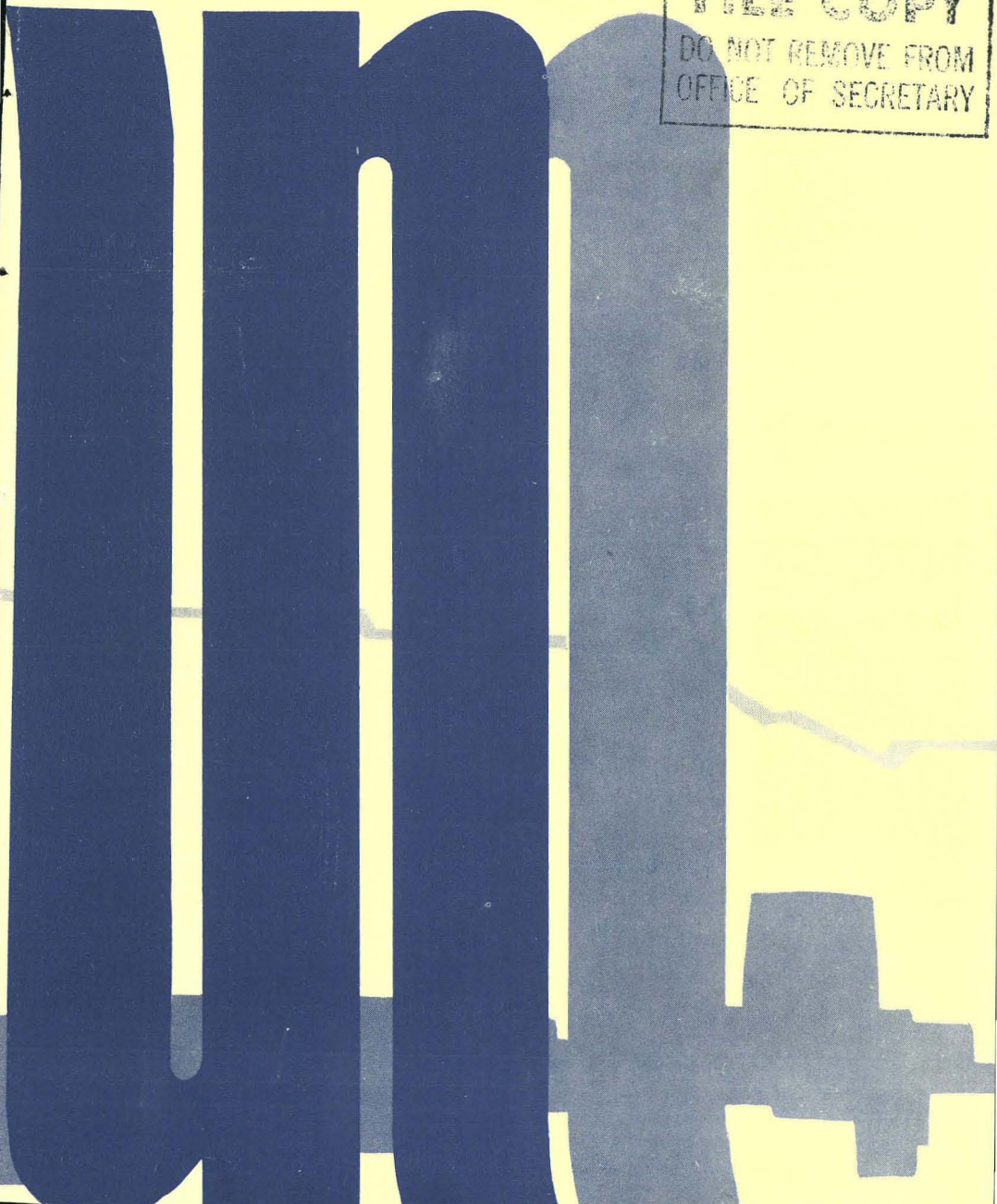


The University of New Mexico BULLETIN

Catalog Issue 1961-62

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OFFICE OF SECRETARY



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 and transfer Law credits), CALENDAR, REGISTRATION, TRANSCRIPTS, ACADEMIC MATTERS	Director of Admissions
ADMISSIONS (other than Graduate School).....	Director of Admissions
GRADUATE SCHOOL (Admission and General Information).....	Dean of the Graduate School
SCHOOL OF LAW (other than beginning Law Admissions).....	Dean of the School of Law
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—WOMEN.....	Dean of Women
HOUSING INFORMATION—MEN AND MARRIED STUDENTS.....	Housing Director
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
VETERANS' INFORMATION.....	Veterans Affairs Officer
EXPENSES	Comptroller
CORRESPONDENCE AND EXTENSION COURSES.....	Extension Division
STUDENT AFFAIRS	Director of Student Affairs
PERSONAL WELFARE.....	Dean of Women or 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 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 3:30 Monday through Friday. Administrative offices are open during most of the days of the official student Recess periods.

C A L E N D A R

1962-63 Academic Year

1962 SUMMER SESSION

1962

New Student Tests and Instructions June 21, Thu.-June 22, Fri.
Registration June 23, Sat.
Instruction begins; late registration fee applies . June 25, Mon.
Registration closes; last day for additions to
programs; change of program fee applies June 29, Fri., 5 p. m.
Independence Day, holiday July 4, Wed.
End of Second Week; last day for withdrawal
from course without grade July 6, Fri., 5 p. m.
Session ends Aug. 17, Fri., 10 p. m.

SEMESTER I, 1962-63

1962

New Student Tests - for students in the
Albuquerque area Sept. 5, Wed., or Sept. 8, Sat.,
Sept. 11, Tues., 8 a. m., Lecture
Hall, Anthropology Building
New Student Assembly Sept. 16, Sun., 7:30 p. m.,
Johnson Gymnasium
New Student Tests Sept. 17, Mon., 8 a. m.
New Student Orientation Sept. 18, Tues.-Sept. 19, Wed.
Advisement and Registration for all students Sept. 20, Thu.-Sept. 22, Sat. (2½ days)
Instruction begins; late registration fee applies . Sept. 24, Mon.
Registration closes; last day for additions
to programs; change of program fee applies Oct. 6, Sat. noon
Homecoming, Holiday Oct. 13, Sat.
End of fourth week; last day for withdrawal
from course without grade Oct. 19, Fri., 5 p. m.
NMEA Convention, recess begins Oct. 21, Wed., 10 p. m.
Classes resume Oct. 29, Mon., 8 a. m.

1962

Midsemester; deadline for faculty grade reports for first half of Fall Semester Nov. 21, Wed., 5 p. m.
 Thanksgiving recess begins Nov. 21, Wed., 10 p. m.
 Classes resume Nov. 26, Mon., 8 a. m.
 End of twelfth week; last day for removal of Incomplete grade Dec. 22, Sat. noon
 Christmas recess begins Dec. 22, Sat., 10 p. m.

1963

Classes resume Jan. 7, Mon., 8 a. m.
 Closed Week (pre-examination week) Jan. 21, Mon.- Jan. 28, Mon.
 Semester Final Examinations Jan. 28, Mon.- Feb. 2, Sat.
 Semester ends Feb. 2, Sat., 10 p. m.

SEMESTER II, 1962-63

1963

New Student Assembly Feb. 5, Tues., 7:30 p. m.
 New Student Tests Feb. 6, Wed., 8 a. m.
 New Student Orientation Feb. 7, Thu.- Feb. 8, Fri.
 Advisement and Registration for all students Feb. 11, Mon.- Feb. 12, Tues.
 Instruction begins; late registration fee applies ... Feb. 13, Wed.
 Registration closes; last day for additions to programs; change of program fee applies Feb. 26, Tues., 5 p. m.
 End of fourth week; last day for withdrawal from course without grade Mar. 12, Tues., 5 p. m.
 Midsemester, deadline for faculty grade reports for first half of Spring Semester Apr. 13, Sat. noon
 Spring recess begins Apr. 13, Sat., 10 p. m.
 Classes resume Apr. 22, Mon., 8 a. m.
 Honors Assembly To be arranged
 Fiesta Day, holiday To be arranged

1963

End of twelfth week; last day for removal
of Incomplete grade May 14, Tues., 5 p. m.

Closed Week (pre-examination week) May 29, Wed.- June 5, Wed.

Semester Final Examinations June 5, Wed.- June 11, Tues.

Semester ends June 11, Tues., 10 p. m.

Commencement June 14, Fri., 7:30 p. m.

the university
of new mexico

BULLETIN

SEVENTIETH CATALOG ISSUE
1961-62



Whole Number 506 Catalog Series

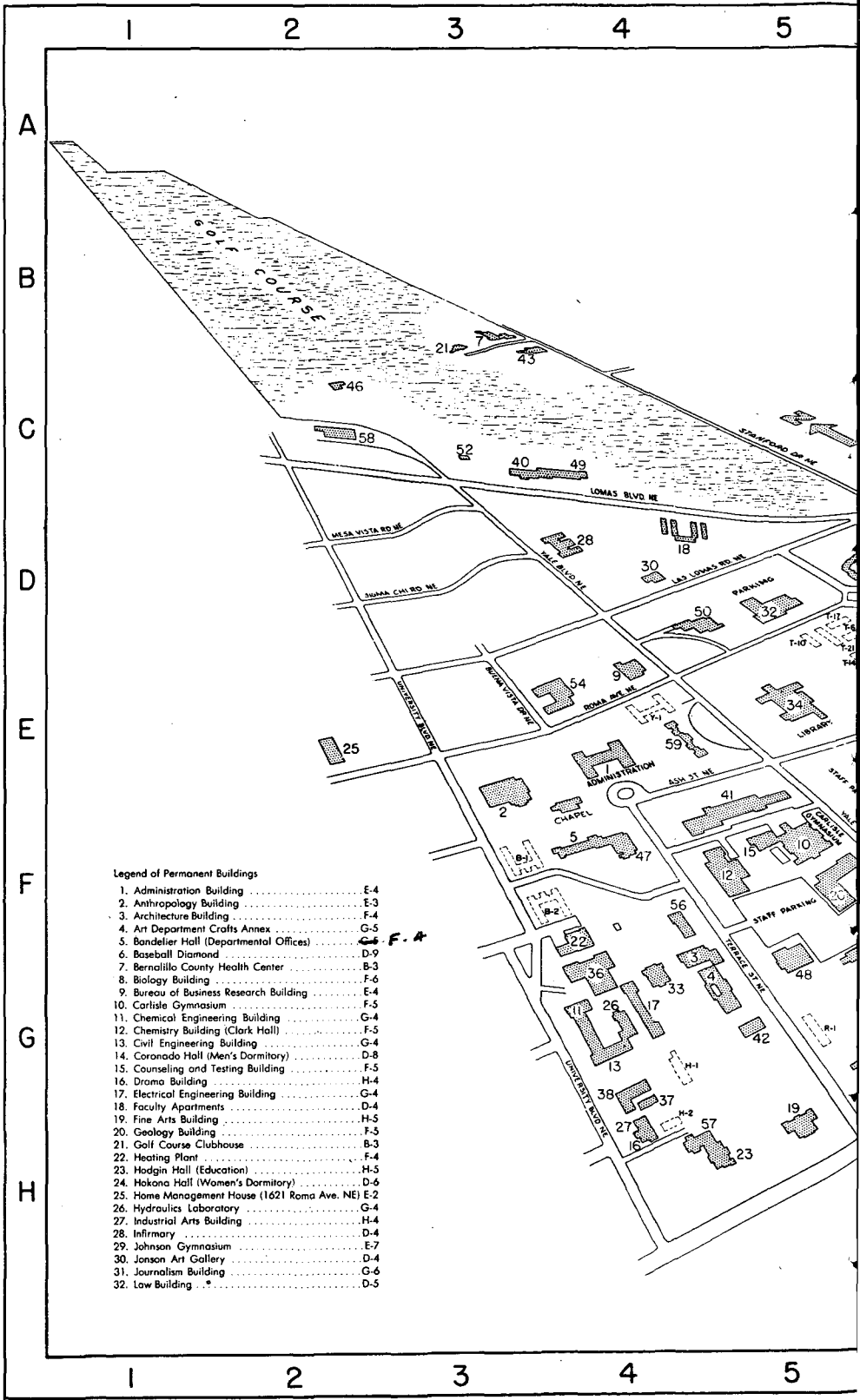
Volume 74, No. 6

May, 1961

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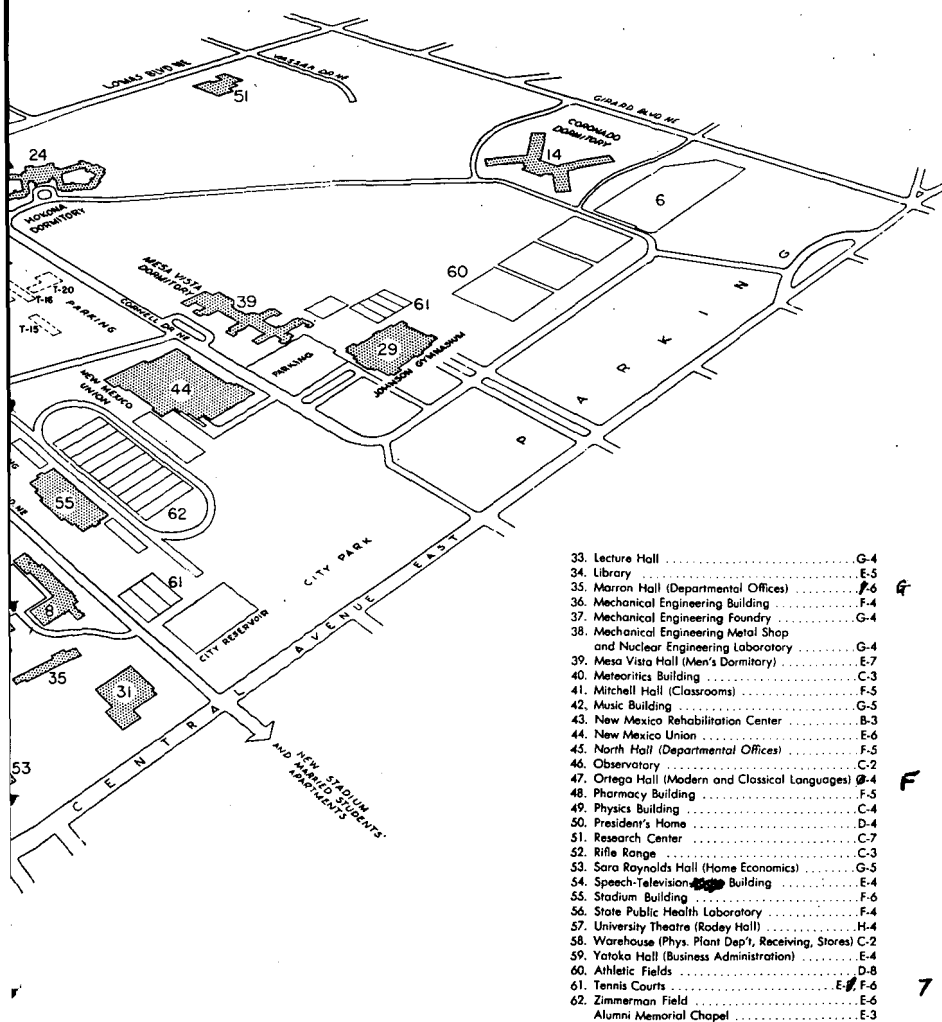
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THE UNIVERSITY OF NEW MEXICO CAMPUS



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1961

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1962

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ACADEMIC CALENDAR

1961 SUMMER SESSION

1961

New Student Tests and Instructions	June 19, Monday-June 20, Tuesday, 8 a.m.
Registration	June 21, Wednesday
Instruction begins; late registration fee applies	June 22, Thursday
Registration closes; last day for additions to programs; change of program fee applies	June 28, Wednesday, 5 p.m.
Independence Day, holiday	July 4, Tuesday
End of second week; last day for withdrawal from course without grade	July 5, Wednesday, 5 p.m.
End of sixth week	August 2, Wednesday, 5 p.m.
Session ends	August 16, Wednesday, 10 p.m.

