons
Development of humanism, new poetry, literature of courtesy.
- *477. [177] **The Eighteenth Century.** (3)
The chief writers in England from 1700 to Johnson.
- *478. [178] **The Romantic Period.** (3) Crowell, Kuntz, Wynn
The 18th-century background of Romanticism and the major poets, Blake to Keats.
- *481. [181] **Victorian Poets.** (3) Crowell, Staff
The representative poets from 1830 to 1890.
- *482. [182] **Nineteenth-Century Prose.** (3) Crowell
Representative prose writers from 1800 to 1890.
- *485. [185] **Early English Novel.** (3) Davis, Staff
From the beginnings through Jane Austen.
- *486. [186] **Later English Novel.** (3) Crowell, Davis
From Scott to 1910.
- †*619. [219] **Studies in Middle-English Literature (1100-1500).** (3) Baltzell, Zavadil
The drama, romances, ballads, religious works, or other subjects.
- †*623. [223] **Studies in the English Renaissance (1500-1616).** (3) Dickey, Staff
Marlowe, Spenser, Shakespeare, Jonson, or others.
- †*625. [225] **Studies in the 17th Century.** (3) Buchanan, Dickey, Freedman
Prose writers, metaphysical poets, or Milton.
- †*633. [233] **Studies in the 18th Century.** (3)
The novel, drama, poetry, biography, or criticism; Swift, Pope, Johnson, Fielding, or Burke; or other subjects.
- †*643. [243] **Studies in the 19th Century.** (3) Crowell, Staff
Romantic and Victorian poetry and prose.

2. American

- 277. [77] **Southwestern Literature.** (3) Baughman, D. Wylder
Myth, legend, and song of the Indians; literary values in the Spanish colonial narratives; literature of the Santa Fe trail and the cattle country; contemporary writing.
- 282. [82] **American Literature.** (3) Arms, Baughman, Hill, Tedlock, D. Wylder
A general survey to 1900, with more extensive study of the great writers of the 19th century.
- 285. [85] **American Life and Thought.** (3) Baughman
Important themes and issues of our society (1607 to the present), as reflected in American literature. Prerequisite: 282, or History 261 or 262.
- *467. [167] **Colonial and Revolutionary Period in American Literature.** (3) Hill, Tedlock
Leading writers from 1600 to 1800.
- *468. [168] **The Romantic Period in American Literature.** (3) Arms, Baughman
Major writers from Irving to Melville.
- *469. [169] **The Period of Realism in American Literature.** (3) Arms, Hill, Tedlock
Major writers from Whitman to Henry Adams.
- *470. [170] **American Humor.** (3) Baughman, Hill
American humorists from 1830 to the present.
- *American Studies 501. [201] **Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Judah, G. W. Smith, Tedlock, Walter
(Same as American Studies 501.)
- †*603. [203] **Studies in the Literature of Colonial and Revolutionary America (1600-1800).** (3)
The Connecticut Wits; early influences of the Frontier in literature; or other subjects.

† This course may be repeated for credit as its content varies.

- †*606. [206] **Studies in 19th Century American Literature (1800-1912).** (3) Arms, Hill
Emerson and Thoreau; Hawthorne, Melville, and Poe; Whitman and Dickinson; Howells,
James, and Clemens; or others.

3. General and Comparative

140. [40] **Literary Forms and Figures.** (3)
An introduction to literature with variable content, each course treating a major writer or literary type as indicated by subtitle. Open to freshmen and others. Prerequisite: English 101 or exemption.
- 256-257. [56-57] **Masterworks of Literature, Early and Later.** (3, 3) Simons, Staff
256: Selected American and European drama, poetry, fiction, and non-fictional prose from the Greeks to the 19th century. 257: Selected masterworks of the 19th and 20th centuries.
275. [75] **World Literature from Homer to Dante.** (3) Jacobs, Kuntz
Masterpieces of European and Asiatic literature, including the Bible.
276. [76] **World Literature from Rabelais to Mann.** (3) Jacobs, Kuntz
Masterpieces of European literature, including the great Russian writers.
- *339. [139] **Greek Drama in Translation.** (3)
(Same as Greek 339.)
- *340. [140] **Latin Literature in Translation.** (3)
(Same as Latin 340.)
- *432. [132] **Contemporary Poetry.** (3) Arms, Jacobs, Tedlock
The leading figures in contemporary poetry with analysis of style and critical theory.
- *435. [135] **Contemporary Fiction.** (3) Jacobs, Tedlock
British, American, and European novelists since 1912.
- *437. [137] **Contemporary Drama.** (3) Freedman, Jacobs
European and American playwrights from Ibsen to the present.
- *438. [138] **Literary Movements since 1940.** (3) Creeley, Freedman, Jacobs, Tedlock
Significant writers and schools of the post-war period. Specific subject to be designated by the instructor.
- *456. [156] **Literature of Medieval Europe.** (3) Baltzell, Zavadil
(Same as Comparative Literature 456.)
- *461. [161] **The Folktale in English.** (3) Baughman
The tradition of folk motifs and themes in the development of the tale as a form of story-telling in English and American literature.
- *465. [165] **Tragedy.** (3) Dickey, MacCurdy, Trowbridge
(Same as Comparative Literature 465.)
- *466. [166] **Literary Criticism.** (3) Arms, Dickey, Trowbridge
(Same as Comparative Literature 466.)
- *480. [180] **Philosophy and Literature.** (3) Alexander, Tedlock
(Same as English-Philosophy 480.)
- †*490. [190] **Individual Authors.** (3) Graduate Staff
Intensive study of one or more writers, to be designated by the instructor.
- *528. [228] **Studies in Literature for Secondary Teachers.** (3) SS Graduate Staff
Basic approaches to the interpretation, judgment, and teaching of literature, with intensive study of selected British and American writers and works. Examples chosen will be novels, plays, short stories, and poems commonly taught in junior and senior high schools.
- *598. [298] **Methods of Literary Study.** (3) Arms, Dickey, Hill
An introduction to scholarly bibliography and basic approaches to the study of literature. Required of doctoral candidates.
- †*660. [260] **Studies in Contemporary Literature.** (3) Jacobs, Tedlock
Prose: James Joyce, D. H. Lawrence, William Faulkner, or others; poetry: T. S. Eliot, Wallace Stevens, Dylan Thomas, W. H. Auden, or others.

† This course may be repeated for credit as its content varies.

- †*675. [275] **Types, Backgrounds, and Forces.** (3) Graduate Staff
Drama, religious perspectives, archetypal patterns, and other subjects not contained within a chronological period.

III. LINGUISTICS

255. [55] **Vocabulary Building.** (3)
Latin and Greek word roots; introduction to etymology and semantics.
292. [92] **Introduction to Linguistics.** (3)
The structure of English, including traditional grammar and descriptive linguistics.
- *301. [101] **Phonetics.** (3) Chreist, St. Onge
(Same as Speech 301.)
- *403. [91] **History of the English Language.** (3) Baltzell, Kuntz
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.
- *515. [215] **Old English.** (3) Baltzell, Zavadi
Elementary grammar; translation of prose and poetry, exclusive of *Beowulf*.
- *516. [216] **Beowulf.** (3) Baltzell, Zavadi
Reading of the text and examination of problems connected with the poem. Prerequisite: 515 or consent of instructor.
- *673. [273] **Language Seminar.** (3)
Phonology of English speech; linguistic structure; American dialect and regional vocabulary; or other subjects.

IV. INDIVIDUAL STUDIES

498. [198] **Individual Study.** (3) Honors Staff
Open to junior and seniors approved by Honors Committee. *May be repeated once.*
499. [199] **Honors Essay.** (3) Honors Staff
Open only to seniors enrolled in Departmental Honors.
- †*551. [251] **Problems for the Master's Degree.** (1-2 hrs. each semester) Graduate Staff
Studies in literature and philology.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *651. [351] **Problems for the Doctor's Degree.** (1-2 hrs. each semester) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

ENGLISH-PHILOSOPHY

The combined major in English and Philosophy is an interdepartmental major administered jointly by the two Departments. Students interested in this program should consult one of the Chairmen.

The purpose of the interdepartmental major is to develop an understanding of the history of ideas, ideals, and values; their expression in literature and philosophy; and the relation of these fields. The major will serve the interests of general education, and will also be useful to many preprofessional students.

MAJOR STUDY

Students completing the English-Philosophy major are not required to have a minor. It is recommended that courses in literature and philosophy in related periods be taken concurrently where possible.

The minimum requirement is 45 hours, including: English 275 and either 253, 254, or 276; Philosophy 145 or 255, and 201 or 308; English 466 and Philosophy 307, 301, and 302; English 441 or 442 or 446; 6 additional hours of literature above 300 and 3 additional hours of Philosophy; an additional 6 hours above 300 in English or in Philosophy; and English-Philosophy 480. Advisers may recommend as much as 6 additional hours in related fields.

† This course may be repeated for credit as its content varies.

MINOR STUDY

Not offered.

- *480. [180] Philosophy and Literature. (3)** Alexander, Tedlock, Staff
Selected philosophical movements and their relationship to literary masterpieces. Prerequisites: 6 hours of literature and 3 hours of Philosophy from the courses specified as requirements for the program.

FINE ARTS

- 490. [190] Interdepartmental Proseminar. (3)**
Open to juniors and seniors with approval of a Fine Arts departmental honors committee. May be repeated once for credit.

FOLKLORE

See Modern and Classical Languages, and English 461.

FRENCH

See Modern and Classical Languages.

GENERAL STUDIES

All courses listed as "General Studies" are open to students by invitation only. They are designed for students enrolled in the General Honors program. This program is not to be confused with the Departmental Honors program described on p. 118 of this catalog.

Specific information about General Studies and the General Honors program can be obtained from the office of the Director of General Honors.

Courses in General Studies will be given credit towards appropriate Group Requirements of the College of Arts and Sciences and may also satisfy certain general requirements in other colleges. The student should consult his college dean on this point.

- 101-102. [1-2] Freshman Reading Seminar. (3, 3)** Wynn, Staff
Rapid, broad general reading for first- and second-semester freshmen.
- 201-202. [51-52] Sophomore Seminars. (3, 3)**
Selected seminar topics by staff of various departments. Instructors and topics to be announced semester by semester.
- 301-302. [101-102] Major Traditions in Western Culture. (3, 3)**
Religion, art, literature, science, and political and moral philosophy as they relate to the Western concept of man and his world. Required of all Honors students in their junior year. Extensive reading in primary sources will be required.
- 401-402. [151-152] Great Issues (Senior Honors Colloquium). (3, 3)** Freedman, Wynn
Discussion of selected issues based on close reading of relevant texts.

GEOGRAPHY

Associate Professor B. L. Gordon (Chairman); Assistant Professor Y. F. Tuan.

MAJOR STUDY

Geography 101, 102, 251; Anthropology 101; Geology 101; and 8 upper-division courses (not fewer than 22 hours), including at least 1 problems course of 2 or 3 hours. Two of the required upper-division courses may be selected, upon approval by the Chairman of the Department, from related fields of study.

MINOR STUDY

Geography 101, 102, 251, and 12 additional hours.

GROUP REQUIREMENTS

Geography 479 is accepted as non-laboratory science in fulfillment of the Science (Group V) requirement of the College of Arts and Sciences; all other Geography courses are accepted toward fulfillment of the Social Science (Group IV) requirement in that College.

- 101. [1] **General Geography.** (3)
Introduction to world geography; physical elements.
- 102. [2] **General Geography.** (3)
Introduction to world geography; natural and cultural regions.
- 251. [51] **Physical Geography.** (3)
A systematic study of the physical environment; world climate and land forms. Prerequisite: Geography 101, or permission of the instructor.
- 263. [63] **Economic Resources.** (3)
Survey of the basic economic resources of the world; industrial regions; trade routes.
- *301. [101] **South America.** (3) Gordon
Regional geography of South America.
- *302. [102] **Middle America.** (3) Gordon
Regional geography of Mexico, Central America, and the West Indies.
- *303. [103] **North America.** (3) Gordon, Tuan
Regional geography of Canada and the United States.
- *331. [131] **Eastern Asia.** (3) Tuan
Regional geography of China, Korea, and Japan.
- *332. [132] **Western Europe.** (3) Gordon, Tuan
Regional geography of Europe, excluding the U.S.S.R.
- *333. [133] **The Soviet Union and Eastern Europe.** (3) Gordon, Tuan
- *479. [179] **Conservation.** (3) Dittmer
(Same as Biology 479.)
- 491-492. [151-152] **Problems.** (1-3 hrs. each semester) Gordon, Tuan
Supervised individual study and field work.
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Gordon, Tuan
Supervised individual study for graduate students.

GEOLOGY

Professors V. C. Kelley (Chairman), S. A. Wengerd; Research Professor S. A. Northrop; Associate Professors W. E. Elston, J. P. Fitzsimmons, A. Rosenzweig; Assistant Professors R. Y. Anderson, E. F. Cruft; Faculty Associates C. B. Read, C. V. Theis.

MAJOR STUDY

For the degree of Bachelor of Arts: Geology 101, 102, 105L, 106L, 201L, 302L, and 16 additional upper-division hours. Chemistry 101L and 102L, English 264, and Mathematics 101 and 102 or one course from Mathematics 120, 121, 160, 161 are required.

For the degree of Bachelor of Science: Geology 101, 102, 105L, 106L, 201L, 302L, 307L, 309L or 311L, 319L, 420L, and 4 additional hours in approved courses. Chemistry 101L, 102L, Mathematics 160, Civil Engineering 111L, English 264, and either Biology 101L and 102L, or Physics 111, 112, 113L, 114L are required.

Candidates for the B.S. degree must minor in biology, chemistry, engineering, mathematics, or physics, or take a distributed minor. The distributed minor shall consist of the courses from these same five departments required for the B.S. major in Geology, plus 12 additional hours from the same departments. The minor in engineering may be obtained by selecting 20 hours, as approved by the Geology Department, from among the following: Civil Engineering 101L, 102L, 111L, 201L, 202L, 280L, 281L, 282L, 302, 303L, 330, 370, 380, 401, 402, 430, 431L, 432, 440, 441, 442, 460L; Mechanical Engineering 206L, 301, 302, 317, 318L, 356, 363, 481, 482.

A student wishing to concentrate in some special field of geology should consult the Department of Geology early in his college career in order to be sure of getting the proper background in related sciences and other courses. The fields in which a concentration may be developed are as follows:

Economic Geology	Geophysics	Petroleum Geology
Engineering Geology	Hydrogeology	Sedimentology
Field Geology	Mineralogy	Soils Science
General Geology	Paleoecology	Stratigraphy
Geochemistry	Paleontology	Structural Geology
Geomorphology	Petrography	

The minor courses should normally support the area of chosen concentration in the major and must be approved by the Department of Geology. Limited substitution of courses, such as Calculus, in the minor areas may be allowed for the "additional" hours required in the major.

MINOR STUDY

Geology 101, 102, 105L, 106L, and 12 additional hours.

MINOR STUDY IN PALEOECOLOGY

See p. 327.

101. [1] **Physical Geology.** (3) Materials composing the earth, and work of agencies, both external and internal, modifying its surface.
102. [2] **Historical Geology.** (3) Anderson, Northrop, Wengert
History of the earth; rise and succession of the various forms of life. Prerequisite: 101.
104. [4] **Engineering Geology.** (3) Elston, Fitzsimmons, Kelley
Introductory geology with emphasis on engineering aspects. (Open to engineers only.)
- 105L. [5L] **Physical Geology Laboratory.** (1)
Minerals, rocks, and topographic maps. **Credit suspended when credit in Geology 101 is not earned.** Corequisite: 101. 3 hrs. lab.
- 106L. [6L] **Historical Geology Laboratory.** (1)
Fossils and paleogeographic maps; emphasis on the historical geology of New Mexico. **Credit suspended when credit in 102 is not earned.** Corequisite: 102. 2 hrs. lab.
- 201L. [51L] **Mineralogy.** (4) Craft, Rosenzweig
Elementary crystallography; fundamentals of chemical and physical mineralogy; elements of mineral identification. Prerequisite: 105L; pre- or corequisite: Chemistry 101L. 2 lectures, 6 hrs. lab.
288. [88] **Vertebrates of the Past.** (3) Findley
(Same as Biology 288. Offered in 1964-65 and alternate years.)
- **302L. [102L] Petrology.** (4) Elston
Classification, hand-specimen identification, occurrence, and origin of rocks. Prerequisite: 201L; pre- or corequisite: Chemistry 102L. 3 lectures, 3 hrs. lab.

** Available for graduate credit credit except for graduate majors in Geology.

- **304L. [104L] Determinative Mineralogy. (3)** Cruft, Rosenzweig
Classification of minerals; mineral associations; methods of mineral identification; laboratory study of minerals and mineral suites. Prerequisite: 302L, Chemistry 102L. 1 lecture, 6 hrs. lab.
- **307L. [107L] Structural Geology. (4)** Kelley
Nature and origin of rock structures and deformation; map and stereographic problems. Prerequisites: 106L, and Mathematics 160. CE 111L is strongly recommended. 2 lectures, 6 hrs. lab.
- **309L. [109L] Principles of Stratigraphy. (4)** Northrop
Prerequisite: 106L; some biology is strongly recommended. 3 lectures, 3 hrs. lab. (Offered in 1964-1965 and alternate years.)
- **311L. [111L] Paleontology. (4)** Northrop
Fossil plants and invertebrates with emphasis on the common megafossils. Prerequisite: 106L; some biology is strongly recommended. 2 lectures, 6 hrs. lab. (Offered in 1965-1966 and alternate years.)
- 319L. [119L] Field Geology and Reports. (4)** Elston, Kelley
Principles and techniques of field mapping; *content and arrangement of reports; layout and preparation of illustrations*. Prerequisites: 302L and 307L. 1 lecture and 1 full day in field each week.
- *420L. [120L] Advanced Field Geology. (3)** Elston, Kelley
Geological mapping with plane table; mine mapping; special field problems. Prerequisite: 319L. 1 full day in field each week.
- *421L-422L. [121L-122L] Optical Mineralogy and Petrography. (4, 4)** Fitzsimmons
Optical mineralogy; the polarizing microscope; systematic study of rocks with respect to their mineralogy, texture, and genesis. Prerequisites: 201L, 302L, or permission of instructor. Course 421L may be taken separately, but 421L is prerequisite to 422L. 2 lectures, 6 hrs. lab.
- *426. [126] Fundamentals of Geophysics. (3)** Fitzsimmons
Physical properties of rocks and their application to instrumental methods of determining subsurface geology. Prerequisites: 302L, 307L, Mathematics 160, Physics 111L, 112L, 113L, 114L (or equivalent).
- *428L. [128L] Advanced Structural Geology. (3)** Kelley
Description and analysis of major structural types; map studies and problems. Prerequisite: 307L. 2 lectures, 3 hrs. lab.
- *430L. [130L] Advanced Paleontology. (4)** Northrop
Prerequisite: 311L. 2 lectures, 6 hrs. lab.
- *432L. [132L] Micropaleontology. (3)** Anderson
Foraminifera, ostracods, bryozoa, conodonts, and other microfossils. Laboratory techniques, applications, and ecologic relationships. Prerequisite: 106L; some biology is strongly recommended. 2 lectures, 3 hrs. lab.
- *433L. [133L] Palynology. (3)** Anderson
Morphologic, systematic, and ecologic study of pollen, spores, dino-flagellates, etc. Laboratory techniques and applications to related fields. Prerequisite: 106L; some biology is strongly recommended. 2 lectures, 3 hrs. lab.
- *436L. [136L] Paleozoic and Mesozoic Stratigraphy. (4)** Northrop
The stratified Paleozoic and Mesozoic rocks of North America, their correlation, stratigraphic relations, and guide fossils. Prerequisite: 309L. 2 lectures, 6 hrs. lab.
- *441L. [141L] Sedimentology. (4)** Wengerd
The sedimentary cycle and its products; rock-weathering and soils; transport; depositional environments; elementary sedimentary petrology. Prerequisites: 302L. 2 lectures, 6 hrs. lab.
- *442. [142] Petroleum Geology. (3)** Wengerd
An inductive approach to the principles of oil origin, migration, and accumulation. Characteristics of oil and gas reservoirs; techniques of petroleum exploration. Prerequisites: 441L.