1961 ANTHROPOLOGY FIELD SESSION

Registration	June 21, Wednesday
Excavation begins	June 23, Friday
Field session ends	August 2, Wednesday

DEADLINE FOR FILING OF ADMISSION APPLICATIONS AND CREDENTIALS FOR FALL SEMESTER

August 15, Tuesday

SEMESTER I, 1961-62

1961

New Student Tests—for students in the Albuquerque area	September 6, Wednesday, or September 9, Saturday, or September 12, Tuesday, 8 a.m., Room 122, Geology Bldg.
New Student Assembly	September 17, Sunday, 7:30 p.m., Johnson Gymnasium
New Student Tests	September 18, Monday, 8 a.m.
New Student Orientation	September 19, Tuesday-September 20, Wednesday
Preregistration processing (supplies and records) for all AFROTC students, both old and new, Building Y-1	September 19, Tuesday-September 20, Wednesday
Preregistration processing for new NROTC students, Stadium Building	September 18, Monday-September 20, Wednesday
Advisement and Registration for all students	September 21, Thursday-September 23, Saturday
Instruction begins; late registration fee applies	September 25, Monday
Registration closes; last day for additions to programs; change of program fee applies	October 7, Saturday noon
End of fourth week; last day for withdrawal from course without grade	October 20, Friday, 5 p.m.
NMEA Convention, Recess begins	October 25, Wednesday, 10 p.m.
Classes resume	October 30, Monday, 8 a.m.
Homecoming, holiday	November 4, Saturday
Midsemester, deadline for Faculty Grade Reports for first half of Fall semester	November 18, Saturday, noon
Thanksgiving Recess begins	November 22, Wednesday, 10 p.m.
Classes resume	November 27, Monday, 8 a.m.
Christmas Recess begins	December 20, Wednesday, 10 p.m.

ACADEMIC CALENDAR

1962

Classes resume	January 4, Thursday, 8 a.m.
End of twelfth week; last day for removal of Incomplete grade	January 5, Friday, 5 p.m.
*Closed Week (pre-examination week)	January 22, Monday-January 29, Monday
*Semester Final Examinations	January 29, Monday-February 3, Saturday
Semester ends	February 3, Saturday, 10 p.m.

DEADLINE FOR FILING OF ADMISSION APPLICATIONS AND CREDENTIALS FOR SPRING SEMESTER

January 1, Monday

SEMESTER II, 1961-62

1962

New Student Tests—for students in the Albuquerque area	February 3, Saturday, 8 a.m. Room 122, Geology Building
New Student Assembly	February 6, Tuesday, 7:30 p.m.
New Student Tests	February 7, Wednesday, 8 a.m.
New Student Orientation	February 8, Thursday-February 9, Friday
Advisement and Registration for All Students	February 12, Monday-February 13, Tuesday
Instruction begins; late registration fee applies	February 14, Wednesday
Registration closes; last day for additions to programs; change of program fee applies	February 27, Tuesday, 5 p.m.
End of fourth week; last day for withdrawal from course without grade	March 13, Tuesday, 5 p.m.
Mid-semester, deadline for Faculty Grade Reports for first half of Spring semester	April 14, Saturday noon
Spring Recess begins	April 14, Saturday, 10 p.m.
Classes resume	April 23, Monday, 8 a.m.
Honors Assembly	May 2, Wednesday, 10-12 a.m.
End of twelfth week; last day for removal of Incomplete grade	May 15, Tuesday, 5 p.m.
Fiesta Day, holiday	May 19, Saturday
†Closed Week (pre-examination week)	May 30, Wednesday-June 6, Wednesday
†Semester Final Examinations	June 6, Wednesday-June 12, Tuesday
Semester ends	June 12, Tuesday, 10 p.m.
Commencement Exercises	June 15, Friday, 7:30 p.m.

1962 SUMMER SESSION

1962

Registration (probable date)	June 20, Wednesday
Instruction begins (probable date)	June 21, Thursday

* Closed Week and Semester Final Examination Week, January 22-February 3, are closed to extracurricular and social campus activities.

† Closed Week and Semester Final Examination Week, May 30-June 12, are closed to extracurricular and social campus activities.

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 freshman 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 and the School of Law 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 is not 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 or School of Law.

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 10:00 to 10:50 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 EDWIN L. MECHEM, Governor of New Mexico,
ex officio Santa Fe

TOM WILEY, State Superintendent of Public Instruction, ex officio
..... Santa Fe

LAWRENCE H. WILKINSON, President Albuquerque

HOWARD C. BRATTON, Vice President Roswell

MRS. JACK BRANDENBURG, Secretary-Treasurer Taos

BRYAN G. JOHNSON Albuquerque

THOMAS R. ROBERTS Los Alamos

1 2

ADMINISTRATIVE OFFICES AND OFFICERS, 1960-61

- ✓ TOM L. POPEJOY, M.A., LL.D. President
- ~~EDWARD FRANKLIN CASSETTER, Ph.D.~~ Academic Vice President
- ✓ HAROLD LEROY ENARSON, Ph.D. Administrative Vice President
- ✓ JOHN NICOLL DURRIE, B.A. Secretary of the University

ACADEMIC DIVISIONS

~~HOYT TROWBRIDGE~~ COLLEGE OF ARTS AND SCIENCES
 DUDEEY-WYNN, Ph.D. *Acting* Dean
 ✓ MIGUEL JORRÍN, Dr. Pub. and Civ. Law Director, Division of Foreign Studies

COLLEGE OF BUSINESS ADMINISTRATION

WILLIAM JACKSON PARISH, D.C.S. 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
- ~~P. DILLARD ORVILLE GILBERT-EASTMAN, M.A.~~ Assistant Director
- ✓ MONICA NOVITSKI, D.D.S. Director, Dental Assistants Program

COLLEGE OF FINE ARTS

EDWIN EUGENE STEIN, Ph.D. Dean

GRADUATE SCHOOL

~~STUART ALWARD NORTHROP~~ *Acting* Dean
~~EDWARD FRANKLIN CASSETTER, Ph.D.~~ *Assistant Dean*
 WILLIAM MINOR DABNEY, Ph.D. *Assistant Dean*

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¹⁴ Resigned effective December 28, 1960.
¹⁵ Effective December 30, 1960.

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FOR THE ACADEMIC YEAR, 1960-61

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(Use subhead to indicate emeritus)

NINA MCGINNIES ANCONA, B.S., M.A., University of New Mexico. Associate Professor Emeritus of Music.

¹⁰CHARLES ANTHONY BARNHART, B.A., M.A., University of Illinois. Professor Emeritus of Mathematics.

KENNETH M. CHAPMAN, Art Institute of Chicago, Art Students' League, New York; Litt.D., University of Arizona; L.H.D., University of New Mexico; D.F.A., Art Institute of Chicago. Professor Emeritus of Indian Art.

JOHN WILLIAM DIEFENDORF, B.S. in Ed., Central Missouri State College; M.A., Ph.D., University of Missouri. Professor Emeritus of Education.

JOHN HAZARD DORROH, B.E., C.E., Vanderbilt University. Professor Emeritus of Civil Engineering.

HELEN HEACOCK ELLIS, B.A., M.A., University of New Mexico; M.S.W., University of Chicago. Associate Professor Emeritus of Sociology.

JAMES LAWTON ELLIS, B.S. in E.E., M.S. in E.E., Georgia School of Technology. Professor Emeritus of Electrical Engineering.

EVERETT HAYES FIXLEY, B.S. in Ed., University of Kansas; Ed.M., Ed.D., Harvard University. Professor Emeritus of School Administration.

ETHEL ARNOLD FLEMING, B.A., University of Nebraska; M.A., Colorado State College. Assistant Professor Emeritus of English.

ALBERT DUANE FORD, B.S. in M.E., M.S. in M.E., Montana State College. Professor Emeritus of Mechanical Engineering.

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J. E. JACKSON HARRIS, M.D., Yale University. Director Emeritus of the University Health Service, Associate Professor Emeritus of Physical Education and Health.

BENJAMIN FRANKLIN HAUGHT, B.A., West Virginia University; M.A., Columbia University; Ph.D., George Peabody College. Professor Emeritus of Psychology.

ROY WILLIAM JOHNSON, B.A., University of Michigan; Certificat, Universite de Poitiers, France. Professor Emeritus of Physical Education.

RAYMOND JONSON, Chicago Academy of Fine Arts; Art Institute of Chicago; Portland, Oregon, Art School. Professor Emeritus of Art.

JULIA MARY KELEHER, B.A., M.A., University of New Mexico. Associate Professor Emeritus of English.

JAY CARROLL KNODE, B.A., M.A., University of Nebraska; Ph.D., Columbia University. Dean Emeritus of the College of Arts and Sciences and of the General College, Professor Emeritus of Philosophy.

CLINTON H. S. KOCH, B.A., Hamline University; M.A., University of New Mexico. Assistant Professor Emeritus of Modern Languages.

WILLIAM MARTIN KUNKEL, Kimball School of Music; formerly flute soloist with John Philip Sousa's Band. Assistant Professor Emeritus of Music.

MAMIE TANQUIST MILLER, B.A., Hamline University; M.A.; University of Minnesota; Ph.D., University of Southern California. Associate Professor Emeritus of Sociology.

¹⁰ Deceased August 3, 1960.

⁹ Deceased May 31, 1960.

- LYNN BOAL MITCHELL, B.A., Ohio State University; M.A., Ph.D., Cornell University. Professor Emeritus of Classics.
- ¹¹ SIMON PETER NANNINGA, B.S., Kansas State Teachers College; M.A., Stanford University; Ph.D., University of California. Dean Emeritus of the College of Education, Professor Emeritus of Education.
- BESS CURRY REDMAN, B.A., University of New Mexico; B.Mus., Lamont School of Music. Assistant Professor Emeritus of Music.
- JESSE TAYLOR REID, B.A., Howard Payne College; M.A., Baylor University; Ed.D., Teachers College, Columbia University. Professor Emeritus of Education.
- JOHN DONALD ROBB, B.A., Yale University; Juilliard School of Music; American Conservatory at Fontainebleau; M.A., Mills College. Dean Emeritus of the College of Fine Arts, Professor Emeritus of Music.
- WILMA LOY SHELTON, B.A., B.L.S., University of Illinois. Librarian Emeritus, Professor Emeritus of Library Science.
- ELIZABETH PARKINSON SIMPSON, B.S., University of New Mexico; M.S., Iowa State University. Professor Emeritus of Home Economics.
- DANE FARNSWORTH SMITH, B.A., Vanderbilt University; M.A., Ph.D., Harvard University. Professor Emeritus of English.
- LESLIE SPIER, B.S., College of the City of New York; Ph.D., Columbia University. Professor Emeritus of Anthropology.
- CECIL VIVIAN WICKER, B.A., M.A., University of Michigan; Ph.D., University of Pittsburgh. Professor Emeritus of English.
- DOROTHY WOODWARD, B.A., Randolph-Macon Woman's College; M.A., University of Colorado; Ph.D., Yale University. Professor Emeritus of History.

- JAMES HARMAN ABBOTT, B.S., University of Colorado; M.S., Southern Methodist University; Ph.D., University of Illinois. Associate Professor of Mathematics.
- KENNETH MILLER ADAMS, N.A., Art Institute of Chicago; Art Students' League of New York. Professor of Art and Artist in Residence.
- ⁸ MATTHEW JOSEPH AHERN, Jr., B.A., St. Thomas College; M.A., Tulane University. Lecturer in English (Part-time).
- HUBERT GRIGGS ALEXANDER, B.A., Pomona College; Ph.D., Yale University. Professor of Philosophy, Chairman of the Department of Philosophy.
- ROGER YATES ANDERSON, B.S., M.S., University of Arizona; Ph.D., Stanford University. Assistant Professor of Geology.
- SHAREL ANDERSON, B.S., M.S., Utah State University. Instructor in Health, Physical Education, and Recreation.
- WALLACE LEE ANDERSON, B.S., University of North Dakota; M.A., Rice Institute. Lecturer in Electrical Engineering.
- FRANK ANGEL, JR., B.S., University of New Mexico; M.S., University of Wisconsin; Ph.D., University of California. Associate Professor of Education.
- 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.
- LUNA BACHELOR BAHM, B.A., Michigan State University; M.A., Texas Technological College. Instructor in Mathematics (Part-time).

¹¹ Deceased August 12, 1960.

⁸ Second semester only.

- ARTHUR PAUL BAILEY, B.S., James Millikin University; M.S., Iowa State University. Professor of Mechanical Engineering.
- GEORGE LeROY BAKER, Ph.C., B.S., University of Colorado; M.S., University of Florida; Ph.D., Purdue University. Associate Professor of Pharmacy.
- WILLIAM ERNEST BAKER, B.S.M.E., University of Texas. Instructor in Mechanical Engineering.
- WILLIS LEE BARNES, Assistant Professor of Health, Physical Education, and Recreation.
- ROBERT KNIGHT BARNEY, B.S., University of New Mexico. Instructor in Health, Physical Education, and Recreation (Part-time).
- CLIFFORD CHARLES BARTLETT, B.S., M.S., University of Durham, England. Assistant Professor of English.
- HARRY WETHERALD BASEHART, M.A., Ph.D., Harvard University. Associate Professor of Anthropology.
- JOHN MONTAYNE BATCHELLER, B.S., Potsdam Teachers College; M.A., Ed.M., Ph.D., University of South Carolina. Associate Professor of Music.
- ERNEST WARREN BAUGHMAN, B.A., Ball State Teachers College; M.A., University of Chicago; Ph.D., Indiana University. Associate Professor of English.
- † STOUGHTON BELL, II, B.A., M.A., Ph.D., University of California. Visiting Lecturer in Mathematics (Part-time).
- DAVID THEODORE BENEDETTI, B.A., M.A., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Psychology.
- HAROLD RAYMOND BENSON, JR., B.A., M.Arch., Harvard University. Assistant Professor of Architecture.
- NADENE SIMON BLACKBURN, B.A., Eastern Washington College of Education; M.A., Northwestern University. Assistant Professor of Dramatic Art.
- JOSEPH BLANKENSHIP, B.S., Ohio University; M.M., Cincinnati Conservatory of Music; Ph.D., University of Texas. Professor of Music, Chairman of the Department of Music.
- PHILIP EDMUND BOCQUET, B.S., Agricultural and Mechanical College of Texas; M.S.E., Ph.D., University of Michigan. Associate Professor of Engineering.
- CLAUDE MARIE BOOK, License, University of Paris; M.A., University of Texas. Instructor in Modern and Classical Languages (Part-time).
- ERNEST TRUETT BOOK, B.A., Baylor University; Ph.D., University of Texas. Assistant Professor of Modern and Classical Languages.
- CONNIE FOX BOYD, B.F.A., University of Colorado; M.A., University of New Mexico. Instructor in Art (Part-time).
- JOHN G. BREILAND, B.A., Luther College; M.S., State University of Iowa; Ph.D., University of California at Los Angeles. Associate Professor of Physics.
- ARNOLD WOOD BROWN, Major, U.S.A.F.; B.S., University of Maryland. Assistant Professor of Air Science.
- CHESTER RAYMOND BROWN, B.S., M.S., Stout State College. Associate Professor of Education.
- HOWARD CARNES BRYANT, B.A., University of California; M.S., Ph.D., University of Michigan. Assistant Professor of Physics.
- EDITH BUCHANAN, B.A., Meredith College; Ph.D., Duke University. Assistant Professor of English.
- KENNETH CARLETON BULLOCK, B.S., M.S., Oklahoma State University. Instructor in Mathematics.
- EDWARD WAYNE BUNDY, B.A., M.A., State University of Iowa; Ph.D., University of Michigan. Program Director, Production Manager, Station KNME-TV; Associate Professor of Speech.

† First semester only.

- BAINBRIDGE BUNTING**, B.S., University of Illinois; Ph.D., Harvard University. Associate Professor of Art and Architecture.
- ⁸**JAMES WEATHERLY BURKHEAD**, B.S., University of Wisconsin; M.A., State University of Iowa. Instructor in English (Part-time).
- LLOYD ROBERT BURLEY**, B.Ed., Duluth State Teachers College; M.A., Ph.D., State University of Iowa. Professor of Health, Physical Education, and Recreation.
- DELMAR EUGENE CALHOUN**, B.S., University of New Mexico. Instructor in Civil Engineering.
- JOSEPH PATRICK CALLAHAN**, B.S., University of New Mexico. Instructor in Civil Engineering.
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- RUBÉN COBOS**, B.A., M.A., University of New Mexico. Assistant Professor of Modern Languages.

⁸ Second semester only.

⁷ First semester only.

⁸ On sabbatical leave second semester.

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⁷ **JOHN PHELAN CONRON**, B.Arch., Yale University. Lecturer in Architecture (Part-time).