** Available for graduate credit except for graduate majors in Geology.

- *455L. [155L] **Air Photogrammetry and Photogeology.** (3) Wengerd
Photogrammetric computations; stereoscopy; preparation of planimetric, topographic, and photogeologic maps. Prerequisites: 106L, Mathematics 160, or permission of instructor. 1 lecture, 6 hrs. lab.
- *462L. [162L] **Hydrogeology.** (3) Wengerd
Occurrence and development of water with special emphasis on the Southwest. Prerequisites: 102 and 106L or 104, and senior standing. 2 lectures, 3 hrs. lab.
- *471-472. [171-172] **Mineral Deposits.** (3, 3) Elston, Kelley
Metalliferous and nonmetalliferous deposits; their occurrence, classification, properties, origin, exploration, mining, beneficiation, and utilization. Prerequisite: 302L. Course 471 may be taken separately, but 471 is prerequisite to 472.
- *481. [181] **Geomorphology.** (3) Wengerd
Origin, development, and classification of land forms, with detailed consideration of gradation process. Prerequisites: 302L and 307L.
- *482L. [182L] **Geomorphology of the United States.** (3) Anderson, Fitzsimmons
Detailed study of the physiographic provinces and sections of the United States; emphasis on western United States. Prerequisite: 481. 2 lectures, 3 hrs. lab.
- *485. [185] **Introductory Geochemistry.** (3) Cruft
Element distribution in the earth. Introduction to phase equilibria and physical chemistry applied to natural processes. Prerequisite: 302L.
- *486. **Mineral Chemistry.** (2) Cruft, Rosenzweig.
Detailed discussion of the composition and occurrence of selected mineral groups, with particular emphasis on the application of physical chemistry and phase equilibria. Prerequisite: 302L or 485 or permission of instructor.
- *487L. [191L] **Morphological Crystallography.** (3) Rosenzweig
The 32 point groups; crystal form and habit; crystal projections; crystal measurement and drawing. Prerequisite: Mathematics 160. Civil Engineering 101L is strongly recommended. 2 lectures, 3 hrs. lab.
- 491-492. [151-152] **Problems.** (2, 2)
- *504L. [204] **Nuclear and Isotope Geochemistry.** (3) Cruft
Distribution of nuclides; radioactive processes in nature; age-dating techniques; and variation of isotope ratios in natural environments. Prerequisite: 485, or permission of instructor. 2 lectures, 3 hrs. lab.
- *506L. [206L] **X-ray Crystallography.** (4) Rosenzweig
(Also offered as Chemistry 506L.) Theory and practical application of X-ray crystallography. Prerequisite: 487L or permission of instructor. 2 lectures, 6 hrs. lab.
- *512L. [212L] **Petrography of Opaque Ores.** (2) Kelley
Determination and paragenesis of minerals in polished sections. Prerequisites: 421L, 471. 6 hrs. lab.
- *521L. [231L] **Metamorphic Petrology.** (3) Fitzsimmons
Recrystallization and metasomatism in the transformation of solid rock masses and the structural modifications attending them. Prerequisites: 302L, 421L. 2 lectures, 3 hrs. lab.
- *528. [208] **Regional Tectonics.** (2) Kelley
Principles of origin of regional structures as illustrated by Cordilleran examples.
- *537L. [221L] **Stratigraphic Analysis.** (3) Wengerd
Quantification of stratal variations on regional bases utilizing statistical approaches to thickness, sediment content, inherent sedimentary structure, and fluid distribution in sedimentary rocks. Prerequisites: 309L, 441L. 2 lectures, 3 hrs. lab.
- *541L. [210L] **Sedimentary Petrogenesis.** (3) Wengerd
Genesis of sedimentary rocks through diagenetic stages to lithification, including a study of insoluble residues, heavy minerals, and thin sections. Prerequisites: 421L, 441L. 2 lectures, 3 hrs. lab.
- *542L. [202L] **Subsurface Geology.** (3) Wengerd
Well-logging and correlation techniques; study of cuttings, drilling-time logs, electric logs, radioactivity logs, and insoluble-residue logs; construction of subsurface-contours, isopach, and isopleth maps, and detailed cross-sections. Pre- or corequisite: 442. 1 lecture, 6 hrs. lab.

- *547-548. [241-242] **Seminar.** (2, 2) Graduate Staff
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Graduate Staff
- *590. **Graduate Conference.** (0) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors M. Jorřín, C. B. Judah; Associate Professors E. C. Hoyt (Chairman), D. I. Cline, H. L. Enarson, F. C. Irion; Assistant Professor T. P. Wolf.

MAJOR STUDY

A total of 36 hours including Government 101, 102, 201, 203, and 8 upper division courses in Government, including a minimum of one course from each of the following 4 groups:

Group A (International Relations and Comparative Government): 342, 343, 355, 357, 369.

Group B (Local Government and Public Administration): 301, 302, 304, 321, 422.

Group C (Political Theory): 361, 362, 368.

Group D (National Government and Politics): 305, 306, 307, 311, 375.

Up to 6 hours of the major study requirement may be satisfied by related courses from other departments; chosen with the approval of the Department of Government.

MINOR STUDY

A total of 21 hours including Government 101 or 102, and 201 or 203.

CURRICULUM FOR STUDENTS WHO PLAN TO STUDY LAW

See School of Law.

The Department requires a qualifying examination to be administered during the first semester of graduate work in order to discover those fields in which the candidate needs additional study and to ascertain his ability to continue graduate work.

- 101. [1] **Introduction to Government.** (3)
- 102. [2] **Comparative Government.** (3)
- 201. [51] **American Government.** (3)
Prerequisite: 101.
- 203. [53] **International Politics: Basic Factors.** (3)
- *301. [101] **Municipal Government and Administration.** (3) Cline
The organization, administration, and problems of counties, municipalities, metropolitan areas, and administrative districts. Prerequisite: 201.
- *302. [102] **State Government in the United States.** (3) Cline
Prerequisite: 201. (Alternates with 304.)
- 303. [103] **Problems of Democracy.** (3)
Government problems of special contemporary importance. (No credit towards Government major or minor.)

- *304. [104] **The Government of New Mexico.** (3) Cline
Prerequisite: 201. (Alternates with 302.)
- *305. [105] **Public Opinion and Propaganda.** (3) Irion
Public opinion as it affects party alignments and governmental programs, the methods used by special interests in influencing public opinion.
- *306. [106] **Political Parties.** (3) Judah
The American party system, national, state, and local.
- *307. [107] **Political Dynamics.** (3) Irion
- *310. [110] **Problems of Communism and the Soviet Union.** (3) Hoyt, Tobias
(Also offered as History 310.) An interdisciplinary study of Communist ideology and Soviet power, dealing with historical origins and present nature of the Soviet system; the relationships between the Russian Communist leaders and revolutionaries in other countries; the place of Communist ideology in world history and world politics and its relation to rival political beliefs and systems. (Special course for secondary school teachers. Not counted toward Government major.) Permission of instructor required.
- *311. [111] **Legislation.** (3)
The process of lawmaking in the United States, national, state, and local; legislative drafting, statute lawmaking, legislative procedure, executive ordinances, popular lawmaking, judicial review. Recommended preparation: 201.
- *321. [121] **Public Administration.** (3) Wolf
Introduction to the general problems of public administration in the modern state. Prerequisite: 201.
- *342. [142] **International Politics II: Foreign Policies of the Major Powers.** (3) Hoyt
Prerequisite: 203.
- *343. [143] **International Law and Organization.** [The United Nations] (3) Hoyt
Prerequisite: 203.
- *350. [152] **Public Finance.** (3) Therkildsen
(Same as Economics 350.)
- *355. [155] **The Governments of Latin America.** (3) Jorrín
The governments of a number of Latin American states including a study of their domestic problems and diplomatic policies.
- *357. [157] **Government of the Soviet Union.** (3) Hoyt
The politics and economic and social institutions of the U.S.S.R. and its role in world affairs.
- *361. [161] **Political Theory from Plato to Locke.** (3) Jorrín
Knowledge of ancient and medieval history is recommended.
- *362. [162] **Political Theory from the Enlightenment to Today.** (3) Jorrín
Knowledge of modern European history is recommended.
- *363. **Latin American Political Theory.** (3) Jorrín
The development of political philosophy in Latin America with emphasis on contemporary thinkers. Knowledge of modern Latin American history is recommended.
- *368. [168] **American Political Theory.** (3) Judah
The origin and development of political ideas in the U. S. from colonial times to the present. Prerequisite: History 261, 262, or permission of instructor.
- *369. [169] **European Governments.** (3) Judah
A survey and comparison of the leading governments of Europe. Prerequisite: History 102 or Government 102.
- *371. [151] **American Diplomacy.** (3) Nash, Smith
(Same as History 371.)
- *375. [175] **Constitutional Law.** (3)
The Constitution of the United States as it has been interpreted by the courts. Prerequisite: 201.
- *422. [122] **The Administrative Process.** (3)
Policy formulation; problems of decision-making; conflicts of interests in administration; the contribution of administration to social satisfaction. Prerequisite: 321.

- *496. [201] **Methodology and Bibliography.** (3) Wolf
Required course for M.A. candidates. Also open to qualified Government majors.
- 498. [198] **Reading for Honors.** (3)
- 499. [199] **Senior Thesis.** (3)
- *American Studies 501. [201] **Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Judah, G. W. Smith, Tedlock, Walter
(Same as American Studies 501.)
- *506. [206] **Seminar in Political Parties.** (3) Judah
- *511. [211] **Seminar in Urban Government.** (3) Cline
- *521. [221] **Seminar in Public Administration.** (3) Enarson
- *541. [241] **Seminar in International Law and Organization.** (3) Hoyt, Jorrin
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff

GREEK

See Modern and Classical Languages.

GUIDANCE

See Education, Educational and Administrative Services.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

See Education, Health, Physical Education, and Recreation

HISTORY

Professors E. Lieuwen (Chairman), D. C. Cutter, W. M. Dabney, J. C. Russell, G. W. Smith; Research Professor F. D. Reeve; Associate Professors F. W. Iklé, G. D. Nash, G. E. Rothenberg; Assistant Professors T. S. Floyd, D. E. Skabelund‡, P. M. Sonnino, H. J. Tobias; Visiting Assistant Professor F. C. Stuart.‡

MAJOR STUDY

The history program for majors, as outlined below, is designed to provide some of the cultural background necessary for intelligent social living, and also to prepare students for such specific activities as careers in law, the civil and diplomatic services, and the teaching profession.

Requirements: Four lower-division courses which must include 101 and 102, and one of the following pairs: 181 and 182, 251 and 252, or 261 and 262. Eight 300- or 400-level courses, including 309 and 7 more including 2 courses each from 3 of the following areas: European, United States, Hispanic-American, Far Eastern history.

MINOR STUDY

The planned program outlined below is designed to supplement a student's work in his major field. The lower-division requirement includes a minimum of 2 semester courses to be selected from the following: History 101, 102, 181, 182, 251, 252, 261, 262. The upper-division requirement includes a minimum of 5 semester courses, at least 3 of which must be concentrated in European history, American history, Hispanic-American history, or Far Eastern history.

‡ Effective July 1, 1964.

- 101-102. [1-2] **Western Civilization.** (3, 3) Rothenberg, Russell, Sonnino, Stuart, Tobias
European developments from the decline of Rome to the present, with the first semester covering the period to 1500.
160. [31] **History of New Mexico.** (2) Cutter
Survey from Cabeza de Vaca to 1912.
- 181-182. [11-12] **History of the Americas.** (3, 3) Cutter, Floyd, Lieuwen
181: European exploration and settlement of the Americas. 182: The Western Hemisphere nations in the 19th and 20th centuries.
- 251-252. [61-62] **Eastern Civilizations.** (3, 3) Iklé, Tobias
251: The development and interaction of Chinese, Central Asian, Russian, and Japanese societies until the 16th century. 252: From the 16th century until today.
- 261-262. [51-52] **History of the United States.** (3, 3) Dabney, Nash, Smith
Survey of the economic, political, intellectual, and social development of the United States from 1607 to the present, including the place of the United States in world affairs. History 261 covers the period from the beginning to 1865.
301. [101] **American Studies. Interdepartmental Studies in the Culture of the U.S.** (3) Staff
(Same as American Studies 301.)
- *303. [150] **History of World Communism.** (3) Tobias
From Marx to the present.
- *305. [117] **History of Science to 1687.** (3) Skabelund
Evolution of scientific ideas and the role of science in the formation of Western civilization from antiquity to the Newtonian synthesis.
- *306. [117] **History of Science since 1687.** (3) Skabelund
Development of scientific thought from the Newtonian synthesis to the present.
- *309. [198] **Historiography.** (3) Graduate Staff
Extensive reading and discussion of the great histories and historians.
- *310. [110] **Problems of Communism and the Soviet Union.** (3) Hoyt
(Also offered as Government 310.) An interdisciplinary study of Communist ideology and Soviet power, dealing with the historical origins and present nature of the Soviet system; the relationships between the Russian Communist leaders and revolutionaries in other countries; the place of Communist ideology in world history and world politics and its relation to rival political beliefs and systems. (Special course for secondary school teachers. Not counted toward History major nor toward advanced degrees in History.) Permission of instructor required.
- *313. [115] **Greece.** (3) Russell
A survey of developments in Greek civilization from early times to the reign of Justinian.
- *314. [116] **Rome.** (3) Russell
Survey of the rise, decline, and fall of Roman power from the Italian expansion to the establishment of the successor states.
- *321. [121] **Political and Economic History of the Middle Ages.** (3) Russell
- *322. [122] **Social and Intellectual History of the Middle Ages.** (3) Russell
- *325. [141] **Early Modern Europe 1500-1648.** (3) Sonnino
Political, economic, and social history.
- *332. [142] **Early Modern Europe, 1648-1789.** (3) Sonnino
Political, economic, and social history.
- *333. [143] **French Revolution and Napoleon.** (2) Sonnino
Detailed examination of the period from 1789 to 1815, basic in understanding the story of modern Europe.
- *335. [145] **Modern Europe, 1815-1914.** (3) Rothenberg
Emphasis upon the ideological struggle between such forces as absolutism, individualism, nationalism, and socialism.
- *336. [146] **Dictatorships and Democracies in Europe since 1914.** (3) Rothenberg
Emphasis upon the domestic institutional experiments in the major countries—Russia, Germany, Italy, France, and Great Britain.

** Not counted toward History major nor toward advanced degree in History.

- *338. [140] **European Diplomatic History.** (3) Rothenberg
Since 1815.
- *341. [127] **France.** (3) Sonnino
From 1500 to the present.
- *342. [125] **Germany.** (3) Rothenberg
From 1500 to the present.
- *343. [133] **History of England to 1603.** (3) Russell, Stuart
Settlement of peoples; rise and development of Christianity; increase of population and economic activity; and formation of the medieval English constitution.
- *344. [134] **History of England from 1603 to the Present.** (3) Stuart
Survey of constitutional, political, social, and religious developments in the British Isles.
- *345. [135] **The British Empire.** (3) Stuart
British possessions overseas since 1815—Canada, Australia, New Zealand, South Africa, India, Egypt, and the dependencies.
- *347. [148] **Modern Russia, 1500-1917.** (3) Tobias
- *349. [149] **Soviet Russia.** (3) Tobias
Emphasis upon domestic developments.
- *351. [157] **History of China.** (3) Iklé
Social, political, and economic institutions from historical beginnings to modern times.
- *352. [158] **History of Japan.** (3) Iklé
Social, political, and economic institutions from historical beginnings to modern times.
- *354. [159] **The Far East in the Contemporary World.** (3) Iklé
Emphasis upon diplomatic relations between Asia and the West.
- *356. **History of the Near East.** (3) Iklé
From ancient Mesopotamia to the present.
- *357. **Africa.** (3) Stuart
- *361. [171] **The American Colonies, 1607-1763.** (3) Dabney
The settlement of British America and a study of American institutions in their infancy.
- *362. [172] **The Period of the American Revolution, 1763-1789.** (3) Dabney
The American Revolution as a political, social, economic, cultural, and intellectual movement.
- *363. [173] **The Young Republic.** (2) Dabney
The United States from 1789 to 1820.
- *365. [175] **The Era of Sectional Conflict, 1820-1860.** (3) Smith
The impact of nationalism and sectionalism upon American life from the Missouri Compromise to the election of Lincoln.
- *366. [176] **The Civil War.** (3) Smith
Political, social, economic, military, and diplomatic history of the period 1860-1865.
- *367. **The United States from Reconstruction to 1898.** (3) Smith
- *368. [178] **Recent History of the United States.** (3) Nash
From 1898 to the time of the great depression.
- *369. [179] **Recent History of the United States.** (3) Nash
From the time of the great depression to the present day.
- *371. [151] **American Diplomacy.** (3) Nash, Smith
American diplomatic personalities, problems, and policies from independence to the present day.
- *373. [181] **History of the American Frontier.** (3) Cutter
The Turner frontier thesis and its critics.
- *374. [182] **The Trans-Mississippi West.** (3) Cutter
- *375. [183] **Intellectual and Social History of the United States.** (3) Dabney, Nash
American society and culture from the planting of the colonies to the beginning of the Civil War.
- *376. [184] **Intellectual and Social History of the United States.** (3) Smith
Social and cultural movements in American history from 1860 to the present, with analyses and critiques of the ideas of representative individuals.

- *377. [185] **Economic History of the United States.** (3) Nash, Smith
Topical study of American economic life—agriculture, industry, labor, and commerce—from the beginning to the present, stressing the relations of government and business.
- *378. [189] **Constitutional History of the United States.** (3) Dabney
From English origins to the present day.
- *379. [191] **History of the Southwest.** (3) Cutter
Spanish exploration and occupation of the Southwest; colonial government and missions.
- *381. [161] **History of Latin America.** (3) Cutter, Floyd
Spanish and Portuguese occupation and colonial control in the Americas.
- *382. [162] **History of Latin America.** (3) Floyd, Lieuwen
Emergence of national states in Latin America.
- *383. [164] **Modern and Contemporary Latin America.** (2) Lieuwen
Social, political, and economic developments in the area since World War II.
- *384. [165] **Inter-American Relations.** (3) Floyd, Lieuwen
Relations among the American republics from 1810, with emphasis upon the Pan-American movement and the recent period.
- *394. [166] **History of Brazil.** (3) Floyd
From 1500 to the present.
- *395. [137] **History of Spain.** (3) Floyd
From Roman times to the present.
- *396. [167] **History and Civilization of Portugal.** (3) Lopes
Emergence of Portugal as a national state; establishment and decline of the Portuguese Empire.
- *397. [168] **Mexico to 1821.** (2) Cutter, Floyd, Lieuwen
- *398. [168] **Mexico since 1821.** (2) Cutter, Floyd, Lieuwen
- 493. [193] **Reading and Research in Honors.** (3)
Prerequisites: senior standing and permission of major adviser.
- 494. [194] **Senior Thesis.** (3)
Prerequisite: 493.
- *500. **Seminar in Historical Research Methods.** (2) Nash
- *501. [201] **Interdepartmental Seminar in the Culture of the United States.** (3) Graduate Staff
(Same as American Studies 501.)
- *504. [204] **Interdepartmental Seminar in Ibero-American Studies.** (3) Graduate Staff
(Same as Ibero-American Studies 504.)
- *521. [256] **Seminar in Medieval History.** (3) Russell
Emphasis upon phases of medieval English or Spanish history.
- *532. [255] **Seminar in Early Modern European History.** (3) Sonnino
Studies in Renaissance, Reformation, and Enlightenment history.
- *542. [257] **Seminar in Modern European History.** (3) Rothenberg
- *545. [258] **Seminar in British History.** [Seminar in Modern British History] (3) Stuart
- *547. [248] **Seminar in Modern Russian History.** (3) Tobias
Emphasizes the period 1861-1917.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
- *554. **Seminar in Far Eastern History.** (3) Iklé
- *562. [271] **Seminar in Early American History.** (3) Dabney
- *566. [272] **Seminar in Civil War Period.** (3) Smith
Intensive study of bibliography, research in source materials, and the writing of original papers on the period of the Civil War and Reconstruction.
- *568. [273] **Seminar in Recent American History.** (3) Nash
Topical investigation in American history since 1900.

- *579. [262] **Seminar in Southwest History.** (3) Cutter
- *581. [265] **Seminar in Colonial Latin American History.** (3) Floyd
Emphasis upon the constitutional and cultural history of the Spanish colonies in America.
- *582. [266] **Seminar in Recent Latin American History.** (3) Lieuwen
The national period of Latin America.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

HOME ECONOMICS

See Education, Home Economics

IBERO-AMERICAN STUDIES

Facilities for a program leading to the degree of Doctor of Philosophy in Ibero-American Studies are provided through an interdepartmental major. For details consult the **Graduate School Bulletin**.

- *504. [204] **Interdepartmental Seminar.** (3) Floyd, Jorrín, Lieuwen, Lopes, Nason
History, literature, and institutions of Latin America.
- *699. [400] **Dissertation.** Cutter, Floyd, Lieuwen, Jorrín, Lopes, Nason, Ulibarri

INDUSTRIAL ARTS

See Education, Industrial Arts.

ITALIAN

See Modern and Classical Languages.

JOURNALISM

Professor K. A. Rafferty (Chairman); Associate Professor L. L. Jermain.

MAJOR STUDY

Editorial Sequence (Accredited by the American Council on Education for Journalism.)—30 hours including Journalism 251, 252, 301, 302, 311, 312, 322, and 475. Six hours may be chosen from the following: English 255, 403, 466; Speech 466; Government 305.

Journalism 100 counts toward the major but is not required. It is strongly recommended for all who plan on a Journalism major.

A partial list of courses which may help the person majoring in Journalism: Business Administration 314, Advertising; Economics 320, Labor Relations; Economics 350, Public Finance.

MINOR STUDY

18 hours including Journalism 251 and 252. Six hours in other departments may be chosen from the lists given under Major Study.

- 100. [1] **Introduction to Journalism.** (2) Jermain, Rafferty
Lecture two hours a week on the meaning, history, and practices of American journalism, together with some practice in news writing and an introduction to copy-editing.
- 251. [51] **News Writing and Reporting.** (3) Jermain
2 lectures, 2 hrs. lab.
- 252. [52] **News Writing and Reporting.** (3) Jermain, Rafferty
Prerequisite: 251. 2 lectures, 2 hrs. lab.

261. [61] **News Photography.** (3) Jermain
Training in the use of the standard news camera, and in the taking, developing, and printing of pictures for newspaper use, together with some study of desk preparation of photographs for the photoengraving process. 1 lecture, 4 hrs. lab.
301. [101] **History of Journalism in the United States.** (3) Jermain
American newspaper and magazine history from the early Colonial periodicals through the present-day streamlined mass-production newspaper.
302. [102] **Editorial and Special Writing.** (3) Rafferty
Practice and criticism in the writing of the editorial essay and the information editorial, and in the writing of the column, and of other interpretive matter.
311. [111] **Copy-Editing and Makeup.** (3) Rafferty
Practice in the assembling and editing of news copy, in dummied of newspaper pages, in headline writing, and in page makeup. Prerequisites: 251, 252. 2 lectures, 2 hrs. lab.
312. [112] **Copy-Editing and Makeup.** (3) Rafferty
Continuation of 311, with emphasis on wire copy and problems of typography. Prerequisite: 311. 2 lectures, 2 hrs. lab.
322. [122] **Law of the Press.** (3) Jermain
Lectures, discussions, and case histories in the law of libel and the Constitutional guarantees, and in laws relating to contempt and injunction proceedings and other checks of law upon the press.
332. [132] **Writing the Magazine Article.** (3) Rafferty
Writing the longer factual article for professional publication.
465. [165] **Management of High School Publications.** (3) Jermain, Rafferty
A survey of the problems in production of high school newspapers and yearbooks, as well as some incidental publications, including approaches to design, advertising content, the news and editorials, circulation and printing, and over-all business administration and staff management. Not open to Journalism majors.
475. [175] **Advanced Reporting.** (3) Rafferty
Discussions of, and work in, news and interpretive coverage of matters and events of public concern; visits to, and investigations into, community areas and public bodies, during additional arranged sessions each week; production of a series of newspaper or magazine-type articles by each student, each eventually during the semester to work upon a specific problem, situation, or crusade, of public significance. Prerequisite: permission of instructor.
494. [194] **The Press as a Social Force.** (3) Rafferty

LATIN

See Modern and Classical Languages.

LAW

Professors R. E. Clark (Acting Dean), V. R. Seed, D. H. Vernon, H. Weihofen; Associate Professor R. D. Swihart; Visiting Associate Professor D. L. Rotenberg; Assistant Professor A. E. Utton; Visiting Assistant Professor C. M. Selinger; Librarian and Associate Professor M. Fink.

MINOR IN THE COLLEGE OF ARTS AND SCIENCES

Available only to students accepted by the School of Law in the combined six-year program leading to the bachelor's degree in the College of Arts and Sciences and the bachelor's degree in the School of Law. Twenty-one hours to be selected from the following courses: 501, 503, 504, 507, 510, 523, 528, 535, 539, 541, 583, 591, 596.

500. [100] **The Legal Profession.** (0)
Attendance and participation of all third-year students required. No subject credit. "CR" recorded on satisfactory attendance and participation.

501. [101] **Criminal Law. (3)**
Criminal law viewed as a means for the prevention of criminal behavior and a general study of criminal procedure and administration.
- 503-504. [103-104] **Contracts and Contract Remedies. (3, 3)**
The basic principles of the law of contracts; offer and acceptance, consideration, formalities in contracting, third party beneficiaries, assignment, failure of condition, impossibility, discharge, illegality, damages, specific performance, restitution.
507. [107] **Torts. (4)**
The development of different bases of tort liability, including liability without fault, negligence, and intentional wrongs. Includes treatment of misrepresentation, defamation, liability of owners and occupiers of land and the role of insurance in compensating for personal injuries.
509. [109] **Civil Procedure I. (3)**
An introduction to the fundamentals of procedure in civil litigation from the commencement of an action through appeal: pleading; discovery; trial; post-trial and pre-trial motions; provisional remedies and enforcement of judgments; appeal. Distribution of jurisdiction between state and federal courts; venue; relationship of substantive and procedural law including the law governing actions in federal courts. The evolution of modern procedural law.
510. [110] **Legal Analysis. (1)**
The techniques of analyzing groups of cases, the results of each analysis to be submitted by the student in the form of a critical memorandum. (Required)
512. [112] **Legal Research. (2)**
Drafting, explaining and defending legal documents, including law office memoranda, contracts, and statutes. (Required and must be completed with a grade of D or better before student takes Legal Writing or any seminar.)
518. [118] **Property I. (3)**
"Original" ownership; the evolution of interests in real property, briefly treating feudalism and tenure, freehold estates, future interests and concurrent ownership; gifts of personal property; leases.
519. [119] **Property II. (4)**
Sales of land, including the real estate contract, the deed, the recording system, and methods of title assurance; the use of land, including easements and licenses, real covenants, zoning and related public controls of land use.
520. [140] **Civil Procedure II. (3)**
An intensive examination of selected topics surveyed in Civil Procedure I: pleading; discovery; summary judgment; voluntary and involuntary dismissal; functions of judge and jury; new trial; jurisdiction; former adjudication; parties. Consideration of specific problems of New Mexico procedural law.
523. [123] **Constitutional Law. (4)**
Judicial review, the judicial process in constitutional cases, scope of national legislative power, scope of state power, intergovernmental relationships; limitation of governmental power (fair procedure, equal protection, business and economic relationships, freedom of expression, freedom in education and religion).
- 524-525. [124-125] **Business Units I and II. (2, 3)**
The law of corporations, partnerships, and other forms of business organizations, including consideration of the principles of agency. Prerequisite for 525, Business Units II: 526, Legal Accounting, for students who have had less than 9 hours of college accounting.
526. **Legal Accounting. (1)**
A prerequisite for Business Units II (Law 525) for students who have had less than 9 hours of college accounting. **May not be taken for credit by students who have had 9 hours or more of college accounting.**
527. [127] **Family Law and Community Property. (3)**
Marriage, separation, and divorce; solidarity and economic relations as between husband and wife, parent and child; New Mexico community property law.
528. [128] **Local Government Law. (2)**
Types and objectives of local government units; their place in the governmental structure—intergovernmental relations; legal aspects of original organization and changes; personnel;

lawmaking by local bodies; community planning and development; regulation of business activity and private conduct; finance; auxiliary powers; legal responsibility of local governmental units; remedial sanctions.

531-532. [131-132] Estate Planning I and II. (3, 3)

Analysis of problems of wills, trusts, future interests, insurance, and income, estate and gift taxation in planning property dispositions. Prerequisite: 567, Federal Income Taxation, or equivalent.

535. [135] Administrative Law. (3)

The system of legal control, exercised by the law administering agencies other than the courts; definition and forms of administrative agencies; their functions; their constitutional limitations; their statutory powers and limitations; administrative procedures; agency hearings and decisions; judicial control of administrative agencies.

539. [139] Labor Law. (3)

Historical introduction; the negotiation and administration of the collective bargaining agreement; the establishment of the collective bargaining relationship; recourse to economic weapons; the individual and the union.

541. [141] Legal Writing. (2)

Exercises and drills in legal writing and methods to be done independently by each student. (Required) Prerequisite: 512, Legal Research, or equivalent.

547-548. [147-148] Commercial Transactions I, II. (2, 3)

The distribution of merchandise, payment and financing thereof; emphasis on the Uniform Commercial Code.

552. [152] Security. (2)

Law of mortgages; comparative analysis of vendor-purchaser concept and remedies.

556. [156] Debtors' Estates. (3)

Principal remedies of unsecured creditors, including attachment, garnishment, enforcement of judgments, composition agreements, assignments for benefit of creditors and bankruptcy.

560. [160] Evidence. (4)

Legal, logical and epistemological problems involved in the trial of contested issues of fact. Judicial notice. Real proof. Testimonial proof, including competency of witnesses, privilege, impeachment, rehabilitation and form of examination. The hearsay rule and its exceptions. Circumstantial proof: logical relevance, remoteness, prejudice, both generally and in connection with proof of character and habit. Burden of proof and presumptions.

567. [167] Federal Income Taxation. (3)

Income taxation of individuals, partnerships and corporations. Problem method used. (Prerequisite for Estate Planning)

571. [171] Law of Oil and Gas. (3)

Major emphasis on the oil and gas lease. Selected additional materials at discretion of instructor on conservation of natural resources, taxation of minerals, solid mineral mining, and the public domain.

573. [173] Conflict of Laws. (3)

The concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and status.

583. [183] Jurisprudence. (2)

Introduction to problems of legal philosophy, legal analysis and classification, and law as a social science. Emphasis on current issues regarding law and morality, legal problems as verbal problems, and the construction of an adequate legal philosophy for the lawyer as a specialist and as a member of society.

584-585. [184-185] Law Journal. (2, 2)

Second-year law students with superior academic records are selected to compete for positions as student editors of the Natural Resources Journal. During the course of their second year they must perform assigned editorial tasks and write two case comments of publishable quality. Upon successful completion of this work, they are elected to the editorial board and receive 2 credit hours for their work. During their third year, as student editors, they are assigned greater editorial responsibility, under the immediate supervision of the Faculty Editor, and are also required to write one Law Note of publishable quality. Upon successful completion of their editorial duties, they receive an additional 2 hours credit. "CR" recorded on satisfactory performance in either course.

590. [190] Seminar in Water Law. (2)
 591. [191] Seminar in Civil Liberties. (2)
 592. [192] Seminar in Corporate Reorganization. (2)
 593. [193] Seminar in Evidence. (2)
 594. [194] Seminar in Taxation. (2)
 595. [195] Seminar in Mining and Public Lands. (2)
 596. [196] Seminar in Law and Psychiatry. (2)
 597. [199] Seminar in Commercial Transactions. (2)
 599. [198] Legal Aid. (0)

Service in the office of the Legal Aid Society of Albuquerque 3 hours each week during one semester. Required of all senior students. No subject credit. "CR" recorded on satisfactory completion of service.

LIBRARY SCIENCE

See Education, Library Science.

MATHEMATICS AND STATISTICS

Professors J. R. Blum (Acting Chairman), B. Epstein, F. C. Gentry, M. S. Hendrickson (Chairman); Associate Professors J. H. Abbott, D. W. Dubois; J. V. Lewis, J. Mayer-Kalkschmidt, J. Rosenblatt, O. Wyler; Assistant Professors W. S. Eberly, R. C. Entringer, M. Janowitz, M. Mitchell, B. Morse, H. Renggli, A. Steger, E. Steiner; Instructor P. Carr; Part-time Instructors A. Carstens, M. Moore, P. Nelson, R. Pelzl, D. Tarwater, E. Wagner.

MAJOR STUDY

The student has a choice of three plans for the major, each requiring 21 hours of courses numbered above 300. A student working for a teaching certificate who plans to do graduate work in mathematics may follow Plan B. Mathematics 321, 322, 361, and 362, or their equivalents, are prerequisite to regular status in the Graduate School.

Students considering mathematics as a major should consult the Chairman (or a Mathematics Department Adviser) before enrolling in Mathematics 164.

Plan A. For students working for a teaching certificate in Mathematics: 162, 263, 264, 306, 318, 320, 331, and 9 additional hours numbered above 300 approved by a Mathematics Department adviser.

Plan B. For students who intend to do graduate work in mathematics: 162, 263, 264, 318, 321, 322, 361, 362, and 6 additional hours numbered above 300 approved by a Mathematics Department adviser.

Plan C. For all other students: 162, 263, 264, 311, 312, 318, at least one of the courses 306, 331, 332, at least one of the courses 320, 321, 322, and 6 additional hours numbered above 300 approved by a Mathematics Department adviser.

COMBINED PROGRAM IN MATHEMATICS AND ENGINEERING

Students interested in the fields of computer design, guided missiles, electronics, or aeronautics are advised to take one of the following engineering minors:

Minor in Electrical Engineering: EE 201, 202, 205L, 311, 321, 361, plus 2 courses selected from EE 312, 346L, 322, 421, 431.

Minor in Mechanical Engineering, Solids Option: CE 101L, 202L, 302; ME 206L, 314L or 316L, 357L, and 318L.

Minor in Mechanical Engineering, Fluids Option: CE 202L; ME 206L, 301, 302, 317, and 320.

MINOR STUDY

Mathematics 162, 263, 264, or their equivalents, and at least 6 additional hours in courses numbered above 200 of which 3 must be numbered above 300.

NOTE TO BEGINNING STUDENTS

All entering freshmen are required to take a mathematics placement test. In accordance with the results of this test:

1. Students who plan to take Mathematics 162 will begin with Mathematics 010, 160, 161, or 162.
2. Students who do not plan to take Mathematics 162 will begin with Mathematics 010, 120, 121, 122, 160, or 161.

I. Introductory Courses

010. [A] Intermediate Algebra. (0)

A non-credit course for students who require additional background before enrollment in any other course, as determined by the placement test. Prerequisite: one unit of high school algebra. A special fee of \$20.00 is charged.

101. [15] College Algebra.¹ (3)

Prerequisite: a satisfactory grade on placement test.

102. [16] Plane Trigonometry. (2)

Prerequisite: a satisfactory grade on the placement test.

120. Elementary Mathematics for the Social Sciences.¹ (5)

Same content as 121 (see below) but with additional work on algebra and trigonometry.

121. [47] Introduction to Mathematics for the Social Sciences.¹ (4)

Elements of set theory; the real number system; graphing of functions; polynomial, rational, and trigonometric functions; intuitive introduction to the basic concepts of calculus.

122. [70] Introduction to Finite Mathematics. (4)

Mathematical models and their interpretations; game and decision theory; linear and dynamic programming; elementary probability and Markov chains. Prerequisite: a grade of C or better in 120, 121, 160, or 161.

160. [48] Elementary Mathematics for the Physical Sciences.¹ [Introduction to Mathematics for the Physical Sciences] (5)

Same content as 161 (see below) but with additional work on algebra and trigonometry.

161. [49] Introduction to Mathematics for the Physical Sciences.¹ [Introduction to Analysis] (4)

Elements of logic and set theory; the rational, real and complex number systems; selected topics in algebra and analytic geometry; intuitive introduction to the basic concepts of the calculus.

162-263-264. [50-51-52] Calculus and Analytic Geometry. (4, 4, 4)

An elementary but thorough development of the calculus; plane and solid analytic geometry; introduction to linear differential equations. Prerequisite: a grade of C or better in 160 or 161 is required for admission to 162. Grades of C or better must be maintained to continue in this sequence. With the consent of the Chairman of the Department Mathematics 120 or 121 may be accepted in lieu of 160 or 161.

1. Credit may be received for only one of the courses 101, 120, 121, 160, 161.

II. Courses for Teachers and Education Students

The following courses are intended primarily for undergraduate and graduate students in the College of Education and for participants in Teacher's Institutes. Other persons may be admitted to these courses by permission of the Department Chairman.

111. [1] **Arithmetic for Elementary School Teachers.** [College Arithmetic] (3)
The intuitive and logical background of arithmetic; drill in fundamental operations; materials for enrichment of the elementary curriculum.
200. [101] **Fundamental Concepts of Mathematics.** (3)
Survey of elementary logic, algebra, trigonometry, analytic geometry, and calculus stressing fundamental concepts and applications.
212. [61] **Structure of Arithmetic.** (3)
Properties of natural numbers; axiomatic approach to the systems of the integers and the rational numbers; review of arithmetic processes with an introduction to the use of bases other than ten; directed numbers and elementary algebraic processes.
213. [62] **Elementary Algebra from a Modern Viewpoint.** (3)
Primarily for teachers of junior high school mathematics; algebraic systems; axiomatic approach to the real number system, and functions.
214. [63] **Elementary Geometry from a Modern Viewpoint.** [Geometry for Junior High School Teachers] (3)
Primarily for teachers of junior high school mathematics; ideas of intuitive geometry; concepts in informal geometry with attention to precise terminology.
- †301. [102] **Introduction to Analysis I.** (3)
Review of algebra; limit process; derivatives; applications of differentiation; elements of analytic geometry.
- †302. [103] **Introduction to Analysis II.** (3)
Review of functions, limits, and derivatives; curve tracing, conic sections, transformations, definite integrals with applications, transcendental functions. Prerequisite: 301.
- †303. [104] **Introduction to Analysis III.** (3)
Selected topics in vector analysis, partial differentiation, multiple integrals, infinite series, and expansion of functions. Prerequisite: 302.
- **304-305. [123-124] **Foundations of Secondary Mathematics.** (2-3, 2)
Number systems to various bases; introduction to logic; analysis of the axiomatic method; Hilbert's axioms for plane geometry; introduction to non-Euclidean geometry, axiomatic treatment of the rational number system; elementary theory of sets.
- *306. [126] **Modern Euclidean Geometry.** [Introduction to Higher Geometry] (3)
Foundations of Euclidean geometry in the plane and in space; geometry of the triangle and the circle; introduction to non-Euclidean geometry.