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WILLIAM MINOR DABNEY, B.A., M.A., Ph.D., University of Virginia. Associate Professor of History.

GUIDO H. DAUB, B.S., M.S., Ph.D., University of Wisconsin. Associate Professor of Chemistry, Director of the Graduate Center, Los Alamos Scientific Laboratory.

CHARLES WHEELER DAVIS, B.A., M.A., State University of Iowa. Assistant Professor of Music.

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ROBERT MANLY DUNCAN, B.A., M.A., Oberlin College; Ph.D., University of Wisconsin. Professor of Modern Languages, Chairman of the Department of Modern and Classical Languages.

⁷ First semester only.

⁸ Second semester only.

- SAJJAD HAIDAR DURRANI**, B.Sc.Eng., Punjab University; M.Sc.Tech., College of Technology, Manchester, England. Instructor in Electrical Engineering (Part-time).
- RALPH LEMON EDGEL**, B.A., University of Utah; M.B.A., Northwestern University. Director of the Bureau of Business Research, Professor of Business Administration.
- ESTHER FLEISCHER EHLERT**, B.S., University of Minnesota. Instructor in Nursing.
- WILLIAM NORMAN ELDER**, Lieutenant, U.S.N.; B.S., University of Utah. Assistant Professor of Naval Science.
- ¹**FLORENCE HAWLEY ELLIS**, B.A., M.A., University of Arizona; Ph.D., University of Chicago. Professor of Anthropology.
- HENRY CARLTON ELLIS**, B.S., College of William and Mary; M.A., Emory University; Ph.D., Washington University. Assistant Professor of Psychology.
- WALTER MAURICE ELSASSER**, Ph.D., University of Goettingen, Germany. Professor of Physics, Chairman of the Department of Physics.
- GRACE LONG ELSER**, B.Ped., New Mexico Highlands University; B.S., Kansas State College; M.S., Cornell University. Associate Professor of Home Economics, Chairman of the Department of Home Economics.
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- 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.
- MELBOURNE GRIFFITH EVANS**, B.A., Reed College; M.A., Ph.D., University of California. Associate Professor of Philosophy.
- ⁷**WINIFRED EVANS**, Diploma, Harlem Hospital School of Nursing; B.S., University of Pennsylvania. Instructor in Nursing.
- ZUHDI TAJI FARUKI**, B.A., American University, Beirut, Lebanon; M.A., Ph.D., Indiana University. Instructor in Philosophy.
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- JIM LAWRENCE FIFE**, B.A., Westminster College; M.A., State University of Iowa. Visiting Lecturer in English (Part-time).
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- TED FINMAN**, B.A., University of Chicago; LL.B., Stanford University. Assistant Professor of Law.
- HOWARD VIVIAN FINSTON**, B.A., M.A., Ph.D., Stanford University. Associate Professor of Business Administration.
- MARIO VALENTINE FIONDELLA**, B.S., Teachers College of Connecticut; M.S., University of Florida. Instructor in Mathematics.

¹ On sabbatical leave for the year.

⁷ First semester only.

J. PAUL FITZSIMMONS, B.S., Ph.D., University of Washington. Associate Professor of Geology.

⁴MARTIN WILLIAM FLECK, B.S., M.S., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Biology.

TROY SMITH FLOYD, B.J., M.A., University of Missouri; Ph.D., University of California. Assistant Professor of History.

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⁷FLOYD E. FORSYTHE, B.S., Waynesburg College; M.S., West Virginia University. Instructor in Mathematics (Part-time).

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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.

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HUGH FREDERICK GRAHAM, B.A., M.A., University of Toronto; M.A., Princeton University; Ph.D., University of Southern California. Assistant Professor of Modern and Classical Languages.

WAYNE WILLIS GRANNEMANN, B.S.E.E., M.A., Ph.D., University of Texas. Associate Professor of Electrical Engineering, Administrator of the Engineering Research Program.

JOHN ROOT GREEN, B.S., Ph.D., University of California. Associate Professor of Physics.

DONALD JOHNSON GREENE, B.A., University of Saskatchewan; M.A., University of London; Ph.D., Columbia University. Associate Professor of English.

MERCEDES GUGISBERG, B.S., M.S., University of Minnesota. Associate Professor of Health, Physical Education, and Recreation, Chairman of the Department of Health, Physical Education, and Recreation for Women.

LEZ LEWIS HAAS, B.A., M.A., University of California. Professor of Art, Chairman of the Department of Art.

MARGARET LANE HALEY, B.A., Oklahoma College for Women; M.A., University of Oklahoma. Instructor in English.

⁴ On leave for the year.

⁷ First semester only.

⁸ Second semester only.

- DAVID BOYCE HAMILTON, JR., B.A., M.A., University of Pittsburgh; Ph.D., University of Texas. Associate Professor of Economics.
- ✓ EUGENE ALFRED HAMMEL, B.A., Ph.D., University of California. Assistant Professor of Anthropology.
- RUTH BRODERICK HARRIS, B.S., Cornell University; M.S., University of Tennessee. Instructor in Home Economics.
- JOHN JAMES HEIMERICH, B.S., M.S., Kansas State College. Professor of Architecture, Chairman of the Department of Architecture.
- MORRIS S. HENDRICKSON, B.S., Birmingham-Southern College; M.A., Ph.D., Ohio State University. Professor of Mathematics, Chairman of the Department of Mathematics.
- ANNA A. S. HENRIQUES, B.A., Western College; M.S., Ph.D., University of Chicago. Lecturer in Mathematics (Part-time).
- ⁷ HENRY G. HERMES, JR., B.A., Montclair State College; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- FRANK CUMMINGS HIBBEN, B.A., Princeton University; M.S., University of New Mexico; Ph.D., Harvard University. Professor of Anthropology, Curator of the Museum of Anthropology.
- RICHARD CHARLES HILDNER, B.S., College of Wooster; M.A., Ph.D., Ohio State University. Lecturer in Mathematics (Part-time).
- ARTHUR MIDDLETON HILL, B.S., Tulane University; M.S., Massachusetts Institute of Technology. Associate Professor of Mechanical Engineering.
- HAMLIN LEWIS HILL, JR., B.A., University of Houston; M.A., University of Texas; Ph.D., University of Chicago. Instructor in English.
- WILLARD WILLIAMS HILL, B.A., University of California; Ph.D., Yale University. Professor of Anthropology, Chairman of the Department of Anthropology.
- CLARENCE CLAYTON HOFF, B.A., Bradley University; M.S., Ph.D., University of Illinois. Professor of Biology.
- ARTHUR VINCENT HOUGHTON, III, B.S., M.S., University of Illinois; Ph.D., Purdue University. Associate Professor of Mechanical Engineering.
- ANNE BAIL HOWARD, B.A., University of Colorado; M.A., University of New Mexico. Instructor in English (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.
- GEORGE WILLIAM HUDSON, B.S.E., University of Arkansas; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- RICHARD GEORGE HUZARSKI, B.S.C.E., University of Wisconsin; M.S., Texas Technological College. Professor of Civil Engineering.
- ✓ MAXWELL J. IHRIG, Major, U.S.A.F., B.S., Bowling Green State University. Assistant Professor of Air Science.
- ² FREDERICK CLARENCE IRON, 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.
- ¹ 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.

⁷ First semester only.

² On sabbatical leave first semester.

¹ On sabbatical leave for the year.

- 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.
- FAITH ELIZABETH JENSEN**, B.S., Bates College; M.N., M.S., Yale University. Assistant Professor of Nursing.
- GLEN DONALD JENSEN**, B.S., University of South Dakota; M.S., Ph.D., Northwestern University. Assistant Professor of Psychology.
- LEONARD LEON JERMAIN**, B.S., M.S., University of Oregon. Associate Professor of Journalism.
- DANIEL EVERETT JOHNSON**, B.S., Ball State Teachers College; M.S., University of Southern California; Ph.D., University of California at Los Angeles. Consulting Professor of Biology.
- KENNETH RAYMOND JOHNSON**, B.S.M.E., Duke University; M.S., Northwestern University. Instructor in Mechanical Engineering.
- EDWARD LOREN JORDAN**, B.S.E.E., University of Arkansas; M.S.E.E., University of Kansas. Lecturer in Electrical Engineering.
- MIGUEL JORRÍN**, B.A., Colegio "De la Salle"; Dr. Pub. Law, Dr. Civ. Law, Universidad de la Habana. Professor of Government, Director of the Division of Foreign Studies.
- FREDERICK DSUIN JU**, B.S., University of Houston; M.S., Ph.D., University of Illinois. Assistant 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.
- JACK KATZENSTEIN**, B.S.M.E., Duke University; M.A., Ph.D., Harvard University. Associate Professor of Physics.
- 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.
- RUBEN DAVID KELLY**, B.S., M.S., Ph.D., Oklahoma State University. Assistant Professor of Electrical Engineering.
- GEORGE LEONARD KEPPERS**, B.Ed., St. Cloud State College; M.A., Colorado State College; Ed.D., University of Colorado. Associate Professor of Education, Special Adviser in the University College.
- FRANCIS MONROE KERCHEVILLE**, B.A., Abilene Christian College; M.A., Ph.D., University of Wisconsin; Certificat, Université de Paris (Sorbonne). Professor of Modern Languages.
- ¹²**JANE KLUCKHOHN**, B. A., University of Wisconsin; M.A., University of New Mexico. Assistant Professor of English (Part-time).
- WELLINGTON WESLEY KOEPEL**, B.S., M.S., University of Texas; Ph.D., Oklahoma State University. Associate Professor of Electrical Engineering.
- IGNACE I. KOLODNER**, Diplome d'Ingenieur, University of Grenoble, France; Ph.D., New York University. Professor of Mathematics.
- ARNOLD HERMAN KOSCHMANN**, B.A., Valparaiso University; B.S.E.E., M.S., Ph.D., Purdue University. Associate Professor of Electrical Engineering.
- WILLIAM JACOB KOSTER**, B.S., Ph.D., Cornell University. Professor of Biology.

¹² On disability retirement as of August 1, 1960, but not on emeritus status.

— **JACK LESTER KRONER**, B.A., Columbia College; M.A., Columbia University; LL.B., LL.M., New York University. Assistant Professor of Law, Editor of the **Natural Resources Journal**.

BARBARA MILDRED KRUEH, B.A., Northwestern University. Instructor in Music (Part-time).

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. Assistant Professor of English.

¹⁴ **DOROTHY BECKWITH LACOUR**, Certificate, State University of Iowa School of Nursing; B.A., M.A., University of New Mexico. Acting Dean of the College of Nursing, Assistant Professor of Nursing.

LINCOLN LaPAZ, B.A., Fairmont College; M.A., Harvard University; Ph.D., University of Chicago. Professor of Mathematics and Astronomy, Director of the Division of Astronomy and of the Institute of Meteoritics.

⁸ **CORA JANE LAWRENCE**, B.S., University of Chicago; B.S. in Nursing, Johns Hopkins University; M.A., University of Washington. Instructor in Nursing (Part-time).

— **CHRISTOPHER PRATT LEAVITT**, B.S., Ph.D., Massachusetts Institute of Technology. Assistant Professor of Physics.

ANDRE RENE LeBLANC, B.S., M.S., University of Vermont. Instructor in Electrical Engineering (Part-time).

JOSEPH FRANKLIN LEONARD, B.Mus., Texas Wesleyan College; B.S., M.S., Juilliard School of Music; Certificate, Ecole de Fontainebleau. Instructor in Music (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.

EDWIN LIEUWEN, B.A., M.A., Ph.D., University of California. Associate Professor of History, Chairman of the Department of History.

CHARLES LORAIN LONG, B.S., Kansas State Teachers College; M.A., University of New Mexico. Instructor in Speech (Part-time).

JOHN EDWARD LONGHURST, B.A., Washington State University; M.A., Syracuse University; M.A., Ph.D., University of Michigan. Professor of History, Director of the General Honors Program.

ALBERT RICHARD LOPES, B.A., M.A., Ph.D., University of California. Professor of Modern Languages.

— **PARKE BURR LOREN**, B.A., Lawrence College; M.S. in Ed., Indiana University. Assistant Professor of Education.

ALICE HENTZELT LUFT, Pharmacological Institute of the University of Jena; Certificate, Ministry of the Interior, Thuringia. Instructor in Modern Languages (Part-time).

RAYMOND PRICE LUTZ, JR., B.S. in M.E., University of New Mexico. Instructor in Mechanical Engineering.

— **PATRICK DANIEL LYNCH**, B.A., St. John's University; M.A., Ph.D., University of Minnesota. Assistant Professor of Education.

¹ **RAYMOND RALPH MacCURDY, JR.**, B.A., M.A., Louisiana State University; Ph.D., University of North Carolina. Professor of Modern Languages.

⁵ **ADELITA ANTONIA MAESTAS**, B.S. in Nursing, University of New Mexico. Instructor in Nursing (Part-time).

— ⁴ **ROBERT WEHLEY MALLARY**, Certificate, La Escuela de las Artes del Libro, Mexico City. Assistant Professor of Art and Architecture.

¹⁴ Resigned effective December 28, 1960.

⁸ Second semester only.

¹ On sabbatical leave for the year.

⁴ On leave for the year.

- ERNEST LYNNE MARTIN, B.S., New Mexico Western College; M.A., Ph.D., Indiana University. Associate Professor of Chemistry, Director of the Northwestern New Mexico Regional Science Fair.
- 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., Iowa State University. Associate Professor of Civil Engineering.
- 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.
- JOSEPH H. MATLUCK, B.A., Brooklyn College; M.A., Mexico City College; Ph.D., National University of Mexico. Associate Professor of Modern Languages.
- WINNIFRED MARIE MATTHEWS, B.S., University of New Mexico. Instructor in Pharmacology (Part-time).
- JUNE ANN MAY, B.S., Northwestern State College of Louisiana. Instructor in Nursing (Part-time).
- 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. Assistant Professor of Mathematics.
- WILLIAM LAWRENCE McDANIEL, B.A., B.S., University of New Mexico; M.A., Princeton University. Assistant Professor of Economics.
- FRANCES McGILL, B.A., Mills College; M.S., University of Washington. Assistant Professor of Health, Physical Education, and Recreation.
- ‡ RICHARD McGUIRE, B.S., University of New Mexico. Instructor in Health, Physical Education, and Recreation.
- DONALD ALEXANDER McKENZIE, B.A., University of New Mexico; Ph.D., Stanford University. Professor of Modern Languages.
- ‡ JOHN WOOD McMAHAN, B.S., M.S., Ph.D., University of Illinois. Lecturer in Business Administration.
- HOWARD JOHNSTONE McMURRAY, B.A., M.A., Ph.D., University of Wisconsin. Professor of Government.
- IMOGEAN HELENA McMURRAY, B.S., Oklahoma College for Women; M.S., University of Tennessee. Assistant Professor of Home Economics.
- DONALD CHRISTOPHER McRAE, B.F.A., M.A., University of New Mexico. Assistant Professor of Music.
- ⁴ KENNETH GORDON MEDEARIS, B.S.C.E., M.S.C.E., University of Illinois. Assistant Professor of Civil Engineering.
- LEROY CARL MEYER, B.S., M.S., North Dakota Agricultural College. Instructor in Electrical Engineering.
- ‡¹³ HARRY EUGENE MILLER, B.A., Eastern New Mexico University; M.A., Western State College of Colorado. Assistant Professor of Health, Physical Education, and Recreation, Assistant Basketball Coach.
- HUGH MILTON MILLER, B.A., University of Oregon; M.A., Ph.D., Harvard University. Professor of Music.
- GLADYS ELIZABETH MILLIKEN, B.A., Bates College; M.A., New York University. Assistant Professor of 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.

[‡] First semester only.

⁴ On leave for the year.

¹³ Resigned effective August 31, 1960.