III. Engineering Mathematics.

The following courses are intended primarily for students of engineering and physical sciences. Such students may also be interested in the course offerings listed under IV.

- **311. [147] **Engineering Mathematics.** (3)
Vector algebra and calculus, ordinary differential equations.
- **312. [148] **Advanced Engineering Mathematics I.** (3)
Infinite sequences and series of functions; uniform convergence; Taylor and Fourier expansions with applications to ordinary and partial differential equations; special functions. Prerequisite: 311.
- **313. [149] **Advanced Engineering Mathematics II.** (3)
Theory of analytic functions with applications to physical and engineering problems. Prerequisite: 311.

† Graduate credit for the degree of Master of Education in Science only. Does not carry any credit for students who have had 162, 263, 264, or the equivalent, within the last 10 years.

** Available for graduate credit except for graduate majors in Mathematics.

***314. [146] Operational Methods. (3)**

Theory of integral transforms with applications to differential and integral equations arising in engineering and mathematical physics. Prerequisite: 311 or 361.

IV. Upper-Level Undergraduate Courses

All mathematics majors must take 318 either concurrently with or immediately following 264 prior to taking any further mathematics courses. Other students may be exempted from taking 318 but must be expected to possess a knowledge of the contents of that course adequate for the needs of subsequent courses. In all cases, 264 must be completed with a minimum grade of C before admission to any course beyond 318 will be allowed. Courses numbered above 400 may be credited toward graduate degrees. A maximum of 2 of the courses 341, 342, 343, 344 may be used for graduate work in Mathematics.

318. [109] Introduction to Foundations of Mathematics. (3)

Elements of logic and intuitive set theory; development of the real number system and its arithmetic.

***319. [170] Theory of Numbers. (3)**

Divisibility, congruences, continued fractions, diophantine equations.

****320. [115] Higher Algebra with Applications.¹ [Foundations of Modern Algebra] (3)**

Matrix theory over the real and complex fields, with applications to linear equations, theory of equations with emphasis on effective solutions of algebraic equations. Intended primarily for students of science and engineering and for secondary teachers.

****321-322. [111-112] Introduction to Higher Algebra.¹ [Introduction to Modern Algebra] (3, 3)**

Vector spaces, linear transformations, systems of linear equations, matrices, similarity; Euclidean and unitary spaces, groups, rings, and fields. Intended primarily for mathematics majors.

***331. [125] Introduction to Projective Geometry. [Introduction to Higher Geometry] (3)**

Synthetic and analytic development of projective geometry.

332. [150] Introduction to Differential Geometry. [Differential Geometry] (3)

Differential geometry of curves and surfaces in Euclidean 3-space.

*****341-342. [131-132] Probability Theory. (3, 3)**

Sample spaces, probability measures, random variables, densities and distribution functions, expectation, Chebyshev's inequality, generating functions, central limit theorems, laws of large numbers, introduction to the theory of stochastic processes.

*****343-344. [133-134] Mathematical Statistics. (3, 3)**

Elementary decision theory, testing of hypotheses, point and interval estimation, regression and analysis of variance, non-parametric techniques. Prerequisite: 341.

****361-362. [141-142] Advanced Calculus. (3, 3)**

A rigorous development of the differential and integral calculus of functions of one and several real variables.

***471. [140] Differential Equations and Numerical Analysis. [Numerical Mathematical Analysis] (3)**

Existence and uniqueness theory of ordinary differential equations, numerical determination of approximate solutions; estimation of speed of convergence. Prerequisite: 361 or consent of the instructor.

***472. Fourier Series and Integrals. (3)**

Convergence and summability theory of trigonometric series; Bessel's and Parseval's relations; Fourier integrals and their inversion; expansions in series of orthogonal functions; selected applications. Prerequisite: 361 or consent of instructor.

** Available for graduate credit except for graduate majors in Mathematics.

1. With permission of the Department Chairman, students who have completed 320 may be allowed to take 321 for credit.

*** A maximum of 2 of these courses may be used for graduate work in Mathematics. These courses are available for graduate work in fields other than Mathematics.

- *473-474. [191-192] **Integral Equations and Boundary Value Problems.** [Principles of Applied Mathematics] (3, 3)
Theory of integral equations, eigenfunction expansions, boundary-value problems, conversion into integral equations, variational methods, approximation methods. Prerequisite: 320 or 321; corequisite: 312 or 362.
- *481 [152]-482. **Introduction to Topology and Modern Analysis.** (3, 3)
Metric and topological spaces, continuous functions, normed linear spaces, algebras of operators. Prerequisites: 361-362. Knowledge of the content of 321-322 is desirable.
- 499. [198] **Individual Study.** (1-3)
Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses. Admission by approval of the Department Chairman. **May be repeated for a maximum total of 6 credits.**

V. Graduate Courses

Satisfactory completion of 321-322 and 361-362, or evidence of equivalent undergraduate preparation, is required for admission to any of the following courses:

- *521-522. [211-212] **Modern Algebra.** (3, 3) Dubois, Janowitz, Steger, Wyler
Topics in groups, rings, and fields.
- *529. [271] **Selected Topics in Algebra.**¹ (3) Dubois, Janowitz, Steger, Wyler
- *531-532. **Differential Geometry.** (3, 3) Epstein, Renggli, Wyler
Riemannian geometry, differentiable manifolds, Lie groups.
- *541-542. [231-232] **Probability Theory and Stochastic Processes.** (3, 3) Abbott, Blum, Rosenblatt
Probability spaces, random variables, characteristic functions, limit theorems, conditional expectation. Stochastic processes, ergodic theory. Prerequisite: 563; knowledge of the content of 341-342 is desirable.
- *543-544. [233-234] **Mathematical Statistics.** (3, 3) Abbott, Blum, Rosenblatt
Decision theory, hypotheses testing, point and interval estimation, selected topics. Prerequisite: 343-344 or permission of instructor.
- *549. [235] **Selected Topics in Probability and Statistics.**¹ (3) Abbott, Blum, Rosenblatt
- *551-552. [251-252] **Problems.**¹ (1-3 hrs. each semester) Graduate Staff
- *561-562. [182-183] **Theory of Functions of a Complex Variable.** (3, 3) Graduate Staff
Analyticity, Cauchy theorem and formulas, Taylor and Laurent series, singularities and residues, conformal mapping, selected topics.
- *563-564. [281-282] **Functions of a Real Variable, Measure, and Integration.** (3, 3) Graduate Staff
Functions of one and several real variables, measure theory, integration, function spaces.
- *568. [283] **Selected Topics in Analytic Function Theory.**¹ [Advanced Topics in Complex Variable Theory] (3) Epstein, Renggli
- *569. [241] **Selected Topics in Analysis.**¹ (3) Graduate Staff
- *571-572. [243-244] **Ordinary Differential Equations.** (3, 3) Epstein, Morse
Existence and uniqueness theorems, linear systems, stability theory, asymptotic integration, topology of integral curves. Prerequisites: 561-562. 473-474 are recommended.
- *573-574. [245-246] **Partial Differential Equations.** (3, 3) Epstein, Morse
Equations of first order, classification of equations and systems, elliptic equations and introduction to potential theory, hyperbolic equations and systems, parabolic equations. Prerequisites: 473-474.
- *575 [284]-576. **Calculus of Variations.** (3, 3) Epstein, Lewis, Mayer-Kalkschmidt
Classical theory, Euler-Lagrange equations, necessary and sufficient conditions for a minimum, Hamilton-Jacobi theory, applications to dynamics, direct methods, Dirichlet principle, Rayleigh-Ritz method, Pontrjagin maximum principle. Prerequisites: 473-474 or permission of the instructor.

¹. May be repeated for credit with permission of the Department Chairman.

- *581-582. [261-262] **Topology.** (3, 3) Eberly, Mayer-Kalkschmidt, Steiner, Wyler
Axiomatic point set topology, introduction to algebraic topology, mapping theorems and applications to analysis. Prerequisite: permission of the instructor.
- *583-584. [285-286] **Functional Analysis.** (3, 3) Graduate Staff
Linear transformations on Banach and Hilbert spaces, integral equations, spectral theory, semi-groups of operators, Banach algebras, topics in non-linear analysis. Prerequisites: 563-564. 473-474 are recommended.
- *589. [221] **Selected Topics in Geometry and Topology.**¹ (3) Eberly, Mayer-Kalkschmidt, Steiner, Wyler
- *597. [203] **Literature Seminar.**¹ (1-3) Graduate Staff
- *598. [201] **Advanced Seminar.**¹ (1-3) Graduate Staff
- *599. [300] **Master's Thesis.** (6)
- *650. [350] **Reading and Research.**¹ (1-6) Graduate Staff
- *699. [400] **Dissertation.**

MECHANICAL ENGINEERING

See Engineering, Mechanical.

MEDICINE

Curriculum information and course listings may be obtained from Dean, School of Medicine.

MODERN AND CLASSICAL LANGUAGES

Professors R. R. MacCurdy (Chairman), W. F. J. DeJongh, R. M. Duncan, M. Jorrín, A. R. Lopes, D. A. McKenzie†; Associate Professors N. J. Davison, M. R. Nason, S. R. Ulibarrí; Assistant Professors E. T. Book, R. Cobos, P. H. Fernández, R. Holzapfel‡, T. Holzapfel‡; Instructors C. M. Book, L. M. Calvert, I. J. Parker, F. R. Pérez, R. Welsh; Part-time Instructors A. Carmona-Morgan, L. Hoshour, A. H. Luft, E. Robert, M. Tatschl.

GROUP REQUIREMENTS

Portuguese 396, Spanish 345, 346, and courses in the Folklore Division are not accepted toward fulfillment of Foreign Language group requirements (Group II in the College of Arts and Sciences).

LANGUAGE LABORATORY

The Department operates a Language Laboratory where students in beginning languages and conversation and composition classes go for weekly exercises in pronunciation. Any student having special difficulties may be assigned work in the Laboratory. No extra credit is allowed for this work which is done chiefly in connection with regular courses.

NOTE TO FRESHMEN

Students presenting high school language credits and wishing to enter courses above the elementary level should consult the Chairman of the Department. Spanish-speaking students should enroll in Spanish 255.

¹. May be repeated for credit with permission of the Department Chairman.

† On sabbatical leave for the year.

‡ Effective July 1, 1964.

BASIC LANGUAGE

No major or minor study offered.

497. [197] Undergraduate Problems in Language. (1-4)

Qualified students may register for the course more than once, to a maximum of 4 sem. hrs. in any one language.

CLASSICS**MAJOR STUDY**

15 hours of Latin in courses numbered above 250, including 251, 252, or 303, 304; 9 hours of Greek numbered above 250; History 313, 314; and Philosophy 301.

MINOR STUDY

Not offered.

COMPARATIVE LITERATURE

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. See p. 248.

FOLKLORE

No major or minor study offered.

297. [97] Southwestern Hispanic Folklore. (2) Cobos

***361. [161] Hispanic Folktales. (2)**

***362. [162] Hispanic Folk Ballads and Songs. (2)**

FRENCH**MAJOR STUDY**

30 hours in French in courses numbered above 250 including 301, 302, 351, 352, 353; and 2 years of college work in another foreign language (or reading knowledge).

MINOR STUDY

18 hours in French courses numbered above 250 including 301 or 302.

101-102. [1-2] Elementary French. (3, 3) Yr. T. Book and Staff
Credit for 101 suspended until 102 (or more advanced course) is completed.

251-252. [51-52] Intermediate French. (3, 3) T. Book and Staff
Grammar, reading, and translation. Prerequisites: 101, 102 or equivalent.

254. [54] French Conversation and Composition. (3)
Designed to give students of 251, 252 extra practice in speaking and writing French. May be taken concurrently with 251 and 252.

General prerequisites for the following courses: French 251, 252, or the equivalent.

***301-302. [101-102] Advanced Composition and Conversation. (3, 3) C. Book, T. Book, DeJongh**
Composition based on a thorough review of French grammar, and conversation based on modern French plays.

***307-308. [107-108] French Prose of the 19th and 20th Centuries. (3, 3) Book**

***310. [110] Modern French Drama. (3) T. Book**
Begins with Romanticism and includes contemporary period.

- *351-352.** [151-152] **Survey of French Literature.** (3, 3) Book, DeJongh
351: Origins to 1800. 352: 1800 to present.
- *353.** [153] **French Phonology.** (3)
Phonetic and phonemic system of French. Required for the undergraduate major.
- *360.** [160] **Survey of French Poetry.** (3)
From the Middle Ages to date. Prerequisite: 15 sem. hrs. of college French numbered above 250.
- *366.** [166] **French Classical Theatre.** (3) T. Book, DeJongh
Corneille, Molière, Racine. Prerequisite: 15 sem. hrs. of college French numbered above 250.
- *370.** [170] **French Literature of the 16th Century.** (3) DeJongh
Prerequisite: 15 sem. hrs. of college French numbered above 250.
- *375.** [175] **French Prose and Non-dramatic Poetry of the 17th Century.** (3)
Prerequisite: 15 sem. hrs. of college French numbered above 250.
- 498.** [198] **Reading and Research for Honors.** (3)
Open to juniors and seniors approved by the Honors Committee.
- 499.** [199] **Honors Essay.** (3)
Open only to seniors enrolled for departmental honors.
- *501.** [201] **History of the French Language.** (3) DeJongh
Evolution of Latin to French with selected medieval readings. Required for the M.A. degree.
- *505.** [205] **Introduction to Research Methods.** (1) C. Book, T. Book
Resources available for research and how to use them. Required for the M.A. degree.
- *520.** [220] **French Thought.** (3)
- *551-552.** [251-252] **Problems in French Literature.** (1-3 hrs. each semester) T. Book, DeJongh
- *560.** [260] **Seminar in French Literature.** (3)
Topic will be chosen according to the specialization of the professor and of the students.
- *599.** [300] **Master's Thesis.** (6) Graduate Staff

GERMAN

MAJOR STUDY

Not offered.

MINOR STUDY

15 hours in German in courses numbered above 250, including German 253 and 254, but a student cannot count both 252 and 262 toward the minor.

- 101-102.** [1-2] **Elementary German.** (3, 3) Yr. McKenzie, Welsh
Credit for 101 suspended until 102 (or more advanced course) is completed.
- 251-252.** [51-52] **Intermediate German.** (3, 3) McKenzie, Welsh
Prerequisites: 101, 102 or the equivalent.
- 253-254.** [53-54] **German Conversation and Composition.** (2, 2) McKenzie, Welsh
Designed to give students of 251 or 252 extra practice in the writing and speaking of German. May be taken concurrently with 251 or 252.
- 262.** [62] **Scientific German.** (3) Luft, McKenzie
Readings in psychology, chemistry, mathematics, biology, and anthropology. Prerequisite: 251 or equivalent

General prerequisites for the following courses: German 251, 252, or the equivalent.

- *305-306.** [105-106] **Modern German Literature.** (3, 3) McKenzie
- *351-352.** [151-152] **Survey of German Literature.** (3, 3) McKenzie
- *551-552.** [251-252] **Problems.** (1-3 hrs. each semester) McKenzie

GREEK**MAJOR STUDY**

Not offered.

MINOR STUDY

A minor may possibly be worked out if sufficient demand arises.

Students who contemplate attending a school of theology requiring an undergraduate degree should plan to take Greek 101 and 102 in the junior year and Greek 301 and 302 in the senior year.

101-102. [1-2] Elementary Greek (3, 3) Yr.

Preparation for work in Classical Greek or in New Testament Greek. **Credit suspended for 101 until 102 (or more advanced course) is completed.** (Alternates annually with Greek 301-302.)

301-302. [101-102] The Greek New Testament. (3, 3)

Close scrutiny of meanings of words. (Alternates annually with Greek 101-102.)

339. [139] Greek Drama in Translation. (3)**551-552. [251-252] Problems. (1-3 hrs. each semester)****ITALIAN**

No major or minor study offered.

275-276. [75-76] Beginning Italian (Accelerated). (3, 3) Lopes

Prerequisite: 6 hours (or equivalent) of another Romance language or Latin.

LATIN**MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in courses numbered above 250.

101-102. [1-2] Elementary Latin. (3, 3) Yr. DeJongh

Credit suspended for 101 until 102 (or more advanced course) is completed.

251-252. [51-52] Intermediate Latin. (3, 3) DeJongh

Prerequisites: 101, 102 or the equivalent.

303-304. [91-92] Readings in Latin Literature. (3, 3) Yr. DeJongh

Designed for students with 3 or 4 years of high school Latin or other students who are capable of work more advanced than Latin 251-252. The readings assigned may vary to fit the needs and interests of the students. Regular consultations with the instructor are scheduled. May be repeated with different authors by approval of the instructor and the Chairman of the Department.

340. [140] Latin Literature in Translation. (3)**351-352. [101-102] Latin for Language Students. (3, 3) McKenzie**

A comparative study of Latin and its relationship to modern languages for upper-division and graduate students; the reading of selected classical and medieval texts.

551-552. [251-252] Problems. (1-3 hrs. each semester) DeJongh*PORTUGUESE****MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in Portuguese in courses numbered above 250.

275-276. [75-76] Beginning Portuguese. (Accelerated). (3, 3) Lopes
Prerequisite: 6 hours (or equivalent) of another Romance language or Latin.

277-278. [75L-76L] Portuguese Drill. (2, 2) Carmona-Morgan
Corequisite: 275-276.

General prerequisites for the following courses: Portuguese 275, 276, or the equivalent.

***301-302. [101-102] Advanced Composition and Conversation. (3, 3)** Lopes

***303-304. [101L-102L] Portuguese Drill. (2, 2)** Lopes, Carmona-Morgan
Corequisite: 301-302.

***351. [151] Survey of Portuguese Literature. (3)** Lopes

***357. [157] Survey of Brazilian Literature. (3)** Lopes

***358. [158] Contemporary Brazilian Literature. (3)** Lopes

***365. [165] Camões and Gil Vicente. (3)** Lopes

***396. [167] History and Civilization of Portugal. (3)** Lopes
(Same as History 396.)

***551-552. [251-252] Problems. (1-3 hrs. each semester)** Lopes
For M.A. candidates.

***560. [260] Seminar in Portuguese Literature. (3)**
Topic will be chosen according to the specialization of the professor and of the students.

***570. [270] Seminar in Brazilian Literature. (3)**
Topic will be chosen according to the specialization of the professor and of the students.

***599. [300] Master's Thesis. (6)** Graduate Staff

***651-652. [351-352] Problems. (1-3 hrs. each semester)** Lopes
For Ph.D. candidates.

RUSSIAN

No major or minor study offered.

101-102. [1-2] Elementary Russian. (3, 3) Yr. McKenzie
Credit suspended for 101 until 102 (or more advanced course) is completed.

251-252. [51-52] Intermediate Russian. (3, 3) McKenzie, Luft

291. [91] Readings in Russian Literature. (3) McKenzie
Prerequisite: 252 or equivalent.

292. [92] Readings in Non-Literary Russian. (3) McKenzie
Periodical, historical, political, cultural, and technical materials. Prerequisite: 252 or equivalent.