- KEITH MONROE, B.A., University of California. Visiting Professor of Art.
- RICHARD KERR MOORE, B.S.E.E., Washington University; Ph.D., Cornell University. Professor of Electrical Engineering, Chairman of the Department of Electrical Engineering.
- ~ ROBERT MARION MORGAN, B.S., M.S., Oklahoma State University; Ph.D., Ohio State University. Assistant Professor of Psychology.
- PERRY T. MORI, B.S., B.A., M.B.A., Northwestern University; C.P.A. Associate Professor of Business Administration.
- MARSHALL RUTHERFORD NASON, B.A., M.A., Louisiana State University; Ph.D., University of Chicago. Associate Professor of Modern Languages.
- ERWIN ELLIS NELSON, B.S., Drury College; B.A., M.A., Ph.D., University of Missouri; M.D., University of Michigan. Professor of Pharmacology (Part-time).
- STANLEY STEWART NEWMAN, Ph.B., M.A., University of Chicago; Ph.D., Yale University. Professor of Anthropology.
- ~ GENEVIEVE ELEANOR NOBLE, B.A., Goucher College; M.A., Teachers College, Columbia University; M.S., Yale University. Acting Dean of the College of Nursing,¹⁵ Assistant Professor of Nursing.
- ~ EDWARD GILLIGAN NOLAN, M.A., B.Ed., University of Edinburgh; M.A., Ph.D., Princeton University. Assistant Professor of Psychology.
- 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, Acting Chairman of the Department of Psychology.
- STUART ALVORD NORTHROP, B.S., Ph.D., Yale University. Professor of Geology, Chairman of the Department of Geology, Curator of the Geology Museum.
- ¹⁷ MONICA NOVITSKY, D.H., D.D.S., Marquette University. Associate Professor of Dental Hygiene; Director of the Dental Hygiene Program.
- EARL DAVIS OLIVER, B.S., M.S., University of Washington; Ph.D., University of Wisconsin. Associate Professor of Chemical Engineering.
- 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. Assistant Professor of Art.
- ~ FRANK EDWARD PAPCSY, B.S., Upsala College; M.A., New York University. Assistant Professor of Health, Physical Education, and Recreation.
- WILLIAM JACKSON PARISH, Ph.B., Brown University; M.B.A., D.C.S., Harvard University. Dean of the College of Business Administration, Professor of Business Administration.
- JAMES WALLACE PARK, B.S.C., M.B.E., University of Mississippi. Instructor in Business Administration.
- THOMAS MATTHEWS PEARCE, B.A., University of Montana; M.A., Ph.D., University of Pittsburgh. Professor of English.
- ARTHUR EMMET PENNELL, B.S., M.A., Ph.D., University of Illinois. Instructor in English.
- ⁷ LINO MARTINEZ PEREZ, B.A., University of New Mexico. Instructor in Mathematics (Part-time).
- ¹ GEORGE MAXWELL PETERSON, Ph.B., M.A., Ph.D., University of Chicago. Professor of Psychology, Chairman of the Department of Psychology.
- ~ GEORGE THOMAS PETROL, B.S., Albright College; M.A., University of New Mexico. Assistant Professor of Health, Physical Education, and Recreation.
- 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.

¹⁵ Effective December 30, 1960.

¹⁷ Effective February 15, 1961.

⁷ First semester only.

¹ On sabbatical leave for the year.

- ⁸ELIZABETH MYRTLE PEW, B.S. in Nursing, University of Dubuque. Instructor in Nursing.
- ⁴JUDITH ANN PHILIPP, B.S., Cornell College; M.A., University of Minnesota. Instructor in Art Education.
- CHARLOTTE LEWIS PIPER, B.A., Baker University. Instructor in Health, Physical Education, and Recreation.
- SUZANNE HANSON POOLE, B.Mus., Curtis Institute of Music; Certificate, Ecole de Fontainebleau. Instructor in Music (Part-time).
- 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.
- ⁷TIM CHRIS PRESTON, B.S., University of New Hampshire; M.S., University of Michigan. Instructor in Mathematics (Part-time).
- 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. Instructor in Architecture (Part-time).
- KEEN RAFFERTY, B.A., University of New Mexico. Professor of Journalism, Chairman of the Department of Journalism.
- ⁸DONALD FRANK RAUBER, B.S., St. Mary's College; M.A., Ph.D., University of Oregon. Lecturer in English (Part-time).
- MARY HICKS RAYMOND, B.A., Baylor University; M.A., University of New Mexico. Instructor in English (Part-time).
- FRANK DRIVER REEVE, B.A., M.A., University of New Mexico; Ph.D., University of Texas; Professor of History. Editor of the *New Mexico Historical Review*.
- VICTOR H. REGENER, Dr.-Ing., Technische Hochschule, Stuttgart. Research Professor of Physics.
- HEINZ JURG RENGGLI, Dr.Sc., Swiss Federal Institute of Technology. Assistant Professor of Mathematics.
- ⁶VIRGINIA REVA, B.A., St. Mary's College, Notre Dame; M.A., University of Michigan. Associate Professor of Business Administration.
- JACK RODNEY RHOADES, Lieutenant Colonel, U.S.M.C.; B.A., University of Nevada. Associate Professor of Naval Science, Executive Officer of the Naval ROTC Unit.
- WILLIAM EARL RHOADS, B.Mus., M.Mus., University of Michigan. Associate Professor of Music.
- ALLAN RENE RICHARDS, B.A., M.A., University of Colorado; Ph.D., University of North Carolina. Associate Professor of Government.
- JORDAN PAUL RICHMAN, B.A., Brooklyn College; M.A., New York University. Instructor in English (Part-time).
- JESSE LeROY RIEBSOMER, B.A., DePauw University; Ph.D., Cornell University. Professor of Chemistry, Chairman of the Department of Chemistry.
- HAROLD ORVILLE RIED, B.A., Nebraska Wesleyan University; M.A., Ph.D., University of Nebraska. Director of Extension, Summer Session, and Community Services, Professor of Education.
- MARVIN LeROY RIEDESEL, B.A., Cornell College; M.S., Ph.D., State University of Iowa. Assistant Professor of Biology.
- ⁷EDWARD CLARENCE RIGHTLEY, B.S. in M.E., University of New Mexico; M.S., University of Colorado. Lecturer in Mechanical Engineering (Part-time).
- GEORGE ROBERT, Student of Edward Steuermann and Anton von Webern. Associate Professor of Music.
- ROBERT ALLEN ROBERTSON, B.A., Santa Barbara College, University of California; M.A., Ph. D., University of Illinois. Assistant Professor of Economics.
- JUDAH ISSER ROSENBLATT, B.A., Johns Hopkins University; Ph.D., Columbia University. Associate Professor of Mathematics.

⁸ Second semester only.

⁷ First semester only.

⁶ On leave second semester.

ABRAHAM ROSENZWEIG, B.S., University of Pennsylvania; Ph.D., Bryn Mawr College. Associate Professor of Geology.

CLARICE PIERCE RUMPH, B.A., M.A., University of Texas. Instructor in Mathematics.

WILLIAM BARTON RUNGE, B.S., M.Ed., Colorado State University; Ed.D., University of Southern California. Associate Professor of Education, Acting Chairman of the Department of Secondary Education.

JEFFREY BURTON RUSSELL, B.A., M.A., University of California; Ph.D., Emory University. Assistant Professor of History.

JOSIAH COX RUSSELL, B.A., Earlham College; M.A., Ph.D., Harvard University. Professor of History.

DEVOY ALONZO RYAN, B.S., Southwest Missouri State College; M.Ed., D.Ed., University of Missouri. Assistant Professor of Education.

EUGENE WESTON RYPKA, B.A., Ph.D., Stanford University. Assistant Professor of Biology.

⁸**BENJAMIN SACKS**, B.A., University of New Mexico; M.A., McGill University; Ph.D., Stanford University. Professor of History.

⁸**JOE THOMAS SAFFLE**, B.A., Baylor University. Instructor in Speech (Part-time).

⁸**KEITH RICHARD ST. ONGE**, B.A., M.A., Ph.D., University of Wisconsin. Associate Professor of Speech.

KENNETH TALBOT SANDERS, Commander, U.S.N.; B.A., St. Mary's College of California. Assistant Professor of Naval Science.

TOM TAKETO SASAKI, B.A., University of California; Ph.D., Cornell University. Assistant Professor of Sociology.

~~**BARBARA JUDITH SCHAFER**, B.A., M.A., Brooklyn College. Instructor in English.~~

DON PAUL SCHLEGEL, B.A., University of Cincinnati; M.A., Massachusetts Institute of Technology. Associate Professor of Architecture.

MORTON GERALD SCHOENFELD, Juilliard Graduate School; B.Mus., Rollins College; M.Mus., University of Wisconsin. Associate Professor of Music.

¹**FRANCE VINTON SCHOLES**, B.A., M.A., Ph.D., Harvard University. Research Professor of History.

FLORENCE MARGARET SCHROEDER, B.S., Iowa State College; M.A., Teachers College, Columbia University; Ph.D., New York University. Associate Professor of Home Economics.

~~**VICTOR VIO SEARCY**, B.S., M.S., Oklahoma State University. Instructor in Chemistry.~~

VERLE RUE SEED, B.A. B.S., J.D., University of Illinois; LL.M., Columbia University. Professor of Law.

ARMOND HAROLD SEIDLER, B.S., M.S., Ph.D., University of Illinois. Professor of Health, Physical Education, and Recreation, Chairman of the Department of Health, Physical Education, and Recreation for Men.

FLORENCE HALL SENDER, B.A., Franklin College; M.A., Northwestern University. Assistant Professor of Modern Languages (Part-time).

RAMON JOSÉ SENDER, B.A., Instituto de Zaragoza; Lic. en Filosofia y Letras, Universidad Central de Madrid. Professor of Modern Languages.

MARY PATRICIA SIMMONS, B.S.P.H., M.S.Ed., University of Michigan. Assistant Professor of Nursing.

KATHERINE GAUSS SIMONS, B.A., Grinnell College; M.A., Columbia University. Associate Professor of English, Administrative Assistant in the Graduate School.

DONALD EMANUEL SKABELUND, B.S., Utah State University; Ph.D., University of Utah. Assistant Professor of Physics.

VICTOR J. SKOGLUND, B.S., M.S., University of California; D.Eng., Yale University. Professor of Mechanical Engineering.

³ On sabbatical leave second semester.

⁸ Second semester only.

- DANIEL MURRAY SMITH, JR.**, B.S., M.S., Louisiana State University; C.P.A. Professor of Accounting,⁵ Lecturer in Business Administration (Part-time).⁶
- GEORGE WINSTON SMITH**, B.A., M.A., University of Illinois; Ph.D., University of Wisconsin. Professor of History.
- RICHARD HAROLD SMITH**, Lieutenant, U.S.N.; B.S., University of Pennsylvania. Assistant Professor of Naval Science.
- SAMUEL DAVID SMITH**, Studied in Africa, Orient, Near East, and United States. Associate Professor of Art.
- SHERMAN EVERETT SMITH**, B.S., South Dakota School of Mines and Technology; Ph.D., Ohio State University. Director of Student Affairs, Professor of Chemistry.
- ROBERT EDWIN SNAPP**, B.A., M.A., University of New Mexico; M.F.A., Yale University. Professor of Dramatic Art, Chairman of the Department of Dramatic Art.
- JANE SNOW**, B.Mus., M.Mus., Cincinnati College of Music. Associate Professor of Music.
- VERNON GUY SORRELL**, B.A., State University of Iowa; M.A., University of Illinois; Ph.D., University of California. Professor of Business Administration.
- KENNETH HOTTENSTEIN STAHL**, B.A., Carthage College; B.S., M.S., State University of Iowa; Ph.D., University of Maryland. Assistant Professor of Pharmacy.
- ⁷**ALPHEUS THORNTON STEELE**, B.A., University of Wichita; M.A., Duke University; Ph.D., University of Iowa. Lecturer in Business Administration (Part-time).
- ⁴**ARTHUR STEGER**, B.A., University of Pennsylvania; M.A., Ph.D., University of California. Assistant Professor of Mathematics.
- EDWIN EUGENE STEIN**, B.S., Michigan State College; M.M., Ph.D., University of Rochester. Dean of the College of Fine Arts, Professor of Music.
- JACK RAMSEY STEPHENSON**, B.Mus.Ed., B.Mus., M.Mus.Ed., Ph.D., University of Kansas. Associate Professor of Music.
- ⁴**HERMAN JULIUS STOEVER**, B.S., Purdue University; M.S., Ph.D., University of Illinois. Professor of Mechanical Engineering.
- RICHARD EARL STRAHLEM**, B.S., M.S., Indiana University. Professor of Business Administration.
- HOWARD KEITH STUMPF**, B.S. in Ed., Central Missouri State College; M.A., University of Missouri. Instructor in Mathematics.
- EUGENE THOMAS BRADLEY SULLIVAN**, Captain, U.S.N.; B.S., United States Naval Academy. Commanding Officer of the Naval ROTC Unit, Professor of Naval Science.
- ROBERT MILES SWEENEY**, B.S., University of Colorado; M.A., University of New Mexico. Assistant Professor of Health, Physical Education, and Recreation, Head Basketball Coach.
- ROBERT DALE SWIHART**, B.A., DePauw University; J.D., Indiana University. Assistant Professor of Law.
- PATRICK ALLISON TABOR**, B.S., St. Benedict's College. Instructor in Health, Physical Education, and Recreation (Part-time).
- ⁴**RALPH WILVER TAPY**, B.S. in E.E., E.E., Rose Polytechnic Institute; M.S. in E.E., University of Michigan. Professor of Electrical Engineering.
- JOHN TATSCHL**, Diploma, Austrian State Teachers College; Diploma, Vienna Academy of Applied Arts; Diploma, Master School of Sculpture, Vienna Academy of Fine Arts. Professor of Art.
- ⁸**MARCELLA TATSCHL**, B.A., University of Kansas. Instructor in Modern and Classical Languages (Part-time).
- ⁸**ERNEST WARNOCK TEDLOCK, JR.**, B.A., M.A., University of Missouri; Ph.D., University of Southern California. Professor of English.
- ROY THOMAS**, B.Sc., University of Alberta; Ph.D., University of California. Professor of Physics.

⁵ On leave first semester.

⁶ Second semester only.

⁷ First semester only.

⁴ On leave for the year.

⁸ On sabbatical leave second semester.

DONALD CHILDRESS THORN, B.S., Agricultural and Mechanical College of Texas; M.S., Ph.D., University of Texas. Assistant Professor of Electrical Engineering.

JAMES IRVING THORNTON, B.A., University of New Mexico; M.M., Cincinnati Conservatory. Assistant Professor of Music.

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⁷ First semester only.

⁸ Second semester only.

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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 contribution to the cultural life of the State.

*Ed - University Council 1961
not an accred. agency
it is a research group*

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 Engineering 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. In 1959 the baccalaureate 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.

SITUATION

The University is situated in Albuquerque, the center of a metropolitan area of 250,000 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 69 years since its inception has been extraordinary. The 20 acres allotted by the Territorial Legislature for a campus have become more than 500; buildings have increased from a single structure to 57 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 Division of Research and Development and the Institute of Meteoritics were 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 established 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. The University has 41 instructional departments; work leading to the master's degree is offered in ~~35~~ 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.

OFFICE OF DEVELOPMENT

In September of 1953, the Regents established an Office of Development to increase the volume of annual contributions and the flow of special gifts, grants, and bequests to The University of New Mexico.

The major objectives of the development program are: "To promote a better understanding of The University of New Mexico and to interpret its program, its progress and its needs to alumni, friends, citizens and agencies; to develop and enlist their active interest and support in behalf of the University; and to provide them with the opportunity to contribute voluntarily through the development fund."

This additional financial support will enable the University to incorporate into its program those features which are essential to educational leadership and distinction, but which are beyond the responsibility of the State. For example, scholarships, fellowships, library books, laboratory equipment and machinery, even some new buildings, if obtained, would appreciably extend the University's contributions in the fields of education, research, and service.

A gift to education represents the perfect memorial gift. It lends honor to the name it commemorates while providing an enduring asset to society.

Gifts to the University may be annual or endowed. They may take the form of money, securities, or personal property. In addition, the University may be named the beneficiary of wills and insurance policies. The most practical plan for a given individual depends entirely upon his circumstances. The University welcomes gifts of every size.

Recognizing the importance of private philanthropies, the Government has encouraged charitable giving by granting liberal tax advantages to the benefactor or to his estate.

The University has many worthwhile projects. The individual considering a gift to this institution may obtain full information concerning these projects, as well as the tax benefits to which he is entitled, by writing or interviewing the Director of Development, The University of New Mexico, Albuquerque.

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 57 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 Department Crafts Annex, 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 and Industrial Arts Building, Electrical Engineering Building, Faculty Apartments, Fine Arts Building, Geology Building, Golf Course Clubhouse, Heating Plant, Hodgkin Hall (Education), Hokona Hall (Women's Dormitory), Home Management House, Hydraulics Laboratory, Infirmary, Johnson Gymnasium, Jönson Art Gallery, Journalism Building, Law Building, Lecture Hall, Zimmerman Library, Marron Hall (Departmental Offices), Mechanical Engineering Building, Mechanical Engineering Foundry, Mechanical Engineering Metal Shop, Mesa Vista Hall (Men's Dormitory), Meteoritics Building, Mitchell Hall (Classrooms), Music Building, New Mexico Union, North Hall (Departmental Offices), Observatory, Ortega Hall (Languages), Pharmacy Building, Physics Building, President's Home, Research Center, Rifle Range, Sara Reynolds Hall (Home Economics), Speech-Television-Radio Building, Stadium Building, State Public Health Laboratory, University Theatre (Rodey Hall), University Stadium, Warehouse Building (Physical Plant Dept., Receiving and Stores), Yatoka Hall (Business Administration).

THE 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, 3 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 310,490 cataloged and processed volumes, several thousand other cataloged serials and pamphlets, 205,828 government publications, 4,226 reels of microfilm, 59,297 microcards, 48,224 maps, several thousand pamphlets and pictures, 761 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 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 Thursdays; from 8 a.m. to 5 p.m., Friday and Saturdays; and Sundays, from 1 to 5 p.m.

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 approximately 50,000 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.

MUSEUMS, COLLECTIONS, AND EXHIBITIONS

ANTHROPOLOGY MUSEUM

The collections of the Museum of Anthropology are being transferred to the new Anthropology Building. Exhibits are being constructed in these new quarters and in the new museum wing on the Anthropology Building. Exhibits featuring

the American Southwest, Mexico, Peru, European Prehistory, Eskimos, Northwest Coast and Plains Indians will be installed. These exhibits will be available to the public as soon as they are completed.

FINE ARTS GALLERY

There is a continuous schedule of exhibitions presented throughout the school year. These exhibitions cover a wide range consisting of one-man shows, group shows and several annual exhibitions including the Faculty exhibition, and various student exhibits.

New Mexico is outstanding among the states in the number of recognized artists resident within its borders. Their presence not only makes it possible for the University to maintain a high standard of excellence in its exhibitions but to invite these painters to augment its staff at regular intervals and make their experience and knowledge available to its more advanced students.

Many paintings by distinguished artists are to be seen in the various offices of the University as well as several larger works, such as those of the late Willard Nash on view in the Fine Arts Building; four panels by Kenneth M. Adams, N.A., in the University Library; and the bronze Lobo by John Tatschl in front of the Stadium.

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.

HARWOOD FOUNDATION

The University of New Mexico maintains the Harwood Foundation in Taos, New Mexico, wherein works of art of contemporary New Mexico painters are on frequent exhibit. During the summers, field sessions are sometimes held there under the auspices of the University of New Mexico Art Department and during these sessions many of the same Taos artists augment the teachings of the University staff.

JONSON GALLERY

This gallery on the campus at 1909 Las Lomas Rd., NE, is open to the public daily, except Sundays and Mondays, from 3 to 6 p.m. Here 9 or 10 exhibitions

are presented during the year in a gallery ideal for contemporary painting and sculpture, shown either as group or one-man exhibits.

MUSIC RECORD COLLECTION

The Department of Music houses a fine collection of phonograph recordings. The record library now comprises over 5,000 78-rpm recordings, and 1100 LP records. It is growing at the rate of 150 LP records per year. In addition to this library, which is for faculty use and supervised listening, the Department maintains in the Music Building a student listening room. Here the students have free access to the records, and listening equipment is provided. This student listening library now consists of over 1,500 78-rpm recordings and is growing through gifts by faculty and friends of the Department, as well as by regular purchase accessions.

The Music Department owns excellent tape-recording equipment which is used to record faculty and student performances and major musical productions of the band, chorus, orchestra, and opera workshop. Materials thus recorded are timed and made into complete 30-minute radio programs to be broadcast over local stations. In addition, these taped programs are sent to smaller stations in cities throughout the State.

RESEARCH ACTIVITIES

THE OFFICE OF DIRECTOR OF RESEARCH

Harold L. Walker, Director

The Office of Director of Research is an administrative agency of the President and Academic Vice-President of the University, to whom the Director is responsible. The functions of the Office are carried out by the Director of Research.

The broad purposes of the Office of Director of Research 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 faculty members and departments, the University administration, State and Federal agencies, and possible sponsors of research in business and industry;
- (3) to coordinate, insofar as possible and desirable, the various research activities on campus;
- (4) to seek to secure funds in support of research and other scholarly and creative activities and interests in the University;
- (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 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

Ralph L. Edgel, Professor of Business Administration, Director; Rudyard B. Goode, Associate Professor of Business Administration, Statistician; Vicente T. Ximenes, Associate Economist; Margaret I. Meaders, Editor of Publications; Arthur A. Blumenfeld, Assistant Economist; Harold W. Corley, Field Representative; Shirley Huzarski, Records Supervisor.

The Bureau of Business Research, established 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 the dissemination of information. More specifically its objectives are to promote the development and intelligent utilization 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 for the future; to encourage the pursuit of business and economic research on the part of 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 or other interested organizations. In order that the results of its studies may be utilized, information is disseminated through Bureau publications, the press, and over the radio. Bureau publications include:

New Mexico Business, a monthly bulletin which regularly carries more than forty indexes of business activity in New Mexico and a short article summarizing recent business activity. It frequently features longer articles of business interest.

The **Retail Food Price Bulletin**, a monthly release presenting the results of the Bureau's regular survey of food prices prevailing at representative food stores in Albuquerque.

The "Business Information Series," which consists of numerous irregular releases which incorporate the 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 under various subject titles are issued at irregular intervals.

The **New Mexico State Business Directory**, two editions of which have been issued (1947 and 1950), and which is a classified directory of business and professional establishments in the State.

The **Directory of New Mexico Manufacturers**, editions of which have been published in 1955, 1957, and 1958.

The Bureau also acts in the capacity of consultant to those who want to avail

themselves of its services, and sponsors conferences at which businessmen, civic leaders, and scholars may meet for the purpose of exchanging information and pooling their resources toward the solution of common problems.

THE DIVISION OF RESEARCH OF THE DEPARTMENT OF GOVERNMENT

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

The Division of Research of the Department of Government, which was created by the University in July 1945, has as its purpose the study of Federal, State, and local problems of government in New Mexico.

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.

The personnel of the Division is composed of the members of the Department of Government, but whenever possible members of other departments of the University and outside specialists are utilized as consultants and to make studies.

Care is taken in each study to gather pertinent facts with fullness and accuracy and to draw conclusions with impartiality. 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 has completed more than 60 studies on subjects pertinent to education, finance, government, and politics in New Mexico.

Other functions of the Division include the training in research of graduate students of the Department of Government, advisory and consultant work, and the sponsoring of conferences on governmental problems.

ENGINEERING EXPERIMENT STATION

Richard H. Clough, Dean of the College of Engineering, Director.

The primary function of the College of Engineering is to educate its students; the primary function of the engineering faculty is to provide this educational instruction. However, it is recognized that in order to instruct effectively, particularly at the graduate level, the faculty should engage to some extent in research. Such research not only keeps the faculty member aware of progress in his field but, in addition, permits him to contribute to this progress. His research enriches his teaching, stimulates his students, and brings prestige to himself and to his institution.

The Engineering Experiment Station was established in 1937 for the purpose of fostering and supporting appropriate research by members of the College of Engineering faculty. A very sizeable volume of research is performed each year in a variety of engineering fields for sponsors in industry, philanthropic organizations, bureaus of the State of New Mexico, civil and military agencies of the federal government. The research program is coordinated and administered by Dr. W. W. Grannemann, Administrator of Engineering Research.

The results of studies and investigations undertaken by the Station are published as **Bulletins of the Engineering Experiment Station** and are made available for the benefit of the people of the State.

THE INSTITUTE OF METEORITICS OF THE UNIVERSITY OF NEW MEXICO

Resident Staff:

Lincoln LaPaz, Professor of Mathematics and Astronomy, Director; Morris S. Hendrickson, Professor of Mathematics and Astronomy, Mathematician; Jean LaPaz, Secretary; James Wray, Research Assistant;* Lloyd B. Crawford, Research Assistant.

Research Associates:

†Dr. Frederick C. Leonard, Professor of Astronomy, University of California, Los Angeles, California.

Dr. Fletcher Watson, Harvard College Observatory, Cambridge, Massachusetts.

Dr. Helmut E. Landsberg, Director, Office of Climatology, U. S. Weather Bureau, Washington, D. C.

Dr. Henry Dunlap, Research Division, Atlantic Refining Company, Dallas, Texas.
Professor Mohd. A. R. Khan, President, Hyderabad Academy of Science, Begumpet, India.

Dr. Carl Wellington Beck, Professor of Mineralogy, Indiana University, Bloomington, Indiana.

Miss Jean LaPaz, Institute of Meteoritics, The University of New Mexico, Albuquerque, New Mexico.

John Davis Buddhue, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California.

William A. Cassidy, National Science Foundation Fellow in Meteoritics, 1956-57, Pennsylvania State University, University Park, Pennsylvania.

Professor Richard G. Huzarski, Department of Civil Engineering, The University of New Mexico, Albuquerque.

The Institute of Meteoritics of The University of New Mexico, apparently the first institute in the world devoted primarily to meteoritical research, had its inception in the discovery, made independently by many scientists working in the most diverse fields, of the fundamental importance not only of ascertaining the structure and composition of the cosmic masses that give rise to the luminous phenomena of meteors, but also of determining the place, mode, and time of origin of such masses; and, most important of all, the effect of their infall on the earth. However, development of the research program of the Institute can be justified not only on scientific grounds, but also on the basis of the superlative importance of meteoritics in studies of the battleground of the next war, namely, the upper atmosphere.

The objectives of the Institute may be formulated as follows: to promote the recognition and recovery of meteorites both by systematic use of instrumental surveys and by arousing in the general public critical interest in these bodies which fall so remote from one another in time and space that a necessary prerequisite for their recovery is a widely distributed multitude of interested and instructed voluntary observers; to provide means for the preservation, the public exhibition **without charge**, and the intensive scientific study of both meteorites and terrestrial materials, metamorphosed by meteoritic impact; to enable nuclear

* On leave at Institute of Space Sciences, University of Cincinnati.

† Deceased, June 23, 1960.

physicists, ballisticians, aerodynamisticians, and other investigators engaged in research of value to the development of meteoritics to secure **without cost** meteoritical specimens in such amounts as they may require for experimental purposes, thus enabling scientists to escape from a state of affairs which has led two prominent mineralogists to complain that "Meteorites are held at such an artificially high value by dealers and collectors as to make it difficult to secure any large quantity of any fall", to advance not only such **pure** sciences as meteorics, but also to stimulate the use of meteoritical knowledge in such **practical** subjects as high altitude ballistics, rocketry, and other military sciences, ore detection, and the metallurgy of stainless steels and other alloys; and finally, to provide urgently needed publication facilities for research work done in any or all of the above fields.

In addition to offices for the staff of the Institute, the Meteoritics Building provides space for the meteoritical library, the meteorite museum, a computing laboratory, housing a collection of Monroe, Marchant and A.A.F. electrical and mechanical computers, a photographic darkroom with complete Leica equipment for photomicrography and a Pako photo-dryer and other automatic devices for speedily working up results obtained in air reconnaissance surveys of meteorite-strewn fields; a 70-foot long hypervelocity laboratory and several smaller research laboratories; and a large machine shop with concrete floor on which are mounted Tinius Olsen and Rockwell hardness testing machines, Knapp and Stewart high temperature furnaces, meteorite sectioning and polishing machinery including an 800-pound Excello lapping machine, a Sheffield Precisionaire instrument, and motor-generators with auxiliary equipment used in testing meteorite detectors and in other experimental work.

Equipment available through the Institute for research and instructional purposes includes an automatic microdensitometer employing photo-multiplier tubes, two air-reconnaissance cameras mounting Aero-ektar f 2.5 lenses, several types of meteorite and mine detectors, a 36-inch aluminum parabolic mirror and a large number of wide field telescopes and binoculars suitable for telescopic meteor work, for comet seeking, and for zodiacal light investigations, astro-compasses, stadimeters and sextants, radar and radio units, and a considerable amount of auxiliary electronic and optical equipment.

The Institute is ideally located for field work in meteoritics since The University of New Mexico is situated almost in the center of that subregion of the United States in which the climate is most favorable for the long-continued existence of fallen meteorites in recognizable form; in which the conditions of terrain and rainfall are most propitious for the instrumental detection of buried meteorites; and in which, as a matter of fact, most of the meteorites and all of the meteorite craters thus far found in the United States have been located. Conditions for visual and photographic observation of meteors and the zodiacal light and gegenschein are equally favorable. A statistical survey of night sky conditions carried out at the request of the Director of the Harvard University Meteor Program indicates that few if any stations in the proverbially fair Southwest show as many hours of nocturnally clear skies as Albuquerque.

In addition to conducting research in meteoritics and cooperating with such military organizations as the United States Air Force School of Aviation Medicine,

the Air Technical Service Command, the Office of Special Investigations (Inspector General), United States Air Force, the Air Materiel Command, and the Division of Research and Development, and such scientific agencies as the Institute for Nuclear Studies of the University of Chicago, the Research Laboratory of the General Electric Company, and the Los Alamos Scientific Laboratory, the staff of the Institute is collaborating, on the one hand, with the Department of Mathematics and Astronomy of The University of New Mexico in the development of undergraduate courses in astronomy and meteoritics, and, on the other hand, with the Departments of Geology and Chemistry of the University in the supervision of research work in meteoritics leading to the master's degree. One candidate for an advanced degree under this cooperative program, Mr. William A. Cassidy, in 1953 received the first Fulbright Fellowship and, in 1956 and 1957, also received the first National Science Foundation Fellowships to be awarded for research in meteoritics.

As regards publications, the Institute sponsors a series of meteoritical monographs, **The University of New Mexico Publications in Meteoritics.**

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)

Lectures 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 counsellor, 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, desire, and sense of duty to become Air Force officers and responsible citizens.

The course consists of four years. Veterans and students who have had previous ROTC training may be exempt from part of the course, depending upon their previous training. Students in any baccalaureate degree program are accepted. Upon completion of the Air Force ROTC course, cadets may be commissioned as second lieutenants in the Air Force Reserve. Students retain their civilian status during their training and while they are commissioned in the Air Force Reserve, unless they elect to go on active duty, or are called to active duty. Qualified graduates may attend an Air Force flying school as second lieutenants.

Textbooks for the Air Force ROTC courses and uniforms are furnished by the Air Force. Junior and senior Air Force ROTC students are paid approximately \$27 per month. Cadets are required to attend one summer camp of four weeks' duration between their junior and senior years. Cadets receive approximately \$75 per month and room and board at camp. Transportation to and from summer camp is provided.

During first semester, freshman year, and second semester, sophomore year, students will attend individually selected and approved University classes from the areas of Mathematics, Physical or Natural Sciences, Foreign Languages, the Humanities or Social Sciences. In the other semesters, freshmen and sophomore years, students attend Air Force ROTC classes two hours a week. In all freshmen and sophomore semesters, students attend AFROTC Leadership Laboratory.

Credit for Air Force ROTC courses may be applied toward the 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. degree.

(For further information refer to the section of this bulletin pertaining to the Department of Air Science.)

NAVAL ROTC

A Naval Reserve Officers' Training Corps Unit, established by the Navy Department, 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 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 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 four 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.

ALUMNI ASSOCIATION

The Association is maintained through cooperative efforts of The University and the alumni. All graduates and all former students with 10 hours or more of credit earned in The University of New Mexico are eligible for membership in the Association.

The **Alumnus**, official organ of the Association, is published monthly except during July and August and is edited by the Managing Director of the Association.

All graduates, upon payment of diploma fees, are entitled to a three-year membership in the Association. Dues are \$2 yearly or \$25 for a life membership.

The Association's program includes: coordinating and directing Homecoming activities, arranging class reunions, organizing alumni clubs throughout the State and nation, providing for a reserved alumni section at all athletic events, assisting with alumni placement services, promoting citizenship among undergraduates, assisting with student recruitment, and in other ways promoting the interests of alumni in the University. Currently, the Association is engaged in a fund-raising project to furnish an inter-faith Memorial Chapel which it has built on the campus as a gift to the University.

Alumni Association file records include information on more than 25,000 persons who have attended the University since its opening. Master, state, class and membership files are maintained.