***338. [138] Russian Literature in Translation. (3)**

SPANISH

MAJOR STUDY

30 hours in Spanish courses numbered above 250, including 301-302, 351, 352, and 353; and 2 years of college work in another foreign language (or reading knowledge.) (It is recommended that students who do not speak Spanish natively take 254 concurrently with 251 or 252.)

MINOR STUDY

18 hours in Spanish in courses numbered above 250.

ELEMENTARY COURSES

There are two types of elementary Spanish courses: (1) the oral emphasis courses (Spanish 101, 102)—4 hours per week for 3 hours credit each, with stress on the acquisition of comprehension and oral skills; (2) the reading emphasis courses (Spanish 103, 104)—4 hours per week for 3 hours credit each, with stress on the grammatical structure of the language and acquisition of reading skill. New Mexican students who speak Spanish natively are not permitted to take the beginning oral courses (Spanish 101, 102). **Students who have had 2 or more years of high school Spanish cannot receive credit for 101 or 103 but may take 102 or 104.**

INTERMEDIATE COURSES

Students who have completed 2 or more years of high school Spanish with a grade average of B or better are urged to take Spanish 151, 152. Students who speak the language natively and with a high degree of fluency should take Spanish 155, 156. **Students who take Spanish 155, 156 cannot receive credit for Spanish 151, 152, or 154.**

- 101-102. [1-2] **Elementary Spanish—Oral Emphasis.** (3, 3) Yr.
Credit for 101 suspended until 102 (or more advanced course) is completed.
- 103-104. **Elementary Spanish—Reading Emphasis.** (3, 3) Yr.
Credit for 103 suspended until 104 (or more advanced course) is completed.
- 251-252. [51-52] **Intermediate Spanish.** (3, 3) Duncan, MacCurdy, Staff
251 and 252 offered every semester.
254. [54] **Elementary Spanish Conversation.** (3) Fernandez, Staff
Designed primarily to give qualified students of 251-252 extra practice in the oral use of the language; therefore it is recommended that it be taken concurrently with 251 or 252. Enrollment limited to 15 students.
- 255-256. [55-56] **Primer Curso Para Estudiantes de Habla Española.** (3, 3) Cobos, Fernandez
New Mexican students who speak Spanish natively should enroll in this course. (Those in doubt about their proficiency should consult the Department Chairman.) The work consists of exercises in grammar, speech correction, and vocabulary building.
292. [92] **Introduction to Spanish Literature.** (3) Ulibarri, Staff
Assignments of advanced reading material and discussion of principal Spanish literary figures and movements. Prerequisites: 251, 252 or the equivalent.
295. [95] **Spanish Business Letter Writing.** (2) Cobos
Prerequisite: 2 years of college Spanish or equivalent.
- *301-302. [101-102] **Advanced Composition and Conversation.** (3, 3) Cobos, Fernandez, Nason, Ulibarri
Prerequisite: 254 or 256 or the equivalent.
- *303-304. [103-104] **Patterns of Modern Spanish.** (3, 3) Cobos
A review of Spanish in terms of structural linguistics with oral pattern drills and written composition.

Spanish 292 or the equivalent is prerequisite for all literature courses listed below.

- *305. [105] **Contemporary Spanish Literature.** (3)
- *307. [107] **The Spanish Novel.** (3)
A survey of the novel with chief emphasis on the 19th century.
- *321. [121] **Modern Spanish Drama.** (3)
- *345. [145] **Hispanic Civilization.** (2)
- *346. [146] **Ibero-American Civilization.** (2) Jorrín, Cobos

- *351-352. [151-152] **Survey of Spanish Literature.** (3, 3) MacCurdy
- *353. [153] **Spanish Phonology.** (3) Duncan, Nason
Phonetic and phonemic system of Spanish.
- *357-358. [157-158] **Survey of Spanish-American Literature.** (3, 3) Davison, Nason
Required of candidates for a graduate degree.
- *361. **Spanish-American Novel.** (3) Davison, Nason
- *363. [163] **Mexican Literature.** (3) Davison
- *364. [164] **The Literature of Argentina, Uruguay, and Chile.** (3) Nason
- *366. [166] **Spanish Drama from the Beginning through the 17th Century.** (3) MacCurdy
- *375. [175] **Cervantes: The Quijote.** (3) MacCurdy
A detailed analysis of the *Quijote* and treatment of its place in world literature.
- *376. [176] **Cervantes: Other Works.** (3) MacCurdy
Works other than the *Quijote* with emphasis on the *Novelas Ejemplares* and the theatre.
- 498. [198] **Reading and Research for Honors.** (3)
Open to juniors and seniors approved by the Honors Committee.
- 499. [199] **Honors Essay.** (3)
Open only to seniors enrolled for departmental honors.
- *501. [201] **History of the Spanish Language.** (3) Duncan
Introduction to linguistics and study of the phonological, morphological and semantic evolution from Latin to Spanish; intensive reading of selected Old Spanish texts. Required of all candidates for a graduate degree.
- *504. [204] **Interdepartmental Seminar.** (3) Graduate Staff
(Same as Ibero-American Studies 504.)
- *505. [205] **Introduction to Research Methods.** (1) Duncan, MacCurdy
Required of all candidates for a graduate degree.
Required of Spanish majors.
- *506. [206] **Spanish Bibliography.** (1) Duncan, MacCurdy
Required of candidates for the Ph.D. degree.
- *507. [207] **Seminar in the Spanish Novel.** (3)
- *540. [240] **Seminar in Spanish Language.** (3)
Topic selected according to the specialization of the professor and of the students.
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Graduate Staff
For M.A. candidates.
- *553. [253] **Linguistic Theory for Language Instruction.** (1)
Pre- or corequisite: Spanish 353.
- *554. [254] **Application of Linguistics to Language Instruction in the Secondary School.** (2)
Pre- or corequisite: Spanish 553.
- *555. [255] **Techniques of the Language Laboratory.** (3) Nason
Pre- or corequisite: Spanish 353.
- *556. [256] **Proseminar in Problems of Secondary Language Instruction.** (3)
Pre- or corequisites: Spanish 353 and either Spanish 553-554 or 555.
- *557. [257] **Application of Linguistics to Language Instruction in the Elementary School.** (3) Ulibarri
- *558. [258] **Preparation of Language Materials for the Elementary School.** (4) Ulibarri
- *559. [259] **Proseminar in Problems of Language Instruction in the Elementary School.** (4) Ulibarri
- *560. [260] **Seminar in Spanish Literature.** (3)
Topic selected according to the specialization of the professor and of the students.
- *562. [262] **Seminar in Spanish-American Poetry.** (3) Davison
- *563. **Seminar in Spanish-American Prose.** (3) Davison, Nason
- *566. [266] **Seminar: Golden Age Drama.** (2) MacCurdy

- *567. [261] **Seminar in Spanish-American Literature.** (3)
Topic selected according to the specialization of the professor and of the students.
- *571-572. [271-272] **Spanish Poetry.** (2, 2)
- *578. [278] **Seminar: The Spanish Picaresque Novel.** (2) MacCurdy
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *651-652. [351-352] **Problems.** (1-3 hrs. each semester) Graduate Staff
For Ph.D. candidates.
- *699. [400] **Dissertation.** Graduate Staff

MUSIC

Professors J. Blankenship (Chairman), K. Frederick, W. B. Keller, H. M. Miller; Associate Professors J. M. Batcheller, W. E. Rhoads, G. Robert, M. G. Schoenfeld, J. Snow, J. Stephenson; Assistant Professors D. R. McEwen, D. C. McRae, J. I. Thornton, J. L. Whitlow; Instructors W. Seymour, E. Waters; Part-time Instructors G. B. DeFoe, W. T. Selby.

Applied Music faculty:

Piano	W. Keller, G. Robert, M. Schoenfeld, W. Seymour
Organ	W. T. Selby
Violin and Viola	K. Frederick
Cello and String Bass	J. Stephenson
Wind Instruments and Percussion	J. Blankenship, W. Rhoads, W. Seymour, J. Thornton, J. Whitlow
Voice	G. DeFoe, D. McEwen, D. McRae, J. Snow

MAJOR STUDY

For curricula leading to the B.F.A. in Music, see p. 189.

For purposes of Combined Curriculum in Fine Arts (see p. 184): 45 hours including 105, 106, 139, 140, 265, 266, 16 hours of applied music, and 4 hours of ensemble music.

See below and following page for additional requirements.

MINOR STUDY IN MUSIC

College of Arts and Sciences: 20 hours including Music 105, 106, 139, 140, and 4 hours of applied music. Combined Curriculum in Fine Arts: 25 hours including 139, 140, 105, 106, 4 hours of applied music, and 2 hours of ensemble music.

MINOR STUDY IN DANCE

20 hours, including 9 hours chosen from Music 105, 106, 139 and 140, 3 hours in drama elective, and 8 hours in Music 259 and 359. Students working toward a minor in dance are required to present a dance demonstration and to perform with the Dance Workshop.

ENSEMBLE

One credit hour represents from 2 to 4 hours a week of rehearsal.

Course numbers for ensemble are: (vocal) 143, 243; (instrumental) 231, 233, 237, 241, 395.

Every music major undergraduate enrolled as a full-time student (for more than 7 hours) must be enrolled in band, chorus, or orchestra during every semester of residence,‡ meeting the specific requirements listed below as a minimum:

THEORY AND COMPOSITION CONCENTRATION

6 hours of ensemble, 2 of which must be in chorus

APPLIED MUSIC (PIANO OR ORGAN) CONCENTRATION

8 hours including 2 semesters of Music 237, 1 semester of 395, and 2 semesters of chorus

APPLIED MUSIC (INSTRUMENTAL OTHER THAN PIANO OR ORGAN) CONCENTRATION

8 hours: winds and percussion take band, and strings take orchestra

APPLIED MUSIC (VOCAL) CONCENTRATION

6 hours in chorus

MUSIC LITERATURE CONCENTRATION

6 hours, 2 of which must be in chorus

MUSIC EDUCATION CONCENTRATION (MUSIC AND ELEMENTARY CLASSROOM)

6 hours in chorus, band, or orchestra depending on concentration (area of senior recital)

Piano and organ concentrators (area of senior recital): 6 hours including 2 semesters of Music 237, 1 semester of 395, and 3 semesters of chorus

MUSIC EDUCATION CONCENTRATION (MUSIC ONLY)

8 hours in chorus, band, or orchestra depending on concentration (area of senior recital)

Piano and organ concentrators (area of senior recital): 8 hours including 2 semesters of Music 237, 1 semester of Music 395, and 3 semesters of chorus.

HISTORICAL MUSIC LITERATURE

Students may be required to attend listening periods of 1 to 3 hours each week at the option of the instructor.

The following courses come under the heading of "Historical Music Literature": 271, 272, 273, 274, 411, 412, 475, 477, 478, 479.

APPLIED MUSIC (PRIVATE INSTRUCTION)

Applied music is offered in the following areas: piano, voice, string instruments, wind instruments, percussion, and organ.

Students registering for Applied Music must file a teacher preference card in the Department of Music office.

Students studying Applied Music must perform before a faculty jury for grading and course number assignment at the conclusion of each semester of study.

Applied Music courses may be repeated upon recommendation by the faculty.

A student whose field of concentration is applied music is required to give a public recital in the junior year and another in the senior year. Students should consult the appropriate advisers before enrolling for applied music.

In applied music, the Department offers degree courses, and also secondary courses for students desiring a cultural background in music. The student may continue these courses through 4 years.

Students who have had previous training elsewhere will take a placement examination.

The degree courses are 101-102, 201-202, 301-302, 401-402, 501-502 (graduate course); 591-592 (graduate recital). Degree courses carry 4 hours credit each for 2 half-hour lessons per week. The secondary courses are 119-120, 219-220, 319-320, 419-420, 519-520, and 569-570 (graduate courses), and carry 1 hour credit each for 1 half-hour lesson a week.

‡ Voice performance majors, every semester of residence after freshman year.

REQUIREMENT FOR JUNIOR STANDING IN MUSIC

Before entering the junior year of study each student majoring in music or music education must appear before the music faculty for approval to pursue a stated degree program.

MUSIC EDUCATION REQUIREMENTS

All music education students must successfully complete before graduation:

1. A proficiency examination in piano, voice, and secondary orchestra instruments.
2. All or part of a senior recital in the major area of performance.
3. A senior comprehensive examination in music and music education.

RECITAL AND CONCERT ATTENDANCE REGULATION

All students registered for 5 or more hours in the department are required to attend a specified number of the departmental recitals and concerts each semester as a regular part of their musical education. The number of recitals and concerts required is determined by the department at the beginning of each semester. Fulfillment of this requirement is necessary for graduation.

Applied music fees of \$16 per credit hour, in addition to regular tuition, will be charged all full-time University students enrolling for applied music courses beyond their curriculum requirements. Part-time students should consult the Music Department for a schedule of applied music fees.

- 101-102. [1-2] **Applied Music.** Major Freshman Course. (2 or 4 hours each semester)
105. [5] **Music Theory.** (3) McRae, Robert, Schoenfeld, Thornton
Fundamentals of music: key signatures, scales, intervals, triads in four voices, and simple cadences. Appropriate ear-training and sight-singing.
106. [6] **Music Theory.** (3) McRae, Robert, Schoenfeld, Thornton
Diatonic part-writing with triads, inversions, and the dominant seventh chord. Non-harmonic tones, simple modulation. Appropriate ear-training and sight-singing.
- 109-110. [11-12] **Group Voice.** (1, 1)
Open to all beginners in voice exclusive of voice majors.
- 111-112. [11-12] **Group Piano.** (1, 1) Seymour
Open to all beginners in piano exclusive of piano majors.
- 119-120. [19-20] **Applied Music.** Freshmen Secondary or Elective Course. (1 or 2 hours each semester)
- 139-140. [39-40] **Music Appreciation.** (3, 3) McRae, Miller, Whitlow
Introduction to music literature. Listening periods are required. Not open to students majoring in music.
143. [43] **University Chorus.** (1) McEwen
Open to all University students. May be repeated for credit.
- †155. **Orchestral Instruments.** (1) Frederick, Rhoads, Stephenson, Thornton, Whitlow
Group instruction in the playing of woodwind, brass, percussion, and string instruments.
- 201-202. [51-52] **Applied Music.** Major Sophomore Course. (2 or 4 hours each semester)
- 219-220. [69-70] **Applied Music.** Sophomore Secondary or Elective Course. (1 or 2 hours each semester)
- ††230. [129a] **Opera Workshop.** (2) Frederick, Snow
Designed to give singers the fundamentals in practical operatic experience.

† May be repeated to the limit of 4 hours' credit.

†† Maximum of 8 hours' credit allowed toward degrees in the College of Fine Arts or College of Education, 4 hours in other colleges.

- ††231. [131] **Chamber Music.** (1) Frederick, McEwen, Stephenson, Thornton, Whitlow
The practice, performance, and study of chamber music in various ensemble groups.
- ††233. [133] **Symphony Orchestra.** (1) Frederick
Study and public performance of symphonic literature.
- ††237. [137] **Piano Ensemble.** (1) Keller, Robert, Schoenfeld, Seymour
Study and performance of literature for two pianos selected from all periods including the contemporary. Open to qualified students with permission of instructor.
- ††241. [141] **University Band.** (1) Rhoads
Study and performance of marches and concert band literature. Appearance and performance in uniform at football games, Commencement, and other University functions.
243. [143] **A Cappella Choir.** (1) McEwen
Auditions required. Open to all University students with permission of instructor. **May be repeated for credit.**
259. [59] **Modern Dance.** (1-2) Waters
Explorations in movement leading into choreography. Open to all University students with permission of instructor. **May be repeated for credit.**
263. [63] **Conducting.** (1) Blankenship, Frederick, McEwen, Thornton
Basic technique and theory of conducting.
264. [64] **Choral Conducting and Organization.** (1)
Execution of choral techniques, score reading, choral interpretation, actual experience in choral conducting with major organization. Study of senior high school choral materials. Prerequisite: 263.
265. [65] **Music Theory.** (3) McRae, Miller, Robert
Simple alterations, secondary dominants, diminished-seventh chords, remote modulation, chorale harmonization and analysis. Appropriate ear-training and sight-singing.
266. [66] **Music Theory.** (3) McRae, Miller, Robert
Extended diatonic chords, chromatic alterations, remote modulation, modern trends. Survey of contrapuntal devices and techniques. Appropriate ear-training and sight-singing.
271. [71] **Classical Period.** (2) McRae, Miller
A survey of music from 1750 to 1820.
272. [72] **Romantic Period.** (2) McRae, Miller
Form, style, and principal composers in the period 1800-1900.
273. [73] **Opera.** (2) McRae
The history of opera and its principal composers.
274. [74] **Concerto.** (2) McRae
The form and its principal composers from Bach to the present.
295. [95] **Music in Recreation.** (2) Batcheller, Stephenson
The social foundations and practices of music in recreation. Stress will be placed on equipping the recreational leader with effective means to deal musically with young children, older children, and adults. Emphasis will be placed on all phases of the public performance from planning to production.
296. [96] **Music in Recreation.** (2) Blankenship, McRae, Stephenson
Designed to prepare the major in recreational leadership for practical supervision of recreational music programs covering appreciation of music, music in the hospital as entertainment and therapy, music in the industrial plant, and music in the community center.
- 301-302. [101-102] **Applied Music.** Major Junior Course. (2 or 4 hours each semester)
- 309-310. [109-110] **Form and Composition.** (2, 2) Keller, Miller
Analysis of the structural elements of music from Gregorian Chant to the present, and the application of standard formal procedures to the creative process of music composition. Prerequisite: 266.
313. [113] **Band Organization and Conducting.** (1) Rhoads
Band organization, materials; rehearsal techniques; marching band techniques; and laboratory experience in band conducting.

†† Maximum of 8 hours' credit allowed toward degrees in the College of Fine Arts or College of Education, 4 hours in other colleges.

314. [114] **Orchestral Conducting and Organization.** (1) Frederick
Orchestral organization, materials; string techniques; and laboratory experience in orchestral conducting.
- *319-320. [119-120] **Applied Music.** Junior Secondary or Elective Course. (1 or 2 hours each semester) Blankenship, Frederick, Keller, McEwen, McRae, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
Prerequisite: 4 hrs. credit in the instrument to be studied, or equivalent. Maximum allowable graduate credit 4 hrs. or equivalent.
359. [129d] **Dance Workshop.** (1-2) Waters
Rehearsal and production experiences. Open to all University students with permission of instructor. **May be repeated for credit.**
- 371-372. [171-172] **General History of Music.** (3, 3) Miller
From antiquity to the present. Non-technical study of the forms, styles, schools, principal composers and representative masterpieces of each era. Not open to students majoring in music.
- †387. [187] **Vocal Coaching.** (1) Robert
One half-hour of private instruction per week. Required of all senior voice majors and open to juniors with permission of instructor.
- 388-389. **Music Pedagogy.** (2, 2)
Designed especially for the music student who plans to teach privately, the course is concerned with preparation in teaching beginners in music at various age levels. Second semester will treat problems in teaching intermediate and moderately advanced students. Prerequisite: junior standing in music.
- 391-392. [191-192] **Undergraduate Problems.** (1-3 hours each semester)
- ††395. [195] **Accompanying.** (1) Robert
One half-hour of private instruction per week carries one hour credit. Students accompany other students in practice and at recitals as part of the requirement for receiving credit.
- 401-402. [151-152] **Applied Music.** Major Senior Course. (2 or 4 hours each semester)
- *405. [105] **Counterpoint.** (3) Frederick, McRae, Robert
Analysis and techniques of writing in the contrapuntal forms and styles of the 16th century.
- *406. [106] **Counterpoint.** (3) Frederick, McRae, Robert
Analysis and techniques of writing in the contrapuntal forms and styles of the period of Bach.
- *411. [111] **Contemporary Period.** (2) McRae, Miller
Stylistic tendencies of the 20th century and the study of representative works of the most important composers.
- *412. [112] **Baroque Period.** (2) Keller, Miller
A comprehensive study of the musical forms, styles, schools, principal composers, and general historical background of the period roughly from 1600 to 1750.
- *419-420. [169-170] **Applied Music.** Senior Secondary or Elective Course. (1 or 2 hours each semester) Blankenship, Frederick, Keller, McEwen, McRae, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
Prerequisite: 4 hrs. credit in the instrument to be studied, or equivalent. Maximum allowable graduate credit 4 hrs. or equivalent.
447. [147] **Vocal Repertory.** (2) Snow
A survey of important and representative literature for solo voice.
449. [149] **Piano Repertory.** (2) Schoenfeld
A survey of important and representative literature for piano.
453. [153] **Instrumentation.** (2) Rhoads, Thornton
Properties and limitations of band and orchestral instruments; detailed score study of instrumental techniques from the past to the present, scoring of works carrying through to completion of projects for actual performance. Prerequisite: 266.