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

ADMISSION AND REGISTRATION

APPLICATION AND CREDENTIALS

ALL COMMUNICATIONS regarding entrance should be addressed to the Director of Admissions. The University requires that each new student file an application for admission (blank 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.**

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

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 contract for board and room and a request for a \$15 advance housing deposit. The notice of admission will include an advisement and registration appointment, registration instructions, and a medical examination form.

WHEN TO APPLY

The application and high school transcript should be filed no sooner than the beginning of the final year in high school, nor later than August 15 preceding the fall semester or January 1 preceding the spring semester. For the student who has not yet been graduated from high school, the transcript should include all courses completed and should list any 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. 106). 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 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 U. S. History)

Science—2 units (Chemistry, Biology, Physics, General Science)

Mathematics—2 units (Algebra, Geometry, Trigonometry). Students planning to enter the fields of engineering, pharmacy, mathematics, premedicine, pre dentistry, the sciences, or business administration are advised to include in their preparation at least intermediate algebra and plane geometry. Students who do not plan to enter these fields may satisfy the minimum 2-unit requirement with 2 units of algebra or 1 unit of algebra and 1 unit of 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

Group F—Fine Arts (Music, Art, Drama)

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.

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 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 or to the School of Law is required to file with the Office of Admissions and Records an application for admission (form to be obtained from that office). 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 who has not attended another law school 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. (Students planning to apply for enrollment in the combined 6-year-program in Law and Arts and Sciences are referred to the explanation of this program on p. 180.)

An applicant for the School of Law who has attended another law school must send his completed application for admission form directly to the Dean of the School of Law. Before a transferring law student's application can be processed, the applicant should arrange to have the following credentials sent to the Dean of the School of Law: official transcripts of all law studies, official transcripts of all prelegal studies, and a certification from the dean of the law school last attended that the student is eligible to re-enter there.

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 an official transcript which includes a listing of courses in progress as well as all completed work. On the basis of these partial credentials, the Admissions Office will make a determination of admission status 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 less 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 admission 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 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 less than 26 semester hours of acceptable college credit will be required to enroll in the University College. (See p. 106.)

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 request for a \$15 advance housing deposit and a contract for room and board. 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. 54) 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.

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 or to the School of Law 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. On the basis of these partial credentials, the Admissions Office

will make a determination of readmission status 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. 106).

The readmitted student in regular status who has completed 26, but fewer than 64, semester hours of acceptable college credits 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.)

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."

STUDENTS FROM ABROAD

Student 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 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 may apply for such credit after a semester of a minimum of 12 semester hours has been completed 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." U. S. Armed Forces Institute correspondence courses not directly transferable or validated by "End-of-Course 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 physical examination, reported on a form provided by the University, is required of full-time students enrolling for the first time, and of those returning after an absence of one year or more. The report is to be filed with the Health Service prior to registration for the term in which the student enters. 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.

EDUCATIONAL DEFERMENT OF CIVILIAN STUDENTS

SELECTIVE SERVICE REPORTS

The University's Records Office will, upon request, provide certifications to their draft boards for students applying for educational deferment. It is a re-

quirement of Selective Service that the individual seeking deferment as a student must make written request for such deferment. It is the student's responsibility to file with his draft board a letter requesting deferment at the beginning of each school year. The certification supplied by the University supports the student's personal request.

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 3 or Speech 5, and to do additional work in the Speech and Hearing Clinic under staff direction.

After the student's arrival on the campus, the Personnel Office 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 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.

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 one week 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):

	Per Semester	
	N. M. Residents	Non-Residents
Students carrying 8 or more hours:		
Tuition *	\$123.00	\$248.00
Activities Fee ¹	12.00	12.00
Total Tuition and Fees	\$135.00	\$260.00
Student Group Health and Accident Fee (optional) ²	7.50	7.50
Total Tuition and Fees with Group Insurance	\$142.50	\$267.50
All students carrying 7 hours or fewer:		
Tuition, per semester hour	\$ 15.00	\$ 15.00

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 (\$45.00—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 \$15 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.

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	4.00
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

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

¹ Optional for graduate 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.

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

‡ See definition of special examinations, p. 100.

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
Doctor's dissertation fee	45.00
Riding, per semester	20.00
English A	20.00
Applied Music (see p. 65).	
Organ rental, per semester	12.00
Use of practice rooms (other than organ *):	
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 next preceding the student's registration or re-registration.

An Adult Student is entitled to resident student status if he 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 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.

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

* Excellent pipe organs are available to students in several churches. See instructor concerning rental fees.

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. 90 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.

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	\$135.00
Student health and accident insurance	7.50
Books and supplies	50.00
Board and room	348.00
Clothing, laundry, misc.	159.50
Total, per semester	<u>\$700.00</u>

Non-resident students must add \$125 per semester to the foregoing tuition. All charges are subject to change without notice.

STUDENT HOUSING

FACILITIES AND REGULATIONS

LIVING quarters in residential halls are available to all University students. Men students reside in Mesa Vista Hall and Coronado Hall. Women students reside in Hokona Hall.

All University freshmen whose homes are not in Albuquerque are required to live in the University residential halls for the academic year regardless of social affiliations. All undergraduate women whose homes are not in Albuquerque are required to live in a University residential hall or in one of the sorority houses.

Exceptions to this regulation include: special adult students, regularly enrolled students who are over 21 years of age and who are registered for 6 hours or fewer, and students who are working for board and/or room in homes approved by the Personnel Deans.

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

HOUSING RESERVATION FEE

An advance deposit of \$15.00 is required of all students who desire University housing. The deposit is automatically forfeited if the student fails to give notice of cancellation or if notice of cancellation is received later than two weeks prior to the first day of registration in a period for which the deposit has been paid.

NEW STUDENTS

The Director of Admissions will study each student's application for admission and his high school or college transcript. When these are found to be in order, and it has been determined that housing facilities are available, the procedure will be as follows:

1. The student will be informed of his acceptance and will be requested to forward a \$15.00 check or money order as an advance housing deposit, if he desires University housing. This remittance should be made to the Collections Office, Mesa Vista Hall, The University of New Mexico and **must be accompanied by a housing contract** signed by the student (and by his parent or guardian if he is under 21 years of age). By the terms of this contract, the student agrees to reside in University housing for a full academic year.
2. When the student's remittance is received at the University, the Director of Hokona Hall will advise the woman student to which area of Hokona Hall she has been assigned and will provide a list of furnishings needed. The Housing Director will inform the man student of his general dormitory assignment and of furnishings needed. Upon arrival at the University, men

should report directly to the hall to which they have been assigned. The receipt for the advance housing deposit should be presented at this time. Women should report directly to Hokona Hall. Both men and women students should plan to arrive between 8:00 a.m. and 10:00 p.m.

3. All questions concerning an exception to housing regulations should be addressed to the Dean of Men or to the Dean of Women.

STUDENTS REQUESTING READMISSION

A student who has previously attended the University but who is not presently enrolled and is requesting readmission will receive his housing contract and a deposit request from the Director of Admissions when it has been determined that he is eligible for readmission. The reservation procedure is the same as outlined above under "New Students."

STUDENTS CONTINUING IN ATTENDANCE

Students now living in the residential halls are required to make housing reservations for the following year not later than May 15th of the Spring semester. Student occupancy in residential halls is on a school-year basis. Unless an advance contract is on file with the Director of Housing, living space may be assigned to another student.

CHANGES IN STUDENT'S PLANS

Should an applicant for admission or readmission to the University find it impossible to keep a reservation, he should notify the Director of Admissions not later than two weeks before the first day of registration.

GENERAL REGULATIONS

Upon receipt of the housing contract and \$15.00 advance housing deposit, a room 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. The University also reserves the right to deny or to cancel room assignments if such action is deemed desirable.

The University reserves the right to determine where a student may reside.

No woman student may change her residence without the consent of the Dean of Women.

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

The University reserves the privilege of closing its residential halls during official recess periods. (NMEA Convention, Thanksgiving, Christmas and New Year, Easter, etc.) When the halls are to be closed, they must be vacated by 5:00 p.m. of the day the holiday begins.

All students who are not required to remain on the 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 residential halls are required to take their meals at the University dining halls. Room and board charges are payable in advance or in three installments as described later. (Payable at Collections Office, Mesa Vista Hall.)

RATES FOR BOARD AND ROOM IN RESIDENCE HALLS

	Per Semester	Per Year
Single Room	372.00	744.00
Double Room per person	348.00	696.00

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. (A \$2.00 residence hall social fee is included in each semester's fee.)

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

PAYMENT OF ROOM AND BOARD

Semester charges for room and board are payable in advance, or in three installments. (If the installment plan is used, a \$2.00 deferred payment fee will be charged.)

The first installment of \$150.00 for room and board is payable when the student moves into the residential hall. The remaining two equal payments are due and payable during the 6th and 11th weeks, respectively, of each semester.

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 at the Collections Office, Mesa Vista Hall.

GUESTS

A student may have an overnight guest with permission of the Director of the residential hall. The guest will pay \$2.00 to \$5.00 per night depending upon the accommodation. A guest may have meals on a cash basis at the dining hall.

MARRIED HOUSING

The University owns and operates some apartments for married students. Applicants for this type of housing must be enrolled in The University of New Mexico as full-time students. 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 withdraws:

	Refund
During the first 2 weeks of classes	80%
During the 3rd through 5th week of classes	60%
During the 6th through 8th week of classes	40%
During the 9th through 11th week of classes	20%

A student who withdraws after the 11th week of classes will receive no 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, under the direction of the Student Loan Committee, 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 LOAN FUND

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 will be 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 loan application is August 15 for the fall semester and December 15 for the spring semester.

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 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; 209 West 1st Street, Roswell, New Mexico; or 128 South Water, Las Cruces, New Mexico. 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

Announcements of awards for scholarships, prizes, medals, and certificates are made by the President of the University after recommendations have been made to him by the Scholarships and Prizes Committee.

Information as to all scholarships and awards available may be received at the Personnel Office, Administration Building.

SCHOLARSHIPS

In the fall of each year the University sponsors a series of tests for New Mexico high school junior and senior students. A large majority of the high schools in the State of New Mexico cooperate in this testing program.

Those students who rank sufficiently high on these tests, who have maintained a superior academic average during their high school courses, and who are able to demonstrate financial need will be eligible to request scholarships.

The number of scholarships that can be granted to New Mexico students during any one year is limited by an act of the New Mexico State Legislature to 2% of the previous year's enrollment.

The University selects a few outstanding high school seniors for Commendation awards. These are based on superior academic achievement throughout high school. Financial need is not a factor.

The same application and recommendation form is used for both the tuition scholarships and Commendation awards. These forms may be obtained from the high school counselors. Deadline for filing an application is April 15th.

The Regents of The University have made available a number of partial-tuition scholarships for non-residents of New Mexico who show promise of high academic achievement, who possess good character, and whose need for financial aid can be demonstrated. Scholarships to out-of-state students are not granted until the applicant has been on the campus for at least one semester.

All of the above scholarships are granted for one semester only and are renewable upon request provided the student maintains a satisfactory academic average.

There are many other scholarships and prizes available to The University of New Mexico students. Some of these are open to all students, others are for upper-classmen only, and some are for students who show special aptitudes. Requirements for many of the special awards and scholarships are specified by the donors. See below through p. 87.

For information on scholarships in Latin American Studies, 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.

Scholarships of \$100 or more are usually paid in two installments: one at the beginning of the first semester, and the other at the beginning of the second semester.

The Order of Ahepa Scholarship. A scholarship of \$125 will be awarded each semester to a student at The University of New Mexico who is majoring in philosophy and who is in need of financial assistance.

The Albuquerque City Panhellenic Scholarships. Each year the Albuquerque City Panhellenic provides a number of scholarships for entering freshmen 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 Gem and Mineral Club Scholarship. An annual scholarship of \$150 to be awarded to a deserving geology major with special interest in mineralogy.

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 of \$50 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 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.

The American Legion Post Number Forty-nine Memorial Scholarship in Nursing. This scholarship of \$200, established in memory of Mathilda Oglesby, a nurse in World War I, is awarded to a student in the College of Nursing upon recommendation of the Dean of that college.

The American Ordnance Association—Albuquerque Chapter Scholarship. This scholarship is 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 will be 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.

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. Four scholarships are awarded each year to New Mexico high school students entering the field of civil engineering. Awards are not restricted to The University of New Mexico enrollees.

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

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, will provide scholarships for children of the employees of the physical plant.

The Thomas S. Bell Scholarship. 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 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 four years, and who will continue as a resident student in the University.

The Bernalillo County Council of Parent Teachers Associations Scholarships. Two scholarships of \$250 each have been established by the Bernalillo County Council of Parent Teachers Associations for juniors or seniors 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 \$250 given to a first-year medical student who must be a resident of Bernalillo County.

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 Albert E. Buck Memorial Scholarship. A scholarship of \$1,000 or more annually, provided by the Rio Grande Steel Products Company in memory of the late Albert E. Buck in recognition of his outstanding civic contributions, will be awarded to a worthy graduate of a New Mexico high school on the basis of financial need, interest in engineering, high school record, and participation in intercollegiate athletics.

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 Chi Omega Alumnae Scholarship. A scholarship equal to one semester's 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.

The Lena C. Clauve Scholarship. A \$400 scholarship established in honor of Lena C. Clauve, Dean Emeritus of Women and Professor Emeritus of Music, by the Maia Chapter of Mortar Board. It is to be awarded to a woman student who has completed three semesters of creditable work at the University and is in need of financial assistance. The recipient will be 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.

The Margaret Cordell Memorial Scholarship of the Zia Parent Teachers Association. The Parent Teachers Association of Zia School has established an annual scholarship of \$100 as a memorial to the late Margaret Cordell who was a teacher at Zia School. The award is made to a senior in the College of Education intending to teach in New Mexico.

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, will be awarded annually to a member of Sigma Chi Fraternity above the rank of freshman who has the highest scholastic record during the year.

The Daughters of Penelope Memorial Scholarship. An annual scholarship in the amount of \$50 established in memory of Mrs. Alexandria Carrigan and Mrs. Anastasia Ipiotes, to be awarded to a woman in the College of Education who is a resident of New Mexico, and who plans to teach in elementary or secondary schools. Good scholarship and need are determining factors.

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 splended service given to The University of New Mexico Law School by Dean A. L. Gausewitz will be 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 woman student whose parents or legal guardians are residents of the State of New Mexico.

The Delta Kappa Gamma Scholarship in Education. A scholarship of \$50 is awarded to a woman student in the College of Education.

The Doña Ana County Bar Association Law Scholarship. The Doña Ana County Bar Association awards a scholarship of \$120 per semester 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. The scholarship is renewable. Applications should be addressed to the Doña Ana County Bar Association and delivered to the office of the Dean of the Law School.

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 Downtown Lions Club Scholarship I. The award covers full tuition costs for an instate 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 Downtown Lions Club Scholarship II. The award covers full tuition costs for an instate 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 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 will be awarded annually to a sophomore or junior woman student in the College of Business Administration on the basis of scholarship, need, and the recommendation of the Dean of the College.

The Espanola Hospital Volunteer Service Scholarship. A \$100 award is made annually to a student in nursing by the Espanola Hospital Volunteer Service.

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 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 College of Fine Arts Awards in Painting and Music. An amount equivalent to the income from \$15,000 will be provided annually for a scholarship in painting and one in music. The recipients of these scholarships will be approved by the Committee on Scholarships and Prizes upon the recommendation of the Dean of the College of Fine Arts.

The Forty and Eight Grand Voiture of New Mexico Scholarship in Nursing. This scholarship of \$500, payable \$125 a year for four years, is awarded to a student selected by the Dean of the College of Nursing on the basis of New Mexico residence, high school record, references, and age.

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 \$130 per year for four 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 Freshman Engineering Scholarship. An annual award of \$50 is made to a freshman student who has completed the first semester of the engineering program as prescribed in the University's general catalog. The award is made on the basis of scholarship and financial need.

The Lt. John D. Gamble Memorial Law Scholarship. A scholarship of \$100 is awarded annually on the basis of ability, social awareness, and need, to a first- or second-year law student selected by the faculty of the School of Law. This scholarship has been established by Mrs. John D. Gamble, Santa Fe, in honor of her late husband, Lieutenant John D. Gamble, a New Mexico lawyer.

Dean Alfred L. Gausewitz Scholarship. A cash scholarship established by the Albuquerque Bar Association in honor of Alfred L. Gausewitz, first Dean of the School of Law, to be awarded on the basis of merit and need to a deserving second- or third-year law student selected by the faculty of the School.

The General Motors Scholarship. A scholarship sufficient to supplement fully the resources of the student so that he will be assured of four 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 will provide 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 will be 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 will be 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 will be used to assist in the education of a worthy student athlete who is regularly enrolled at The University of New Mexico.

The Hoshour Memorial Fund. 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, provides scholarships or prizes for one or more students in the School of Law.

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 Altruza Clubs and Business and Professional Women's Clubs throughout 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 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 which 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 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 two years. The scholarship is renewable, and the recipient will be selected by the Scholarship and Prizes Committee of the University based on recommendations received from the Chairman of the Architecture Department.

The Kirtland Air Force Base Officers' Wives Scholarships. Two tuition scholarships have been established by the above group to be awarded to children of Armed Services personnel assigned to Kirtland Air Force Base as well as to the children of retired Air Force personnel living in the immediate area. The recipients are to be selected on the basis of their academic achievement, recommendations, and citizenship. The award is renewable if the student's academic achievement is outstanding. It is to be administered by the Scholarship and Awards 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.

The Robert W. Korber Memorial Scholarship. The Robert W. Korber Memorial Scholarship, an award of \$270 (\$30 per month for nine months), is given to a worthy freshman, graduate of a New Mexico high school, who majors in physical education. The selection will be made by three members of the staff in the Department of Physical Education for Men, and the award will be repeated each year for four years if the student selected maintains a satisfactory scholastic record.

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

The Laguna P.T.A. Scholarship. The Laguna Parents and Teachers Association provides a \$150 scholarship each year to a male or female student who is of Laguna Pueblo Indian extraction, is in good scholastic standing, and is a sophomore or higher.

The Harry and Mabel 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, will be awarded annually for four years, beginning in September 1957, to a student recommended by the Dean of the College of Nursing.

The Los Alamos District Number Nine Nurses Association and Los Alamos Medical Auxiliary Scholarship. This scholarship, established by the two organizations named in the title, is awarded to a student in 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 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.

The Julia Meardon Scholarships. Special scholarships in the College of Nursing have been provided by Mrs. Julia P. Meardon of Santa Fe.

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, will provide 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 to be known as the **Abraham Lincoln Mitchell Scholarship**. The income from this fund is to be awarded to a man or woman student at 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 specially considered.

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 Monte Vista Parent Teachers Association Scholarship in Elementary Education. A scholarship of \$110 provided by the Monte Vista P.T.A. is awarded to a junior or senior in Elementary Education who plans to teach in New Mexico, the basis of award being creditable scholarship and financial need.

Mortar Board Scholarship. Mortar Board has established a \$300 scholarship for a woman undergraduate who is a sophomore, junior, or senior. The recipient must have an aggregate three-point to be considered for this award.

The Music Performance Awards. From the proceeds of departmental concerts, the faculty of the Department of Music in 1956 established four awards of \$150 each to be given to four 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 will be paid in two installments of \$75; 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.

The Neely Enterprises Scholarship. Two scholarships of \$250 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 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 Scholarships. 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 Association of Osteopathic Physicians and Surgeons Auxiliary Scholarship in Nursing. This scholarship provides \$200 a year for four years for a student in the College of Nursing.

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.

The New Mexico Licensed Retail Beverage Dealers Association Scholarships. Two scholarships in the amount of \$500 each are awards given annually to freshmen students whose parents are connected in some manner with the Retail Alcoholic Beverage Industry in the State.

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

New Mexico Nurse's Association District No. 1 Scholarship. A scholarship of \$100 awarded by the Nurses Association of District No. 1 to a student in nursing. The award is renewable for three years. At the end of the three-year period, the scholarship moves to Regina School of Nursing for three years. The 1960-61 academic year is its third consecutive year at The University of New Mexico, so it will return to a nursing student at the University in 1964.

The New Mexico Petroleum Industries Scholarships. Each year the N.M.P.I.C. awards two scholarships for \$250.00 to students of the six state institutions. One of the awards went to The University of New Mexico in 1960, so it can not return until the fall of 1963.

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.

New Mexico Scholarship Fund. A limited number of scholarships, ranging in amount from \$200 to \$850, are provided for students of demonstrated academic ability and economic need. These scholarships, intended primarily for freshmen who are graduates of New Mexico high schools, may be renewed on the basis of satisfactory academic achievement.

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

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.

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.

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. Three 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 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 Rocky Mountain Mineral Law Foundation Scholarship. A sum of money will be made available annually by the Rocky Mountain Mineral Law Foundation to the Dean of the School of Law to be awarded at his discretion upon the basis of merit to a regularly enrolled student in the School who has achieved high scholastic rank in his mineral law course and his law work generally, and has done research in the mineral law field.

The Millicent A. Rogers Foundation Scholarship. This scholarship of \$500 is awarded annually to a resident Spanish-American or Indian student 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.

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.

The Sanitary Laundry Scholarship. A scholarship of \$100 each semester will be awarded to a male student in the College of Business Administration who also participates in intercollegiate athletics.

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. Four scholarships of \$60 each have been provided by the Sigma Chi Mothers Club. Two of the scholarships are to be awarded in the spring semester and two 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 established by the New Mexico Chapter of Sigma Delta Chi, journalism fraternity, 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 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 Soroptimist Scholarship Award. The Soroptimist Club of Albuquerque has established an annual scholarship of \$200 to be awarded to a woman student in the School of Law.

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 proved ability and shall be in need of financial assistance.

The Department of Speech Forensic Scholarship for Freshmen. A scholarship of \$50 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 Engineering. An annual scholarship of \$500 established by the Standard Oil Company of Texas is awarded to a senior in the College of Engineering on recommendation of the faculty of that College on the basis of scholarship, extra-curricular activities, and good citizenship. A matching grant of \$500 is made to the College of Engineering.

The Theta Sigma Phi Scholarship in Journalism. This scholarship of \$100 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.

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 has a relative of Confederacy ancestry.

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.

The Westinghouse Educational Foundation Achievement Scholarship in Physics. A scholarship of \$500 is awarded annually to a junior in the Department of Physics on the basis of high achievement in his academic work and demonstrated qualities of leadership. The selection will be made by a committee of the Department of Physics, who will make their recommendation to the Scholarships and Prizes Committee.

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.

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.

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 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.

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

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.

The American Society of Technical Writers Prize in Report Writing. A prize of \$10 is provided by the Albuquerque Chapter of the American Society of Technical Writers for the best report written by a student in the course in report writing.

Evelyn Duffett Ancona Prize (Music). A \$25 prize is awarded each November 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 Annual Student Art Show Prizes. Awards are made for the best work submitted to the Annual Student Art Show, the selection to be made by a jury of students and faculty members.

The Anonymous 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.

Architectural Design Competition. Prizes in the amount of \$250 are awarded annually to fifth-year architectural students submitting the best theses.

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 Irene B. Bennett Nursing Award. An award to be given to an Indian student in the College of Nursing.

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 two consecutive years of residence in the University.

The Bureau of National Affairs Prize in Law. A certificate and a subscription to *Law Week* are awarded annually to the graduating student in the School of Law who has made the best progress during his senior year.

The Nathan Burkan Memorial Competition in Copyright Law. Prizes of \$150 and \$50 provided by A. S. C. A. P. are awarded annually to second- and third-year students in the School of Law for papers on copyright law.

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 51L and 52L selected as 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 Margaret Keiper Dailey Memorial Award in Law. The income from a fund established in memory of Margaret Keiper Dailey, member of the Class of 1951, provides book awards for one or more students in the School of Law. These awards are made on the basis of satisfactory scholarship, character, and those qualities of the heart and mind that distinguished Mrs. Dailey's personal and professional life.

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 graduated senior in the College of Pharmacy who has attained the highest grade average for the entire course in pharmacy.

Walter Fisher Memorial Prize in Art. The prize is for \$25.00 and goes to the artist who submits the best painting in the annual student show.

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.

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.

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.

Langell Prize for Creative Work in Art. An award of \$25 to be made for the best creative work of art submitted in the annual student art show.

The College of Law Academic Prizes. Suitable prizes provided by an anonymous donor are awarded at the annual Law Day banquet to the highest ranking student in each of the three years.

The Lawyers Title Award. A prize consisting of an appropriate certificate and \$100 in cash, law books, or other form is made annually by the Lawyers Title Insurance Corporation of Richmond, Virginia, to a graduating senior in the College of Law for excellence in real estate law.

The Joseph W. Meek Memorial Plaque of Honor Graduates. A plaque upon which is inscribed each year the name of the honor graduate in the School of Law.

The Joseph W. Meek Prize in Taxation or Commercial Law. An annual prize established as a memorial to the late Joseph W. Meek, Professor of Law, consisting of an inscribed medal and key ring, is awarded to a student for outstanding achievement in Commercial Transactions and Taxation I.

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 Auxiliary of the New Mexico Society of Certified Public Accountants Award. An annual prize of \$50 is given to the senior accounting student with the best grade average in the College of Business Administration.

The Northern New Mexico Section of the American Institute of Electrical Engineers Award. An award of dues for one year as an associate member of the A. I. E. E. and an associate member's badge is made to the graduating senior in the Department of Electrical Engineering who has the highest grades in that curriculum and who is a student member of the A. I. E. E. during his senior year.

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.

The Rocky Mountain Mineral Law Foundation Essay Prizes. Prizes of indeterminate amounts will be awarded annually for the best essays submitted to the Rocky Mountain Mineral Law Foundation by juniors or seniors in law schools which are members of the foundation. The essays must be on topics which are related to oil and gas law or mining law and which are selected by the foundation.

The Pearce C. Rodey Memorial Prize in Law. An annual prize of \$75 established by Sheila Rodey Faust and Edgar Faust in memory of Pearce C. Rodey is divided between two students for excellence in legal writing.

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 Allen Smith Company Law Prizes. Certificates worth \$25 each toward the purchase of *New Mexico Statutes Annotated* or other publications are awarded annually to three outstanding students in the graduating class of the School of Law.

The Tile Council of America Award in Architectural Engineering. Prizes of \$25.00, \$15.00, and \$10.00 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 Awards. Prizes 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 and to an outstanding student in Corporations in the School of Law.

The West Publishing Company Book Prizes in Law. Three law book prizes are awarded annually for outstanding achievement in the School of Law.

MEDALS AND CERTIFICATES

Alpha Kappa Psi Key. Professional business administration fraternity scholarship key for the graduating senior man enrolled in the College of Business Administration with the highest total scholarship index for the last three years in residence at The University of New Mexico.

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 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 Director of Student Affairs. There follow descriptions of some of the services and programs whose purpose 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. 63.

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 to students needing it. This service includes the administration, scoring, and interpretation of reading and vision screening tests, and individual assistance 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.

PLACEMENT BUREAU

The Placement Bureau is maintained (1) to assist students in finding part-time employment to supplement their incomes while they are in school, and (2) 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 Division of Veterans Affairs at The University of New Mexico was established to provide every possible service to veterans, and to aid in the solution of any and all problems that may arise in the student veteran's relationship with the University and the Veterans Administration. The veteran is given assistance in obtaining a certificate of eligibility from the Veterans Administration, help with registration and orientation in the University, certification of registration to the Veterans Administration so that subsistence payments may start, assistance in withdrawing from the University or interrupting educational programs, and information on any changes in procedures and regulations of the University and the Veterans Administration. In short, the Division of Veterans Affairs helps the veteran secure the greatest good from his G.I. benefits and protects his interest in these benefits.

HEALTH SERVICE

The University Health Service operates a dispensary and infirmary adequately staffed by physicians and graduate nurses. The infirmary is open 24 hours a day, with physicians maintaining morning and afternoon office hours and on call for emergencies arising at any time. Hospitalization and treatment for acute illnesses of relatively short duration are provided without charge to the student enrolled for full-time instruction. Students with illnesses requiring specialists' services are referred for treatment at their 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.

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 University 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.

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. A faculty lounge, ballroom, and many meeting rooms round out the facilities which enable the Union to serve the University campus.

STUDENT ORGANIZATIONS

ASSOCIATED STUDENTS. The students of the University constitute a general student body organization which is called "The Associated Students of The University of New Mexico," and which controls the other organizations of general interest.

ASSOCIATED STUDENTS COUNCIL. The Associated Students Council is the administrative agent of the Associated Students of the University. Representatives of the Council are elected from the student body.

STUDENT SENATE. The Student Senate is the other governing board of the student body. It is composed of a representative from each organization on the campus.

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 secure uniform and broad social interests among University women. 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 Delta, Alpha Kappa Psi, Alpha Phi Omega, Beta Alpha, Blue Key, Campaña, Chi Epsilon, Delta Sigma Pi, Kappa Alpha Mu, Kappa Mu Epsilon, Kappa Omicron Phi, Kappa Psi, Lambda Sigma Eta, 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: Alpha Epsilon Pi, Delta Sigma Phi, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, 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.

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: Baptist Student Union, Canterbury Club, Christian Science Organization, Hillel Counsellorship, Lobo Christian Fellowship, Luthern Student Association, Newman Club, Presbyterian University Fellowship, Student Christian Fellowship, and Wesley Foundation.

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 Mountain States 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, and swimming.

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.

OTHER RECREATIONAL 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. Rodey 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. Wednesday 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.

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 (1) 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 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. 95, and under "Withdrawal from The University" on p. 97.

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 official grade reports 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, grade 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 of program of studies. The student obtains signatures called for on 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 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

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

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. 97. 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.

A 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.

CHANGE IN COLLEGE. A student who desires to change his registration from one college to another shall petition the dean or director of his college. 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. 94). 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 student is earning a passing grade. 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; a student enrolled for graduate credit may make this change only if he is earning a grade of B 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 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.

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 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. 102.

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 unaccredited, 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 on a per-credit-hour basis. (See p. 65.) Other types of special examinations have a per-course fee (see p. 65). 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 registered for the first time in the 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 120 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 required 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.

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, 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. 96.

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.
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 and 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 14 to 20 hours in courses listed under "General Studies" in the section of this Catalog entitled "Courses of Instruction" (see p. 263), 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 of 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 the over-all academic accomplishment of such students.

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 the 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 achieved a total of 72 or more hours attempted or a total of 64 or more hours earned.

SCHOLASTIC REGULATIONS

See p. 97.

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 Catalog section 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.

Although any 60 hours in the University (with the exception noted above) may be used to acquire the University College Certificate, the student whose plans require him to limit his formal education to 2 years of college work may find the suggested curricula below quite helpful to him in planning for his future.

ART

First Semester	Freshman Year		Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Soc Sci 1 Intro to Soc Sci	3	Ec/Gov/Soc 2 Intro to Soc Sci	3
Art 3 Two Dim Design, or		Art 9 Three Dim Design or	
Art 9 Three Dim Design	3	Art 3 Two Dim Design	3
Electives	7	Electives	7
Physical Ed	1	Physical Ed	1

Sophomore Year

Art 71 Gen Art Hist	3	Art 72 Gen Art Hist	3
Art 6 Begin Drawing, or Art 8 Gen Crafts	3	Art Electives	9
Electives	4	Electives	4
Art Electives	6	Physical Ed	1
Physical Ed	1		

CLERICAL

First Semester

Freshman Year

Second Semester

Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
Soc Sci	3	Soc Sci	3
Science	3-4	Bus Ad 17 Office Mach & Filing	2
Bus Ad 12 Intern Typ	3	Science	3-4
*Elective	2-3	Math 1 Coll Arith	2
Physical Ed	1	Electives	2
		Physical Ed	1

Sophomore Year

Literature	3	Speech 55 Pub Spkg	3
Bus Ad 5 Prin of Acctg	3	Bus Ad 6 Prin of Acctg	3
Soc Sci	3	Bus Ad 62 Adv Typ	3
Electives	6-8	Electives	3-5
Physical Ed	1	Bus Ad 65 Bus Commun	3
		Physical Ed	1

HOME ECONOMICS

This curriculum in the University College is designed to prepare the student for the role of homemaker and community member, and leads to a certificate. If a degree program is desired, see the curricula outlined on pp. 144 and 236.