† May be repeated to the limit of 4 hours' credit.

†† Maximum of 8 hours' credit allowed toward degrees in the College of Fine Arts or College of Education, 4 hours in other colleges.

- *457. [157] **Advanced Choral Conducting.** (2) Frederick, McEwen
Historical background and advanced techniques of choral organization and conducting. Prerequisites: 263, 310, and piano proficiency to be determined by the instructor.
- *458. [158] **Advanced Instrumental Conducting.** (2) Frederick, Rhoads
Historical background and advanced techniques for conducting band and orchestra and studying scores. Admission by permission of instructor.
- *463. [163] **Advanced Instrumentation.** (2) Rhoads
The scoring of larger works for the major ensembles carrying through to actual performance. Prerequisite: 453.
- *467. [167] **Choral Arranging.** (2) Frederick, McEwen, McRae
Techniques and practice in arranging for mixed chorus, men's and women's glee clubs, trios and quartets.
- *475. [175] **Symphonic Literature.** (2) McRae, Miller
A survey of the developments in orchestral music from Bach to the present.
- *477. [177] **Medieval and Renaissance Periods.** (2) Keller, Miller
The musical culture of Western Europe from the early middle ages to the end of the 16th century.
- *478. [178] **History of Chamber Music.** (2) Miller
A survey of chamber music literature from the Baroque to the present.
- *479. [179] **Choral Literature.** (2) McRae
The principal developments in choral music from Palestrina to the present.
- 490. [190] **Interdepartmental Proseminar.** (3) Honors Staff
(Same as Fine Arts 490.)
- *493. [193] **United States Composers.** (2) Keller, McRae
The creative trends in the art music of the United States from the 18th century to the present. Special emphasis upon the style and contributions of the most important composers.
- 499. [199] **Senior Thesis.** (3)
Open to seniors approved by the departmental honors committee.
- *501-502. [201-202] **Applied Music.** Major Graduate Course. (2 or 4 hours each semester)
Blankenship, Frederick, Keller, McEwen, Rhoads, Robert, Schoenfeld, Snow, Thornton, Whitlow
- *505. [205] **Advanced Composition.** (2) Keller
Individual guidance in composing for various instrumental and vocal ensembles; survey of techniques in appropriate fields; completion of one or more major works for public performance. May be repeated to the limit of 4 hrs. credit.
- *519-520. [219-220] **Applied Music.** Graduate Secondary or Elective Course. (1 or 2 hours each semester) Blankenship, Frederick, Keller, McEwen, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
- *531. [231] **Bibliography and Research.** (3) Miller, Stephenson
The study and application of basic methods in musical bibliography, acquaintance with major reference sources; projects in bibliography. Materials and basic techniques of musical research. Prerequisite: permission of instructor.
- *533. [233] **Seminar in Music.** (3) Blankenship, Miller, Stephenson
Explorations in various areas of musical research. Prerequisite: permission of instructor. May be repeated for credit.
- *551-552. [251-252] **Problems.** (1-3 hours each semester) Blankenship
- *569-570. [269-270] **Applied Music.** Graduate Secondary or Elective Course. (1 or 2 hours each semester) Blankenship, Frederick, Keller, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
- *591-592. [291-292] **Graduate Recital.** (2, 2) Blankenship, Frederick, Keller, McEwen, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
For the degree of Master of Music in Applied Music the student is required to perform a full-length graduate recital (a) which he has selected and prepared subject to the approval of a committee comparable to a graduate thesis committee and (b) for which he has written comprehensive program annotations (also subject to the approval of the same committee)

and which will be printed on the program of the graduate recital. Work in 591, 592, is to be in addition to that done in 501, 502 (performance majors) or in 519-520, 569-570 (music education concentrators). Students may distribute their major applied study over more than one year but in such cases will be subject to the current fee for applied music for each one-half hour lesson after the first year of study has been completed.

*599. [300] *Master's Thesis*. (6) Blankenship, Keller, Miller, Rhoads

MUSIC EDUCATION

CURRICULUM

See pp. 165 and 192.

293. [93] *Primary School Music*. (2) Batcheller, Stephenson
The musical needs of children of pre-school age, in kindergarten and grades 1, 2, and 3. Includes the rote song, singing games, rhythm band, and music reading techniques. Children of this age level will be observed in the public schools.
294. [94] *Intermediate School Music*. (2) Batcheller, Stephenson
The musical needs of children in grades 4, 5, and 6, including harmonic activity, creative experience, and instrumental techniques. Children of this age level will be observed in the public schools. Prerequisite: 293.
- *429. [129] *Workshop*. (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 155 of this catalog or consult the *Graduate School Bulletin*.
- *440. [140] *Investigations in Music Education*. (3) Batcheller, Stephenson
Philosophy of music education in a self-contained classroom. Advanced study of the child voice. Creative activity and public performance. Guided research in current materials and publications. Prerequisites: 293, 294.
- *445. [145] *Junior High Music*. (2) Batcheller, Stephenson
The musical needs of the junior high school student, the position of music in the curricula, and methods and materials for the various music activities. Observation of junior high school music classes will be required.
- *446. [146] *Senior High Music*. (2) Batcheller, Stephenson
The musical needs of senior high school students: methods and materials for specialized activities (e.g. band, chorus) and general activities (e.g. appreciation and assembly singing); administration and public relations. Observation of senior high school music classes will be required.
- *459. [159] *Advanced Elementary Music Education*. (3) Batcheller, Stephenson
The teaching of music in the elementary classroom: the development of techniques in the teaching of melodic and harmonic music reading; advanced investigations in the use of instrumental and vocal materials; guided research in the current audio-visual aids and the evaluation of music ensemble participation. Prerequisite: permission of instructor.
- *550. [250] *Philosophy of Music Education*. (3) Batcheller, Stephenson
Philosophical foundations and principles of music education and their application to practices in school. Prerequisites: 293, 294, 445 or 446.
- *551-552. [251-252] *Problems in Music Education*. (1-3 hrs. each semester) Blankenship
- *599. [300] *Master's Thesis*. (6) Batcheller, Blankenship, Stephenson

NAVAL SCIENCE

Captain R. V. R. Bassett, Jr. USN (Chairman), Professor; Commander E. D. Jones, USN (Executive Officer), Associate Professor; Lieutenant Commander W. A. Faucett, USN, Assistant Professor; Lieutenant J. T. Thornsley, USN, Assistant Professor; Lieutenant J. A. Stephens, USN, Assistant Professor; and Staff.†

CURRICULUM

See p. 224.

† New appointments to be made, effective July 1, 1964.

111. [11] **Naval Orientation.** (3)
An introduction to basic customs, traditions of the U. S. Navy; organization for national defense; junior officer responsibilities, components of modern Navy; U. S. Naval ships and aircraft; seamanship.
122. [12] **Evolution of Sea Power.** (3)
The roles of navies of the world in shaping world affairs socially, politically, and economically with emphasis on naval strategy and tactics.
211. [51] **Naval Weapons.** (3)
The principles of modern weapons systems, including materials and processes, fluid theory, energetics, mechanics, optics, electronics, physics of underwater sound, and atomic theory, stressing the application of these principles in weapons systems. (Confidential security clearance required.)
311. [101] **Navigation.** (3)
The theory and application of terrestrial and celestial navigation to enable prospective officers to become proficient naval navigators aboard ships and aircraft.
322. [102] **Naval Operations.** (3)
To provide the student with a basic understanding of relative motion, tactical communications and instructions, Rules of the Nautical Road, fleet communications, operational importance of weather and an introduction to electronic countermeasures.
333. [101M] **Evolution of the Art of War, Part I.** (3)
A survey of the evolution of warfare from the earliest recorded times to 1865.
334. [102M] **Evolution of the Art of War, Part II; Modern Basic Strategy and Tactics.** (3)
Continuation of the evolution of warfare from 1865 including a consideration of U. S. military and foreign policy and the theoretical principles behind modern strategy and tactics.
411. [151] **Naval Engineering.** (3)
Naval engineering plants, machinery and systems, including nuclear propulsion, to provide a basic understanding necessary for all naval officers.
422. [152] **Principles and Problems of Leadership.** (3)
A study of effective naval leadership based upon three precepts—personal example, good management practices, and moral responsibility.
444. [151M] **Amphibious Warfare, Part I.** (3)
A survey of the development of amphibious warfare doctrine from Gallipoli to the Korean War.
445. [152M] **Amphibious Warfare, Part II; Leadership and Military Justice.** (3)
Continuation of 151M. Provides basic indoctrination in the principles of the Uniform Code of Military Justice, military leadership and Marine Corps administration.

NURSING

Professors V. P. Crenshaw (Dean), C. M. Norris; Associate Professors F. E. Jensen, V. Miller; Assistant Professors J. R. Creagh, V. S. Jackson, H. Klar, A. Moloney, M. P. Simmons; Instructor M. J. Hanna.

CURRICULUM

See p. 210.

With the exception of Nursing 121-122, Nursing courses are open only to students majoring in Nursing.

- 121-122. [21] **Nursing and Society.** (1, 1) Crenshaw
Nursing's heritage from the past; attitudes toward health. Nursing as a professional service in present-day society. 121 is prerequisite to 122.
- 251L-252L. [51L-52L] **Family Nursing.** [Fundamentals of Nursing] (2-3, 2-3) Hanna
Study of basic concepts and beginning skills in nursing. Focus on families and their health. Examination of nursing role, family dynamics, human growth and development, interpersonal relationships, and definitions of illness. Learning skills in problem-solving—observation, collection and analysis of data, and inference systems. Prerequisites: Anthropology, Sociology 101, Biology 102L, Chemistry 102L. 2-3 lectures, 1 hr. lab.

- 303L. [103L] Medical-Surgical Nursing. (10)** Jackson, Miller
Principles and practice of nursing care of patients with medical and surgical conditions; physiological, emotional, cultural components; preventive and therapeutic nursing care including operative surgery; clinical practice in hospital and out-patient department. Prerequisites: 122, 252L. 5 lectures, 20 hrs. lab.
- 323L. [123L] Maternal-Child Nursing. (10)** Moloney, Simmons
Family-centered approach in the nursing care of mothers in all phases of the maternity cycle, and children through all periods of growth and development; emphasis on maintenance of health, prevention of illness, and therapeutic nursing care; clinical practice in hospital including labor and delivery rooms, nursery, pediatric unit, out-patient department, and other community agencies. Prerequisites: 122, 252L. 5 lectures, 20 hrs. lab.
- 451L. [151L] Psychiatric Nursing. (6)** Klar
Principles and practice of nursing care of patients with psychiatric disorders; interpersonal, physiological, emotional, cultural factors. Prevention and treatment of mental illness; learning experiences in hospital and community agencies. Prerequisites: senior standing, Psychology 303. 3 lectures, 12 hrs. lab.
- 452L. [152L] Public Health Nursing. (9)** Jensen
Principles and practice of nursing in community programs for promotion of health, prevention and control of disease and disability, rehabilitative and supportive functions; epidemiological, cultural, socio-economic, educational factors influencing community organization for health, nurse-family-group relationships in nursing care and health education; experience in homes, group service, health department, visiting nursing service, schools, and other community agencies. Prerequisite: senior standing. 4 lectures, 16 hrs. lab. (Limited enrollment, special assignment by Dean, College of Nursing.)
- 463L. [163L] Problems in Clinical Nursing. (9)** Creagh
Synthesis of knowledge from natural and behavioral sciences and study of interdisciplinary approaches in the care of patients with various conditions; preventive and rehabilitative aspects of care; analysis of nursing problems, and leadership of the nursing team. Prerequisites: 303L, 323L. 5 lectures, 16 hrs. lab.
- 475. [175] Administration of a Nursing Unit. (2)** Moloney
Open only to registered nurses.
- 482. [182] Seminar: Issues in Nursing. (2)** Crenshaw
Issues and trends in the evolution of nursing and contemporary developments. Prerequisite: senior standing.
- 497. [197] Special Studies in Nursing. (1-3)**
Prerequisite: senior standing and permission of the instructor. May be repeated to a maximum of 6 hrs.
- 498. [198] Independent Study. (3)**
Limited to students in Departmental Honors.
- 499. [199] Senior Thesis. (3)**
Limited to students in Departmental Honors.

PALEOECOLOGY

Committee in Charge: Professors F. C. Hibben (Anthropology), S. A. Northrop (Geology), L. D. Potter (Biology), J. L. Riebsomer (Chemistry), Associate Professor J. S. Findley (Biology), Assistant Professor R. Y. Anderson (Geology), Chairman.

Interdepartmental undergraduate and graduate minors in Paleoecology are offered to majors in the Departments of Anthropology, Biology, Chemistry, and Geology.

UNDERGRADUATE MINOR

The minor requires 30-36 hours in courses listed in the "Paleoecology Pool" including Paleoecology 301L. No more than 18 hours may be taken in any one

department and courses in the major field may not be used for the minor. The following courses have been approved (see appropriate departmental listings for course descriptions and prerequisites).

Anthropology 266F, *303L, *307L

Biology 101L, 102L, 271L, 272L, 288, *393L, *408, *410, *463L, *471L, *484L, *487L, *489L

Chemistry 101L, 102L or 122L, 253L, **301, **302, **303L, **304L, **311, **312

Geology 101, 102, 105L, 106L, 201L, **302L, **309L, **311L, *421L, *432L, *433L, *441L, *485

Mathematics 162, 263, 264, *341, *342

GRADUATE MINOR

Requirements are listed in the **Graduate School Bulletin**.

301L. [101L] **Concepts in Paleoecology.** (2) Anderson, Findley

The basic concepts and principles of environmental reconstruction. Limitations and applications of research tools. 1 lecture, 3 hrs. lab. (Offered in alternate years.)

451-452. [151-152] **Problems in Paleoecology.** (2, 2)

***551-552.** [251-252] **Problems in Paleoecology.** (2-3 hrs. each semester)

PHARMACEUTICAL CHEMISTRY

PHARMACOGNOSY

PHARMACOLOGY

See Pharmacy.

PHARMACY

Professor E. L. Cataline (Dean); Associate Professors G. L. Baker, W. C. Fiedler, K. H. Stahl; Assistant Professor V. H. Duke.

CURRICULUM

See p. 216.

231-232. [41-42] **Orientation I, II.** (1, 1) Cataline

A survey of the profession of pharmacy.

341L. [141L] **Introductory Pharmacy.** (5) Fiedler

The fundamental principles and processes of pharmacy, including metrology and pharmaceutical calculations. Prerequisites: Chemistry 302, 304L; Biology 393L; Physics 112, 114L. 2 lectures, 2 recitations, 3 hrs. lab.

420. [122] **Pharmaceutical Law.** (3)

The laws and regulations relating to the practice of pharmacy. Prerequisite: fourth-year standing.

421. [121] **Pharmacy Management.** (2)

Principles of management of retail pharmacies. Prerequisites: Business Adm. 105, Economics 200, fourth-year standing.

**Graduate credit only if taken outside major department.

- 434. [161] History of Pharmacy. (2) Fiedler**
The historical development of pharmacy with emphasis on its history in North America. Prerequisite: fifth-year standing.
- 443L-444L. [153L-154L] Operative Pharmacy I, II. (5, 5) Fiedler**
A survey of the preparations of pharmacy; the applications of physical principles to compounding and the manufacture of preparations; technology of pharmacy. Prerequisites: Pharmacy 341L; Chemistry 253L, 302, 304L; Physics 112, 114L; Pharmacognosy 372L; Pharmacology 381 (or concurrent registration). 3 lectures, 6 hrs. lab. each semester.
- 447L. [181L] Dispensing Pharmacy I. (5) Baker**
Dispensing pharmacy is broadly defined as the translation of the sciences underlying pharmacy into the art of pharmacy. More specifically it is the application of the scientific and practical knowledge upon which the practice of pharmacy is based to the extemporaneous compounding of drugs and medicines and making these available under proper control. Prerequisite: fifth-year standing. 3 lectures, 6 hrs. lab.
- 448L. [182L] Dispensing Pharmacy II. (5) Baker**
A continuation of 447L. The compounding and dispensing of prescriptions including incompatibilities. 3 lectures, 6 hrs. lab.
- 493. [193] Inspection Trip. (0)**
Required for graduation. Annual inspection tour to leading pharmaceutical manufacturing plants in various sections of the country. Approximately one week is spent on this tour. Prerequisite: fifth-year standing.
- 497-498. [197-198] Problems in Pharmacy. (1-3 hrs. each semester)**
Experimental and library problems in some phases of pharmacy. Prerequisites: permission of instructor and of the Dean.

PHARMACEUTICAL CHEMISTRY

- 463L. [163L] Medicinal Chemistry I. (5) Stahl**
A study, from the chemical viewpoint, of organic substances used in pharmacy and medicine. The laboratory includes work in the synthesis of organic medicinals as well as qualitative and quantitative analytical operations. Prerequisite: fifth-year standing. 3 lectures, 6 hrs. lab.
- 464L. [164L] Medicinal Chemistry II. (4) Stahl**
A continuation of 463L. 2 lectures, 6 hrs. lab.
- 497-498. [197-198] Problems in Pharmaceutical Chemistry. (1-3 hrs. each semester) Stahl**
Experimental and library problems in some phases of pharmaceutical chemistry. Prerequisite: permission of instructor and of the Dean.

PHARMACOGNOSY

- 372L. [72L] General Pharmacognosy. (4) Stahl**
Drugs of plant and animal origin. Prerequisites: Chemistry 302, 304L; Biology 102L. 3 lectures, 3 hrs. lab.
- 497-498. [197-198] Pharmacognosy Problems. (1-3 hours each semester) Stahl**
Experimental and library problems in some phases of pharmacognosy. Prerequisite: permission of instructor and of the Dean.

PHARMACOLOGY

- 276. [66] Principles of Pharmacology. (3) Duke**
The actions of drugs on living tissue and the basis upon which drugs are classified for their therapeutic usefulness. Includes the subdivisions of pharmacology: pharmacodynamics, posology, toxicology, and pharmacy. Prerequisites: Mathematics 010 or eligibility for Mathematics 101 on basis of placement test; Biology 136, 139L, 133L; Chemistry 142L. (Open only to students in the College of Nursing and in the Dental Hygiene Program.)
- 278L. [68L] Principles of Pharmacology Laboratory. (1) Duke**
Instruction and practice in pharmaceutical calculations. The actions of drugs in important pharmacological classes upon living animals will be demonstrated. Pre- or corequisite: Pharmacology 276. (Open only to students in the College of Nursing and in the Dental Hygiene Program.) 3 hrs. lab.

381. [191] Biologic Medicinals. (3) Duke

Medicinal substances, the manufacture of which depends upon the use of biological material. The pharmacological, chemical, pharmaceutical, and therapeutic properties are considered. Prerequisites: Biology 393L; Chemistry 302, 304L.

***475L. [195L] Pharmacology I. (4) Duke**

A study of the effects produced by drugs and the mechanisms whereby these effects are produced. Includes the subdivisions of pharmacology, materia medica, therapeutics, posology, toxicology, and biometrics. The actions of the more important drugs are demonstrated upon living animals. Prerequisites: Pharmacognosy 372L, Pharmacology 381; Chemistry 323, 324L, 430L; or permission of the instructor. 3 lectures, 3 hrs. lab.

***476L. [196L] Pharmacology II. (5) Duke**

A continuation of 475L. 4 lectures, 3 hrs. lab.

497-498. [197-198] Pharmacology Problems. (1-3 hours each semester) Duke

Experimental and library problems in some phases of pharmacology. Prerequisites: permission of instructor and of the Dean.

PHILOSOPHY

Professors H. G. Alexander (Chairman), A. J. Bahm; Associate Professor M. G. Evans; Assistant Professor J. A. Snedden; Part-time Visiting Lecturer H. J. Sherman; and Staff.

MAJOR STUDY

Philosophy 145 or 255, 201, 256 or 356, 301-302, 308, and 12 additional hours of courses numbered above 300.

MINOR STUDY

Philosophy 145, 255, 256, or 356; 201 or 308; 301-302, and 6 additional hours.

101-102. [1-2] Humanities. (3, 3) Alexander, Bahm

Perspectives of world cultures with particular reference to their religious, intellectual, ethical, and artistic developments.

145. [45] Thought and Expression. (3) Alexander

The processes of communicating, symbolizing, thinking abstractly, imagining, generalizing, defining, and inferring.

153. Problems in Religion and Ethics. (3) Snedden

Comparison and analysis of various religious and moral beliefs with emphasis on discussion of specific contemporary problems.

201. [51] Introduction to Philosophy. (3) Bahm, Evans, Snedden

Main philosophical problems and major types of solutions.

255. [55] Inductive Logic and Scientific Method. (3) Evans

The nature of empirical evidence, principles of induction, probability, and the problem of truth.

256. [56] Introduction to Formal Logic. (3) Alexander, Evans

Traditional forms of deductive argument with an introduction to the more elementary symbolism of propositional forms.

263-264. [63-64] Comparative Religions. (3, 3) Bahm

Introduction to the world's religions. 263: Meaning of religion, and Eastern religions; 264: Western religions with emphasis upon the Judeo-Christian tradition.

***301-302. [141-142] History of Western Philosophy. (3, 3) Alexander, Bahm (302), Evans, Snedden, Sherman (302)**

301: Ancient and medieval philosophy; 302: Renaissance and modern philosophy.

***307. [102] Aesthetics. (3) Alexander, Sherman**

An introduction to the philosophy of art and beauty.

- *308. [53] **Ethical Theory.** (3) Bahm
Philosophical study of the principles of morality.
- *323. [123] **Hispanic Thought.** (3) Alexander
Major philosophies and philosophers in Spain and Hispanic America.
- *332. [132] **American Philosophy.** (3) Bahm, Evans, Snedden
The development of philosophical ideas in America.
- *355. [115] **Philosophy of Science.** (3) Evans
Critical examination of the methods and concepts of science as exemplified in mathematics, physics, biology, psychology, and the social disciplines.
- *356. **Symbolic Logic.** (3) Evans
Structures of thought and their analysis with respect to validity, as solved through modern techniques of symbolic notation.
- *361. [161] **Political Theory from Plato to Locke.** (3) Jorrin
(Same as Government 361.)
- *362. [162] **Political Theory from the Enlightenment to Today.** (3) Jorrin
(Same as Government 362.)
- *365. **Philosophy of Religion.** (3) Bahm
Critical examination of theories of the nature of religious experience, including religious knowledge, values and realities. Prerequisite: 3 hours of philosophy or permission of instructor.
- *385. [185] **Oriental Philosophy.** (3) Bahm
Introduction to major philosophical concepts and movements in Oriental cultures.
- *391. [191] **Philosophy of Language.** (3) Alexander
Philosophies of meaning with special attention to the relations between language and thought. Prerequisite: 3 hours of philosophy or permission of instructor.
- *429. [129] **Aesthetics Institute Workshop.** (1) SS Alexander, Staff
A one-week session in Taos, New Mexico, at the Lawrence Ranch and Harwood Foundation, featuring lectures in general aesthetics, discussions, and gallery talks by Taos artists. Carries graduate credit when specifically approved by the Graduate Committee.
- *471. [171] **Plato.** (3) Alexander, Evans, Sherman
Selected readings in the philosophy of Plato. Prerequisite: 3 hours of philosophy or permission of instructor.
- *474. [174] **British Empiricism.** (3) Alexander, Evans
British philosophy with special emphasis on the works of Locke, Berkeley, and Hume. Prerequisite: 3 hours of philosophy or permission of instructor.
- *476. [176] **Contemporary Philosophy.** (3) Alexander, Bahm, Evans, Sherman
Prerequisite: 3 hours of philosophy or permission of instructor.
- *480. [180] **Philosophy and Literature.** (3) Alexander, Tedlock
(Same as English-Philosophy 480.)
- *485. [195] **Philosophical Foundations of Economic Theory.** (3) Evans, Hamilton
(Same as Economics-Philosophy 485.)
- 498. [198] **Reading and Research in Honors.** (3)
Prerequisite: junior-senior standing and permission of major adviser. **May be repeated for credit.**
- 499. [199] **Senior Thesis.** (3)
Prerequisite: 498.
- *541. [241] **Seminar: Philosophical Movements.** (3) Alexander, Bahm, Evans, Snedden
- *542. [242] **Seminar: Individual Philosophers.** (3) Alexander, Bahm, Evans
- *551-552. [251-252] **Problems.** (1-3 hrs. each semester) Alexander, Bahm, Evans, Snedden
- *555. [187] **Seminar in Theory of Knowledge.** [Epistemology and Metaphysics] (3) Bahm
Basic categories of knowledge and existence. Prerequisite: 3 hours of philosophy or permission of instructor.

- *556. [156] **Seminar in Logical Theory.** (3) Evans
Historical and critical study of the principles and methods of logic. Prerequisite: 356 or permission of instructor.
- *599. [300] **Master's Thesis.** (6) Alexander, Bahm, Evans, Snedden

PHILOSOPHY-ECONOMICS

See Economics-Philosophy.

PHILOSOPHY-ENGLISH

See English-Philosophy.

PHYSICAL EDUCATION

See Education, Health, Physical Education, and Recreation.

PHYSICAL SCIENCE

No major or minor study offered.

- 261-262. [61-62] **Introduction to Physical Science.** (3, 3) Riebsomer
Prerequisite: permission of instructor.

PHYSICS AND ASTRONOMY

Professors V. H. Regener (Chairman), J. R. Green, R. Thomas; Associate Professors J. G. Breiland, C. Dean, C. P. Leavitt; Assistant Professors H. C. Bryant, D. E. Skabelund.

MAJOR STUDY IN PHYSICS

Physics 260, 261, 262, 263L, 264L, 301, 302, 303, 304, 305, 306, 311L, 312L, 315L, 316L; Mathematics 162, 263, 264, 311, 312; Chemistry 101L, 102L.

MINOR STUDY IN PHYSICS

Physics 260, 261, 262, 263L, 264L, 301, 302, 303, 305, and one of the laboratory courses numbered above 300; Mathematics 162, 263, 264, and 311.

MAJOR STUDY IN ASTRONOMY AND PHYSICS

Physics 260, 261, 262, 263L, 264L; Astronomy 271, 272L; Physics 301, 302, 303, 305; Astronomy 421, 422; Physics 315L, 316L; Chemistry 101L and 102L; Mathematics 162, 263, 264, 311, and 312.

MINOR STUDY IN ASTRONOMY AND PHYSICS

Physics 260, 261, 262, 263L; Astronomy 271, 272L; Physics 302, 303; Physics 315L or 316L; Mathematics 162, 263, 264, and 311.

GRADUATE STUDY

Prerequisite for all courses numbered 500 and above: an undergraduate major in Physics equivalent to that outlined above.

PHYSICS

101. [1] **Introduction to Astronomy and Physics.** (3) Regener
(Also offered as Astronomy 101.) A non-technical introductory course, including observations and demonstrations.

103. [3] **Meteorology.** (3) Breiland
Introduction to the physics of the atmosphere. Weather analysis and forecasting.
- 107L. [7L] **Elementary Electronics.** (2) SS
Introduction to the concepts of electrical and electronic theory; experimental study of basic electronic components and circuits. Prerequisites: Mathematics 101, 102. (Offered in the summer session primarily for secondary-school teachers.)
111. [11] **General Physics.** (3) Breiland, Green
Mechanics, sound, heat. The sequence 111, 112, 113L, 114L is required of premedical, pre dental, and preoptometry students, also of NROTC students in A. & S. and of Pharmacy students. Prerequisites: Mathematics 101, 102.
112. [12] **General Physics.** (3) Breiland, Green
Electricity and magnetism, optics. Prerequisite: 111.
- 113L. [13L] **General Physics Laboratory.** (1)
Mechanics, sound, heat. Pre- or corequisite: 111. 3 hrs. lab.
- 114L. [14L] **General Physics Laboratory.** (1)
Electricity, magnetism, optics. Pre- or corequisite: 112. 3 hrs. lab.
260. [60] **General Physics.** (3) Breiland, Bryant, Dean, Green, Leavitt, Regener, Thomas
Mechanics, sound. The sequence Physics 260, 261, 262, 263L, 264L is required of students planning to major in certain sciences and in engineering. Pre- or corequisite: Mathematics 162.
261. [61] **General Physics.** (3) Breiland, Bryant, Dean, Leavitt, Regener, Thomas
Heat, electricity, magnetism. Prerequisite: 260; pre- or corequisite: Mathematics 263.
262. [62] **General Physics.** (3) Bryant, Dean, Green, Leavitt, Regener, Thomas
Optics, modern physics. Prerequisite: 261; pre- or corequisite: Mathematics 264.
- 263L. [63L] **General Physics Laboratory.** (1)
Mechanics, sound, heat. Pre- or corequisite: 261. 3 hrs. lab.
- 264L. [64L] **General Physics Laboratory.** (1)
Electricity, magnetism, optics. Pre- or corequisite: 262. 3 hrs. lab.
- **301. [101] **Heat and Thermodynamics.** (3) Bryant, Dean, Green, Thomas
Kinetic theory; specific heats; conduction, convection, radiation; change of state; classical thermodynamics. Pre- or corequisite: Mathematics 311. (Semester I)
- **302. [102] **Physical Optics.** (3) Bryant, Dean, Green, Leavitt, Thomas
Wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion, absorption and scattering; black-body radiation. Pre- or corequisite: Mathematics 311. (Semester II).
- **303-304. [103-104] **Analytical Mechanics.** (3, 3) Bryant, Dean, Green, Leavitt, Thomas
Statics and dynamics of particles and rigid bodies; introduction to Lagrange's method; Pre- or corequisites: Mathematics 311, 312.
- **305-306. [105-106] **Electricity and Magnetism.** (3, 3) Dean, Green, Regener, Skabelund, Thomas
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 311, 312. (306 not offered until Semester II, 1965-66.)
- **311L. [101L] **Heat Laboratory.** (2) Bryant, Green, Leavitt
Measurement of temperature; heat transfer; radiation, specific heat; vacuum technique; viscosity; molecular motion and Avogadro's number; change of state. 1 lecture, 3 hrs. lab. Pre- or corequisite: Mathematics 311. (Semester II, 1965-66)
- **312L. [102L] **Optics Laboratory and Geometrical Optics.** (2) Bryant, Green, Leavitt
Interference and diffraction phenomena; spectroscopic and spectrographic methods with visible and ultra-violet light. Pre- or corequisite: Mathematics 311. 1 lecture, 3 hrs. lab. (Semester II)
- **315L. [106L] **Electricity Laboratory.** (2) Bryant, Green, Leavitt
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. Pre- or corequisite: Mathematics 311. 1 lecture, 3 hrs. lab. (Semester I).

** Available for graduate credit except for graduate majors in Physics.

- **316L. [107L] Electronics Laboratory.** (2) Dean, Green, Leavitt
Properties and applications of transistors, rectifiers, vacuum tubes, photoelectric devices. Amplifiers, oscillators, pulse and logic circuitry. Pre- or corequisite: Mathematics 311. 1 lecture, 3 hrs. lab. (Semester I, 1965-66).
- **330. [110] Atomic and Nuclear Physics.** (3) Bryant, Dean, Green, Leavitt, Skabelund
Special relativity, quantum effects, atomic structure, X-rays, nuclear structure and nuclear reactions, instruments of modern physics. Prerequisite: 262 or equivalent. (Semester I and SS).
- **331L. [111L] Atomic and Nuclear Physics.** (3) Bryant, Green, Leavitt
Experiment and theory in atomic and nuclear structure, radiation, radioactivity, fission and production of high-energy particles. Prerequisite: 330. 2 lectures, 3 hrs. lab.
- **351. [151] Introduction to Atomic and Nuclear Physics.** (3) SS
Elementary particles, electro-magnetic radiation, structure of the atom, radioactivity, nuclear reactions. Prerequisite: one year of college physics. (Offered in the summer session primarily for secondary-school teachers.)
- **353-354-355. [153-154-155] Physics for Secondary School Teachers.** (3, 3, 4) Bryant, Green, Skabelund
The fundamental concepts and principles of physics presented in qualitative and semi-quantitative fashion from a mature point of view. Topics covered include mechanics, heat and sound, thermodynamics, optics, electricity and magnetism, and selected topics in contemporary physics.
- **357L-358L. [157L-158L] Physics Laboratory for Secondary School Teachers.** (1, 1) Green
Pre- or corequisites: 353, 354. 3 hrs. lab. Enrollment restricted to Academic Year Institute.
- *400. [199] Seminar.** (1 hr. each semester) Graduate Staff
- *430. [112] Physics of Matter.** (3) Dean, Green, Leavitt
An introduction to experiment and theory in the structure of matter: physical properties and mechanics of fluids, binding in solids, mechanical and thermal properties of solids, electrical and magnetic properties of matter, semi-conductors, plasmas. Prerequisite: 330 or equivalent.
- *440. [131] Atmospheric Physics.** (3) Breiland, Regener
Distribution of gases in the atmosphere; the ozone problem; distribution and variation of temperature; the ionosphere; aurora and the light from the night sky; atmospheric electricity. Pre- or corequisite: Mathematics 311. (Offered occasionally.)
- *461-462. [161-162] Experimental Research Methods.** (1, 1) Bryant, Dean, Green, Leavitt, Regener
Advanced laboratory work.
- *463-464. [163-164] Experimental Research Methods.** (2, 2) Bryant, Dean, Green, Leavitt, Regener
Advanced laboratory work.
- *466. [166] Methods of Theoretical Physics.** (3) Skabelund, Thomas
Problems of diffusion, heat conduction, wave motion, and potential theory. (Semester II)
- *491-492. [191-192] Contemporary Physics.** (3, 3) Bryant, Dean, Green, Leavitt, Regener, Skabelund
Theory of special relativity, introduction to quantum mechanics; atomic and nuclear physics, cosmic rays.
- *493L-494L. [193L-194L] Contemporary Physics Laboratory.** (2, 2) Bryant, Green, Leavitt, Regener
Experiments in atomic and nuclear physics: e/m , thermionic emission, atomic energy levels, counting systems for nuclear radiations, natural and artificial radioactivity; alpha, beta, and gamma ray spectroscopy, and nuclear magnetic resonance absorption.
- *500. [299] Advanced Seminar.** (1-3 hrs. each semester) Graduate Staff
- *503. [203] Classical Mechanics.** (3) Green, Thomas
Lagrangian dynamics; theory of oscillations; Hamiltonian theory. (Usually offered in alternate years.)

** Available for graduate credit except for graduate majors in Physics.

- *505. [205] **Statistical Mechanics and Thermodynamics.** (3) Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Usually offered in alternate years.)
- *511. [211] **Electrodynamics.** (3) Green, Thomas
Maxwellian theory of fields; electromagnetic radiation. (Semester 1, 1964-65 and alternate years.)
- *512. [212] **Advanced Electrodynamics.** (3) Green, Thomas
Covariant form of field equations; classical theory of electrons. Prerequisite: 511. (Offered occasionally.)
- *521. [221] **Quantum Mechanics.** (3) Green, Leavitt, Thomas
Uncertainty relations; potential wells and barriers; hydrogen atom, matrix mechanics; perturbation theory. (Semester II.)
- *522. [222] **Advanced Quantum Mechanics.** (3) Thomas
Relativistic wave equation; quantization of the radiation field; selected topics in corpuscular interactions. Prerequisite: 521. (Usually offered in alternate years.)
- *523. [223] **Topics of Quantum Field Theory.** (3) Thomas
Boson and Fermion fields, covariant commutation laws, the S-matrix and Feynman graphs. Prerequisite: 522. (Offered occasionally.)
- *530. [233] **Solid State Physics.** (3) Green
Structure and properties of crystal lattices; insulators and electronic conductors; semiconductors. Prerequisite: 521. (Offered occasionally.)
- *532. [232] **Dynamics of Deformable Media.** (3) Leavitt, Thomas
Waves in solids and fluids, plasma physics and magneto-hydrodynamics, shock waves. (Usually offered in alternate years.)
- *541. [241] **Theoretical Nuclear Physics.** (3) Green, Leavitt, Thomas
Properties of nuclei, nuclear models, scattering, radio-activity, nuclear reactions, fission, neutron physics. Prerequisite: 521. (Usually offered in alternate years.)
- *542. [242] **High-Energy Physics.** (3) Leavitt, Thomas
Fundamental particles and their interactions; production and properties of strange particles; conservation laws and symmetry. Prerequisite: 521. (Usually offered in alternate years.)
- *551-552. [251-252] **Problems.** (2-4 hrs. each semester) Bryant, Dean, Green, Leavitt, Regener, Thomas
- *566. [266] **Advanced Methods of Theoretical Physics.** (3) Skabelund, Thomas
(Offered occasionally.)
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *650. [350] **Research.** (6-12) Bryant, Dean, Green, Leavitt, Regener, Thomas
- *699. [400] **Dissertation.** Bryant, Dean, Green, Leavitt, Regener, Thomas

ASTRONOMY

- 101. [1] **Introduction to Astronomy and Physics.** (3) Regener
(Also offered as Physics 101.) A non-technical introductory course, including observations and demonstrations.
- 271. [71] **General Astronomy.** (3) Leavitt
Pre- or corequisite: Physics 261. (Semester I.)
- 272L. [72L] **Practical Astronomy.** (3) Leavitt
Principles and applications of spherical astronomy; methods of observation. 2 lectures, 3 hrs. lab. Pre- or corequisite: Physics 261. (Semester II.)
- *421. [121] **Introduction to Astrophysics.** (3)
Spectra, structure, distribution and evolution of stars; star systems; the interstellar medium. (Semester I.)
- *422. [122] **Solar System.** (3)
Configuration of the planets and their satellites, planetary surfaces and atmospheres, the interplanetary medium, solar-terrestrial effects. (Semester II.)

PORTUGUESE

See Modern and Classical Languages.

PSYCHOLOGY

Professors F. A. Logan (Chairman)[†], R. D. Norman; Associate Professors D. T. Benedetti^{††}, H. C. Ellis, S. Rosenblum; Assistant Professors M. J. Smith, B. Zippel; Consulting Assistant Professor H. H. Reynolds.

MAJOR STUDY

For the degree of Bachelor of Science: 30 hours in Psychology, including 280, 470, and two laboratory courses numbered above 300. The minor must be selected from: Biology, Chemistry, Mathematics, Physics.

For the degree of Bachelor of Arts: 30 hours in Psychology, including 280, 470, and one laboratory course numbered above 300. There are no restrictions on the choice of a minor field.

MINOR STUDY

18 hours in Psychology.

101L-102L. [1L-2L] General Psychology. (3, 3) Yr.

Credit suspended for 101L until 102L is completed. 101L is prerequisite to 102L. 2 lectures, 2 hrs. lab.

251. [51] General Psychology. (3)

An introductory course, not open to those who have credit for 102L.

260. [60] Psychology of Adjustment. (3) Benedetti

A study of adjustive processes, with emphasis upon motivation, frustration and conflict, defensive behaviors, and psychological health. Prerequisite: 102L or 251.

280. [80] Psychological Statistics. (3) Reynolds, Smith, Zippel

Prerequisite: Math 010 or equivalent.

***300. [101] Social Psychology. (3) Zippel**

The behavior of individuals as influenced by other human beings. Prerequisite: 102L or 251.

***301L. [125L] Social Psychology Laboratory. [Experimental Social Psychology] (2) Zippel**

Laboratory study of the role of social factors influencing psychological processes. Prerequisite: 280; pre- or corequisite: 300. 6 hrs. lab.

***302. [102] Psychology of Personality. (3) Benedetti, Ellis, Norman**

Theories, development, and measurement of personality. Prerequisite: 102L or 251.

***303. [103] Abnormal Psychology. (3) Benedetti, Norman**

An introduction to the field of psychopathology. Prerequisite: 260.

***310. [110] Educational Psychology. (3) Ellis, Rosenblum**

The application of psychological principles to the learning and teaching process. Prerequisite: 102L or 251.

***311. [111] Developmental Psychology. [Child and Adolescent Psychology] (3) Rosenblum**

The child from conception through adolescence with emphasis upon experimental analyses of behavioral development. Prerequisite: 102L or 251.

***313. [113] Child Clinical Psychology. [Psychology of Exceptional Children] (3) Norman, Rosenblum**

Theories and practices related to the problems of mentally subnormal, physically disabled, and emotionally disturbed children and adolescents. Prerequisite: 311.

[†] Effective July 1, 1964.

^{††} Acting Chairman, 1963-64.

- *314. [114] **Mental Subnormality.** [Mental Deficiency and Retardation] (3) Norman, Rosenblum
Biological and psycho-cultural factors related to mental deficiency and retardation. Prerequisite: 313.
- *320. [121L] **Psychology of Perception.** [Experimental Psychology] (3) Ellis, Reynolds
Methods, principles and theories of various topics in perception: psychophysics, scaling techniques, physical determinants of perception, learning and motivational factors in perception. Prerequisite: 102L or 251.
- *321L. [121L] **Experimental Psychology of Perception.** [Experimental Psychology] (2) Ellis, Reynolds
Laboratory investigations of perceptual phenomena. Prerequisite: 280; corequisite: 320.
- *322. [122] **Psychology of Learning.** (3) Ellis, Reynolds
Methods, principles and theories of various topics in learning: conditioning, motor skills, motivational factors in learning, perceptual learning, transfer of training, retention, problem solving. Prerequisite: 102L or 251.
- *323L. [122L] **Experimental Psychology of Learning.** (2) Ellis, Reynolds
Laboratory investigations of learning phenomena. Prerequisite: 280; corequisite: 322.
- *331. [131] **Psychological Testing.** (3) Norman
Problems related to mental measurement; review of various types of tests and their practical applications. Prerequisites: 102L or 251, 280.
- *422. [172] **Programmed Learning.** (3) Ellis
Application of principles of learning necessary for the preparation and use of programmed instructional materials, with practice in frame-writing, construction and evaluation of programs. Prerequisite: 322 or permission of instructor.
- *451. [151] **Engineering Psychology.** (3) Smith
Problems arising from man-machine relationships. Prerequisite: 102L or 251.
- *458. [158] **Industrial Psychology.** (3) Smith
Prerequisite: 102L or 251.
- *470. [170] **History of Psychology.** (3) Benedetti
Prerequisite: 102L or 251.
- *480. [180] **Advanced Statistics.** (3) Smith
Multiple and partial correlation, multivariate analysis, nonparametric methods, factor analysis. Prerequisite: 280 or equivalent.
- *493. [193] **Comparative Psychology.** [Animal Psychology] (3)
A comparative study of heredity, maturation, learning, and the higher mental processes as revealed in various animals. Prerequisite: 102L or 251.
- *494L. [193L] **Comparative Psychology Laboratory.** [Animal Psychology Laboratory] (2)
6 hrs. lab.
- *496. [196] **Physiological Psychology.** (3)
Prerequisite: 102L or 251.
- *497L. [196L] **Physiological Psychology Laboratory.** (2)
6 hrs lab.
- 498-499. [199] **Undergraduate Problems.** (1-3 hrs. per semester to a maximum of 6.) Prerequisite: 102L or 251.
- *501. [201] **Advanced Social Psychology.** (3) Zippel
Prerequisites: 280, 300.
- *502. [275] **Psychoanalytic Theory.** (3) Benedetti, Norman
Prerequisite: 303.
- *511. [211] **Advanced Developmental Psychology.** [Social, Emotional, and Personality Development of Children] (3) Rosenblum
Critical survey of current research techniques and problems in the behavior of children and adolescents. Prerequisite: 311.
- *521. [221] **Experimental Design.** (3) Ellis
Examination of problems in the design of experiments, and statistical procedures appropriate for analyzing various data.

- *530. [230] **Introduction to Projective Techniques.** (3) Norman
Prerequisite: 303.
- *532L. [232L] **Individual Mental Testing.** (3) Norman
Practical laboratory study and discussion of Binet and Wechsler tests. Prerequisite: 331.
- *551-552. [251-252] **Problems.** (2-3 hrs. per semester) Graduate Staff
- *558. [258] **Advanced Industrial Psychology.** (3) Smith
Prerequisites: 280, 458, or permission of instructor.
- *570. [270] **Cognitive Processes.** [Psychology of Thinking] (3) Benedetti
A study of thinking, concept formation, judgment, and problem-solving.
- *572. [272] **Theories of Learning.** (3) Ellis
Systematic examination of major viewpoints in learning theory. Prerequisite: 322.
- *596. [296] **Advanced Physiological Psychology.** (3)
Prerequisite: 496.
- *599. [300] **Master's Thesis.** (6) Graduate Staff
- *699. [400] **Dissertation.** Graduate Staff

RECREATION

See Education, Health, Physical Education, and Recreation.

RUSSIAN

See Modern and Classical Languages.

SECONDARY EDUCATION

See Education, Secondary.

SOCIOLOGY

Associate Professors T. T. Sasaki, D. W. Varley (Chairman); Assistant Professor C. E. Woodhouse; and staff.**

MAJOR STUDY

36 hours of course work, including 101, 331 or 431, 351 or 451, 341 or 445, 371 and 481, and including two courses in Economics and/or Government at the 200 level or above.

MINOR STUDY

18 hours in Sociology courses, of which 12 must be above 300, and including 101, 351 or 451, 341 or 445.

- 101. [2] **Introduction to Sociology.** (3) Sasaki, Varley, Woodhouse
Basic course; prerequisite to most other courses in the department.
- 211. [56] **Social Problems.** (3) Varley
Prerequisite: 101 or equivalent.
- 221. [65] **The Fields of Social Work.** (3) Woodhouse
History and philosophy of social work; an introduction to case work, group work, community organization, and organized social action; professional status of the social worker; analysis of social needs from selected life histories. Prerequisite: 101 or equivalent.
- 225. [75] **Structure and Functions of the Family.** (3) Woodhouse
Prerequisite: 101 or equivalent.

** New appointment to be made, effective September 1964.

- *311. [117] **Social Problems of New Mexico.** (3)
- *312. [110] **Juvenile Delinquency.** (2-3)
Prerequisite: 101 or equivalent.
- *313. [109] **Criminology.** (3)
Crime as a social phenomenon. Prerequisite: 101 or equivalent.
- *314. [115] **Probation and Parole.** (2)
Treatment of delinquents and criminals with a major objective of rehabilitation; accumulated experience and studies of results; community interests and responsibilities involved; predictions of success of treatment. Prerequisite: 312 or 313.
- *316. [154] **Race and Cultural Relations.** (3) Sasaki
Prerequisite: 101 or equivalent.
- *331. [102] **Collective Behavior.** (3) Sasaki.
Prerequisite: 101 or equivalent.
- *341. [160] **Sociology of Industrial Relations.** (3) Sasaki
The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 101 or equivalent.
- *351. [130] **The Urban Community.** (3) Varley
The form and development of the urban community with respect to demographic structure, spatial and temporal patterns, and functional organization. Metropolitan emergence and city-hinterland relations. Prerequisite: 101 or equivalent.
- *361. [170] **Social Implications of Technological Change.** (3) Sasaki
The impact of technological change on societal institutions with special attention to underdeveloped areas. Prerequisite: 101 or equivalent.
- *371. [163] **History of Social Thought.** (3) Woodhouse
Prerequisite: 101 or equivalent.
- *431. [181] **Society and Personality Development.** (3) Sasaki
The interaction of personality, the social structure and ideologies; the integration of contributions from various behavior sciences. Prerequisite: 101 or equivalent.
- *441. [150] **Industry and Society.** (3) Sasaki
Prerequisite: 101 or equivalent.
- *445. [180] **Occupations and Professions.** (3) Woodhouse
A comparison of occupational subcultures; the patterns of interaction and the social norms which characterize relations among colleagues, and their relations with the people being served; recruitment and mobility within occupations; the process of professionalization. Prerequisite: 101 or equivalent.
- *451. [195] **Population Problems.** (3) Varley
Prerequisite: 101 or equivalent.
- *461. [140] **Social Change.** (3) Woodhouse
The conditions and processes related to the formation of new social structures and the emergence of new social norms as exemplified by political revolutions, reform movements, and cultural diffusion. Theories of social change will be critically analyzed. Prerequisite: 101 or equivalent.
- *471. [164] **Contemporary Sociological Theory.** (3) Woodhouse
Analysis and comparison of major contributions to sociological theory since 1900, considering their continuity with older theoretical positions and application in contemporary research. Prerequisite: 101 or equivalent.
- *481. [190] **Research Methods in Sociology.** (3) Sasaki, Varley
Prerequisite: 101 or equivalent.
- 490. [192] **Directed Study.** (1-3 hrs. up to a maximum of 6) Sasaki, Varley, Woodhouse
Restricted to students with substantial background in Sociology. Permission of Chairman required.
- *American Studies 501. [201] **Interdepartmental Seminar in the Culture of the United States.** (3) Graduate Staff
(Same as American Studies 501.)
- *501. [241] **Seminar: Social Organization.** (3) Sasaki

- *502. [242] **Seminar: Social Processes.** (3) Sasaki
- *503. [243] **Seminar: Social Control.** (3) Woodhouse
- *504. [244] **Seminar: Human Ecology.** (3) Varley
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Sasaki, Varley, Woodhouse
- *599. [300] **Master's Thesis.** (6) Sasaki, Varley, Woodhouse

SPANISH

See Modern and Classical Languages.

SPEECH

Professor W. C. Eubank (Chairman); Associate Professors E. W. Bundy, F. M. Chreist, C. B. Owens, K. R. St. Onge; Assistant Professor G. J. Gravlee; Assistant Professor (Part-time) T. W. Norris; Instructor (Part-time) N. E. Payne.

MAJOR STUDY

36 hours in Speech including 101 and 102 (or equivalent), 251, 260, 280, 354 or 403, 301, 470, 495 or 496, and 498.

SPEECH MAJOR WITH EMPHASIS IN TELEVISION-RADIO. 42 hours completed in the Departments of Speech and Dramatic Art. Required Speech courses: 101, 102, 251, 260, 265, 280, 301, 470, 480, 495 or 496 or 498, and 3 hours selected from 465 and 466. Required Dramatic Art courses: 351 and 6 hours selected from 305, 306, and 352.

SPEECH MAJOR WITH EMPHASIS IN SPEECH CORRECTION. 42 hours in the Department of Speech: 101, 102, 251, 260, 280, 285, 403 or 354, 301, 321, 330, 335, 336, 470, 495 or 496 or 498. Additionally recommended: Psychology 101L and 102L (or 251), 260, and 311. This major with the Psychology courses is required for clinical certification in the American Speech and Hearing Association.

MINOR STUDY

21 hours completed in the Department of Speech, including 101, 102, 260, 280 and 470.

Students in the College of Arts and Sciences may minor in Dramatic Art. For course requirements, see p. 250.

101-102. [1-2] **Fundamentals of Speech.** (3, 3) Staff

The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.

103. [3] **Speech Improvement.** (3) Chreist, St. Onge

Articulation, voice and language problems in formal and informal speech situations. 2 lectures, 2 hrs. lab.

105. [5] **Speech for Foreign Language Students.** (3) Chreist, St. Onge

Designed for the student who speaks English with a foreign accent or who lacks English speech patterns and rhythms. Considerable work will be given in International Phonetics. 2 lectures, 2 hrs. lab.

250. [50] **Parliamentary Procedure.** (1) Eubank, Owens

Study and practice of the rules governing the proceedings of groups and deliberating assemblies.

251. [51] **Introduction to Radio and Television.** (3) Bundy
Origin and development of broadcasting; nature, functions, obligations, and responsibilities of radio and television in modern society; observation of studio operations and techniques. Prerequisite: permission of instructor.
255. [55] **Public Speaking.** (3) Staff
Critical analysis of significant public speeches. Emphasis on audience analysis and adaptation, organization and delivery. Speech majors and minors should take 101 and 102, and not 255. Credit will not be allowed for both 101 and 255. Students having completed 255 may take 305.
260. [60] **Oral Interpretation.** (3) Eubank
Voice training with emphasis upon the developing of voice and body in oral communication; oral reading of poetry and prose excerpts. Prerequisite: 101 or 255.
261. [61] **Oral Interpretation.** (3) Eubank
Advanced training in the oral interpretation of poetry, dialect readings, plays, novels, and short stories. The student will be required to arrange and present a public program. Prerequisite: 260.
265. [65] **Production Procedures in Radio and Television.** (3) Bundy
Theory, methods, tools, and techniques of basic television-radio production. Prerequisite: 251 or permission of instructor.
- 277-278. [77-78] **Discussion and Debate.** (3, 3) Gravlee, Eubank, Owens
Prerequisite: for 277: permission of instructor; for 278: 277 or permission of instructor.
280. [80] **Scientific Bases of Speech.** (3) Chreist, St. Onge
The bases of the speech process as presented in the scientific materials of such related fields as physics, physiology, psychology, and linguistics.
285. [85] **Introduction to Speech Correction.** (3) Chreist, St. Onge
Nature, diagnosis, and treatment of speech disorders. Prerequisite: 280 or permission of instructor.
- *301. [101] **Phonetics.** (3) Chreist, St. Onge
English phonetics as applied to the problems of articulation, pronunciation, rhythm, dialects, and to the teaching of speech, English, and to speech correction.
- *305. [105] **Advanced Public Speaking.** (3) Eubank, Owens
Rhetorical principles combined with construction and delivery of various forms of public address. Prerequisites: 101 and 102 or 255 or permission of instructor.
- *321. [121] **Pathologies of Hearing.** (3) Chreist
Structure and function of the hearing mechanism. Effects of breakdown in the auditory system on speech communication. Prerequisite: 285 or permission of instructor.
- *330. [130] **Speech Correction in the Schools.** (3) Chreist, St. Onge
An introduction to types of speech and hearing problems found in the schools. Prerequisite: permission of instructor.
- *354. [154] **The Nature of Language.** (3) Newman
(Same as Anthropology 354.)
- *403. [91] **History of the English Language.** (3) Kuntz, Pearce
(Same as English 403.)
- *422. [122] **Hearing Problems and Hearing Testing.** (3) Chreist
Current principles, procedures, techniques, and instrumentation used in evaluating the receptive function in communication. Prerequisite: 321 or permission of instructor.
- *435. [135] **Pathological Problems in Speech Correction.** (3) Chreist, St. Onge
Problems of speech including those of articulation and voice. Laboratory work required. Prerequisite: 285 or permission of instructor.
- *436. [136] **Stuttering.** (3) Chreist, St. Onge
The various theories of stuttering and other rhythmic disorders as well as corrective therapies will be studied. Prerequisite: 285 or permission of instructor.
- *458. [158] **Clinical Practice.** (3) Chreist
Speech correction and audiology in the clinic. Prerequisites: 321, 435 or 436, or permission of instructor.

- *465. [165] **Broadcast Programming and Policy.** (3) Bundy
Principles of television and radio programming; analysis of programming practices; regulations governing broadcasting; responsibilities of broadcasters. Prerequisites: 251 and permission of instructor.
- *466. [166] **Television and Radio Writing.** (3) Bundy
Theory, analysis, and practice in writing station and program continuity. Prerequisite: permission of instructor.
- *470. [170] **Speech Activities in the Schools.** (3) Eubank
For teachers in the elementary and secondary schools. Prerequisite: permission of instructor.
- *480. [180] **Advanced Television-Radio Production and Directing.** (3) Bundy
Practicum in television-radio. Detailed study of *directing techniques*; planning, preparation, and presentation of program projects. Prerequisite: completion of all other requirements of Television-Radio Emphasis.
- 493. [193] **Reading and Research in Honors.** (3)
- 494. [194] **Senior Thesis.** (3)
- *495. [195] **American Public Address.** (3) Eubank, Owens
Speeches of great American speakers studied against the background of their lives and the issues of the times. Prerequisites: 101, 102, 277, or permission of instructor.
- *496. [196] **British Public Address.** (3) Eubank, Owens
Speeches of great British speakers studied against the background of their lives and the issues of the times. Prerequisites: 101, 102, 277, or permission of instructor.
- *498. [198] **Persuasion.** (3) Eubank, Owens
Open to seniors and graduates. Theory of persuasion. Construction and delivery of persuasive speeches. Prerequisite: permission of instructor.
- *500. [200] **Introduction to Graduate Study.** (3) Eubank, Owens
The various areas within the field of speech with emphasis on research problems, techniques and bibliography. Each student will submit a seminar paper demonstrating research ability. Required of all graduate students.
- *520. [220] **Seminar in Television and Radio.** (3) Bundy
- *530. [230] **Advanced Speech Pathology.** (3) Chreist, St. Onge
The less common types of speech and hearing problems which require clinical treatment.
- *540. [240] **Classical Rhetoric.** (3) Eubank, Owens
Emphasis on rhetorical criticism; a study of the works of the ancients that have influenced rhetorical thought, criticism and speaking (Attic and Roman orators and rhetoricians.)
- *551-552. [251-252] **Problems.** (2-3 hrs. each semester) Graduate Staff
- *599. [300] **Master's Thesis.** (6) Graduate Staff

STATISTICS

*ENROLLMENT FOR 1963-64

	Men	Women	Total
Semester I, 1963-64	6214	3280	9494
Semester II, 1963-64	5701	3057	8758
Summer Session, 1963 (including workshops)	1717	1802	3519

SUMMARY OF DEGREES CONFERRED 1901-1963

Earned Degrees				Total Earned Degrees	Honorary Degrees
Bachelor's	Master's	Law	Doctor's		
12,782	2,995	243	201	16,221	87

*Exclusive of correspondence, extension, and non-credit courses.

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