Freshman Year

First Semester

Second Semester

Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
Soc Sci	3	Soc Sci	3
†H Ec 12L Cloth Selec & Constr	3	Biol 36 Hum Anat & Phys	3
H Ec 2L Inf Growth & Dev	3	H Ec 53L Fd for Fam Grp	3
Electives	3	Electives	3
Physical Ed	1	Physical Ed	1

Sophomore Year

H Ec 54L Fd for Fam Grp	3	Speech 55 Pub Spkg	3
H Ec Elective	3	H Ec 60 Textiles	3
Soc Sci	3	H Ec 62 Pers & Fam Hlth	2
Electives	7	Psy 51 Gen	3
Physical Ed	1	Electives	5
		Physical Ed	1

INDUSTRIAL ARTS

Freshman Year

Second Semester

Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
Soc Sci	3	Soc Sci	3
IA 1 Shop Computa	3	IA 2 Shop Computa	3
IA 5 Intro to IA	1	IA 20L Mach Shop	3
IA 10L Gen Wdwk	3	Elective	3
CE 11L Drafting I	3	Physical Ed	1
Physical Ed	1		

* Suggested elective: Commercial Art.

† Certain elementary courses may be waived on the basis of a placement test if the student has had home economics in high school.

Sophomore Year

Literature	3	Speech 55 Pub Spkg	3
Psy 51 Gen	3	Soc Sci	3
Soc Sci	3	IA 35L Wkshp Tool & Mach Shp Care	
IA 30L Gen Finish	1	& Maint	1
CE 61L Drafting III	3	CE 12L Drafting II	3
Art 17 Crafts for IA	2	Art 18 Crafts for IA	2
Physical Ed	1	Elective	3
		Physical Ed	1

MUSIC

Freshman Year

First Semester		Second Semester	
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Soc Sci I Intro to Soc Sci	3	Ec/Gov/Soc 2 Intro to Soc Sci	3
Mus 5 Harmony	3	Applied Music	2
Applied Music	2	Ens Mus (Band, Chorus, Orch)	1
Ens Mus (Band, Chorus, Orch)	1	Mus 155 Orch Instr	1
Mus 155 Orch Instr	1	Electives	3
Electives	3	Mus 6 Harmony	3
Physical Ed	1	Physical Ed	1

Sophomore Year

DA 1 Fund Spch & Rdg	3	DA 2 Fund Spch & Rdg	3
Mus 71 Classical Period	2	Mus 72 Romantic Period	2
Ens Mus (Band, Chorus, Orch)	1	Ens Mus (Band, Chorus, Orch)	1
Mus 65 Harmony	3	Mus 66 Harmony	3
Electives	7	Electives	7
Physical Ed	1	Physical Ed	1

SECRETARIAL

Freshman Year

First Semester		Second Semester	
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Soc Sci	3	Soc Sci	3
Bus Ad 12 Interm Typ	3	Bus Ad 17 Office Mach & Filing	2
†Bus Ad 13 Shorthand	3	†Bus Ad 14 Shorthand	3
Science	3-4	Science	3-4
Physical Ed	1	Physical Ed	1

Sophomore Year

Bus Ad 53 Transcription	3	Speech 55 Pub Spkg	3
English Lit	3	Bus Ad 62 Adv Typ	3
Math 1 Coll Arith	2	Bus Ad 54 Speed Dicta	3
Electives	3-6	Soc Sci	3
Bus Ad 65 Bus Commun	3	Electives	5-6
Physical Ed	1	Physical Ed	1

† Certain elementary courses may be waived on the basis of a placement test if the student has had shorthand in high school.

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 100 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 100 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 1, 2 (unless English 1 has been waived), and 3 additional credit hours must be earned in a course in literature numbered above 50. A student deficient in writing skill may at any time be referred to English Workshop for remedial aid. Normally, English 1 and 2 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 (51, 52) 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. 101.)

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) Social Science 1, 2, (f) 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 100 or above and to penalties for excessive hours in freshman courses shall be set aside when in conflict with distributive minor requirements. The student should consult the chairman of his major department if he wishes to take a distributed minor.

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. 149 for approved areas).

Students intending to follow this plan should consult the office of the Dean of the College of Arts and Sciences as early in their college careers as possible.

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 72, 103, 104, 125, 167, 169, 171, 172, 174.
- (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.

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.

* 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.

First Semester		Second Semester	
†English 1 (Group 1)	3	English 2	3
At least 9 hours from Groups II, III, IV, or V	9-10	At least 9 hours from Groups II, III, IV, or V	9-10
Elective	3	Elective	3
Physical Education	1	Physical Education	1

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 Groups I, II, III, IV, or V	12-13	At least 12 hours from Groups I, II, III, IV, or V	12-13
Elective	3	Elective	3
Physical Education	1	Physical Education	1

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 courses as a minor in the College. See "School of Law," p. 180, and requirements for a Minor in Law, p. 275.

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

† If the student fails to pass the placement test, English workshop is required.

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. 119.

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 degree of Bachelor of Science in Medical Technology as well as certification as a Medical Technologist (American Society of Clinical Pathologists) may be obtained by following the curriculum prescribed below, including completion of the 12-month medical technology program at an approved hospital in Bernalillo County, New Mexico. 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 less 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 prescribed 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 1L Gen	4	Chem 2L Gen	4
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Foreign Language	3	Foreign Language	3
Math 15 Coll Alg	3	Math 16 Pl Trig	2
†Soc Sci	3	‡Soc Sci	3
Physical Ed	1	Physical Ed	1
	<hr/>		<hr/>
	16		15
	+P.E.		+P.E.
Sophomore Year			
Biol 1L Gen	4s	Biol 2L Gen	4
Chem 101-103L Organic	4	Chem 102-104L Organic	4
English Literature	3	Foreign Language	3
Foreign Language	3	Physics 12L Gen	4
Physics 11L Gen	4	‡Social Science	3
Physical Ed	1	Physical Ed	1
	<hr/>		<hr/>
	18		18
	+P.E.		+P.E.
Junior Year			
Biol 130L Verte Physiol	4	Biol 93L Gen Bact	4
Chem 53L Quant Anal	4	Biol 123L Biol Chem	4
*Humanities	3	Electives	6-9
Electives	3-6		<hr/>
	<hr/>		14-17
	14-17		
Senior Year			
*Humanities	3	12 months in	
‡Social Science	3	School of Medical	
Electives	7-10	Technology	
	<hr/>		<hr/>
	13-16		16
Total Number of Hours Required—124			+P.E.

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 this work and apply for the degree of Bachelor of Science in Medical Technology from The University of New Mexico.

† 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.

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 1, 2	3-3	English, and Psychology 51	3-3
French or German	3-3	French or German	3-3
Chemistry 1L, 2L	4-4	Social Science, Chemistry 53L	3-4
Biology 1L, 2L	4-4	Biology 71L and 121L	4-5
Math 15, 16	3-2	Physics 11L, 12L	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 15, 16	3-2	*Naval Science§	3-3
*Naval Science	3-3	Social Science	3
Elective	2-3	Electives	6

DIVISION OF FOREIGN STUDIES

Miguel Jorrín, Professor of Government, Director

The Division of Foreign Studies is an administrative unit of the College of Arts and Sciences and the Graduate School. From its founding in 1941 until 1959,

† Contract students see NROTC adviser.

* One laboratory and 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 fall semester.

this division functioned under the name of School of Inter-American Affairs, offering Bachelor of Arts and Master of Arts degrees in the field of Latin American studies. In 1959, a new major in Western European studies was added to the program, requiring the change of name to Division of Foreign Studies. In 1960 a major in Russian studies was added. The Latin American 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.

Students will, of course, complete the basic group requirements of the College of Arts and Sciences. The basic group requirements in Foreign Language, Humanities, and Social Science are taken care of in the specific courses required for the major in all three of the programs. Students in these programs can complete the group requirements by taking 9 hours in the English group, 14 hours in the Mathematics and Natural Science group, and four semesters of Physical Education activity courses. (See "Graduation Requirements" pp. 111-113.)

In lieu of the ordinary major and minor requirements, the student will follow a program of specific required courses.

I. MAJOR IN LATIN AMERICAN STUDIES

FOREIGN LANGUAGES, 33 hours

Spanish 1, 2, 51, 52, 92, 101, 102, 157, 158;

Portuguese 75, 76.

HISTORY, GEOGRAPHY, GOVERNMENT, ECONOMICS, 36 hours

History 1, 2, 11, 12, 161, 162, 165;

Geography 101, 102;

Government 73, 155;

Economics 121.

FREE ELECTIVES, 32 hours

A list of courses from which electives with Latin American content can be chosen will be distributed every year at registration.

II. MAJOR IN WESTERN EUROPEAN STUDIES

FOREIGN LANGUAGES, 36 hours

French 1, 2, 51, 52, 101, 102, 105, 106;

German 1, 2, 51, 52 or

Russian 1, 2, 51, 52.

HISTORY, 20 hours

History 1, 2, 145, 146, 149, 151.

Three additional hours chosen from 143, 135, 148, 178.

GOVERNMENT, GEOGRAPHY, & SOCIOLOGY, 18 hours

Government 51, 141, 143, 162, 169.

Three additional hours chosen from:

Government 121, 163, 105;

Geography 132;

Sociology 154.

ECONOMICS, 9 hours

Economics 51, 154, 181.

FREE ELECTIVES, 18 hours

III. MAJOR IN RUSSIAN STUDIES

FOREIGN LANGUAGE, 22 hours

Russian 1, 2, 51, 52, 91, 92, 197D.

ECONOMICS, GEOGRAPHY, & GOVERNMENT, 21 hours

Economics 51, 52, 190;

Geography 2, 133;

Government 157, 162.

HISTORY, 15 hours

History 1, 2, 147, 148, 149.

ADDITIONAL REQUIREMENTS, 12 hours

to be selected from the following in consultation with adviser:

Economics 154, 159;

Government 141, 142, 161;

History 145, 146, 151;

Russian 138;

Sociology 55, 140, 195.

FREE ELECTIVES, 31 hours

THE GRADUATE CURRICULUM

Facilities for graduate work in the field of Latin American Studies leading to the degree of Master of Arts are provided through an interdepartmental major. For prerequisites and requirements see the **Graduate School Bulletin**.

SCHOLARSHIPS

ALL-UNIVERSITY LATIN AMERICAN SCHOLARSHIPS. In the academic year 1961-62, 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 INTER-AMERICAN AFFAIRS. The Division of Foreign Studies is offering in the academic year of 1961-62 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 three 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.**

DEPARTMENTS OF INSTRUCTION

The College of Arts and Sciences offers work in the fields listed below:

Anthropology	History
Biology	Journalism
Chemistry	Latin American Studies*
Comparative Literature	Mathematics and Astronomy
Economics	Modern and Classical Languages
English	Philosophy
English-Philosophy	Physics
Foreign Studies	Psychology
Geography	Russian Studies*
Geology	Sociology
Government and Citizenship	Speech
	Western European Studies*

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.

* Requirements outlined under "Division of Foreign Studies," pp. 119-120.

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 includes courses in a number of areas of knowledge outside the fields of economics and business. This division comprises 40 percent or more of the entire four-year program. The second division is that of a group of courses in economics 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. 46).

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 College Algebra (Mathematics 15).

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 124 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. 94-105). 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 120 hours of degree work.
4. To graduate with a B.B.A. degree a student must have earned a minimum of 48 hours in courses in Business Administration and Economics.
5. The normal load for students in the College of Business Administration shall be 15-16 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.
10. Credit is not allowed toward a degree in the College of Business Administration for typewriting, except in the Secretarial-Office Training concentration.

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 1 and 2 (6 hrs.) Literature (3 hrs.) and Speech 55 (3 hrs.)	12
2. Social Science (other than Economics), 6 hrs.; Government (6 hrs. including 51)	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 55 and English 64 (6 hrs.)	12
5. College Algebra	3
6. Philosophy	3
7. Physical Education	4
Total	52-54
B. SPECIFIC REQUIREMENTS IN ECONOMICS AND BUSINESS COURSES COMMON TO ALL CONCENTRATIONS	
BA 5, 6, Principles of Accounting	3-3
BA 89, Business Statistics	3
BA 106, 107, Business Law	3-3
BA 108, Marketing	3
BA 110, Corporation Finance	3
BA 130, Elements of Indus. Adm.	3
Ec 51, 52, Intro to Economics	3-3
Ec 111, Money and Banking	3
Total	33
C. CONCENTRATION REQUIREMENTS (varies with concentration)	15-18
D. FREE ELECTIVES	24-19
Total hours of credit for degree	124

FRESHMAN PROGRAM (Taken in the University College)

(Be sure to read explanations and exceptions)

First Semester		Second Semester	
Engl 1 Writ w/Rdgs in Expos	3	Engl 2 Writ w/Rdgs in Lit	3
Elective*	3	Elective	3
Laboratory Science	3-4	Laboratory Science	3-4
Math 15 Coll Alg	3	Elective	3
Foreign Language or History	3	Foreign Language or History	3
Physical Ed	1	Physical Ed	1

SOPHOMORE YEAR

(Be sure to read explanations and exceptions)

Econ 51 Intro to	3	Econ 52 Intro to	3
Gov 51 Amer Gov	3	Electives	6
BA 89 Bus Stat	3	BA 6 Prin of Acctg	3
BA 5* Prin of Acctg	3	Foreign Lang or Engl 64 Inf Writing	3
Foreign Lang or Engl 55 Vocab Bldg	3	Physical Ed	1
Physical Ed	1		

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 5 and 6 in their freshman year and will enroll during their sophomore year in BA 63 and 64. 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 63 in the sophomore year or the first semester of the junior year.

Secretarial-Office Training students should follow the 4-year program as outlined on p. 129.

General Studies. Students who accept an invitation to join the General Studies program (see p. 263) 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 1 or English 2, 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, and Government 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).

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 1 and 2, he may substitute other courses in the arts or sciences for either or both English 55 and 64.

* BA 5 is open to freshmen who are eligible to enroll in, or have completed, Math 15.

Mathematics. During the freshman year the student must take Mathematics A (Intermediate Algebra—non-credit) as a prerequisite to Mathematics 15 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. 124, which were not taken in the first 2 years. A general prerequisite to all upper-division courses is Economics 51 and 52, BA 5 and 6, and BA 89, 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, Mr. Smith, Mr. Strahlem.

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 106 Business Law	3	BA 147 Auditing	3
BA 121 Adv Acctg I	3	BA 107 Bus Law	3
Elective	3	BA 111 Money and Banking	3
Postpone one of the following three courses to the senior year:		Literature	3
BA 108 Prin of Mktg	3	Elective	3
BA 110 Corp Finance	3		
BA 130 Elem of Ind Adm	3		
	<u>15</u>		<u>15</u>
	Senior Year		
Philosophy	3	Speech	3
Soc Sci Elective	3	Soc Sci Elective	3
BA 108, 110, or 130 postponed from junior year	3	Electives	9
BA 149 Income Tax Acctg	3		
BA 184 Cost Acctg	3		
	<u>15</u>		<u>15</u>

Note: Students in this concentration probably will have enrolled in BA 63 and BA 64 during their sophomore year. Students who begin accounting in their sophomore year may enroll in BA 64 and BA 184 concurrently in their junior year.

Recommended Electives: BA 65, 102, 122, 127, 148, and 150.

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.

First Semester	Junior Year	Second Semester	
BA 106 Bus Law	3	BA 107 Bus Law	3
BA 108 Prin of Mktg	3	BA 111 Money & Banking	3
BA 110 Corp Finance	3	BA 131 Finan Anal & Credit Adm	3
BA 130 Elements of Ind Adm	3	BA 127 Life Insurance	3
Elective	3	Literature	3
	<u>15</u>		<u>15</u>
Senior Year			
Philosophy	3	Speech	3
Soc Sci Elective	3	Soc Sci Elective	3
BA 198 Invest Prin & Anal	3	Econ 152 Public Finance	3
Electives	6	Electives	6
	<u>15</u>		<u>15</u>

Note: Students in this concentration are required to take BA 63 and 3 hours from the recommended electives.

Recommended Electives: BA 128, 190; Econ 162, 170, and 186.

3. GENERAL BUSINESS. Adviser: Mr. Huber.

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.

First Semester	Junior Year	Second Semester	
BA 106 Bus Law	3	BA 107 Bus Law	3
BA 108 Prin of Mktg	3	BA 111 Money and Banking	3
BA 110 Corp Finance	3	BA or Econ Elective	3
BA 130 Elements of Ind Adm	3	Elective	3
Elective (BA or Econ)	3	Literature	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
Elective	3	Elective	3
	<u>15</u>		<u>15</u>

Concentration requirements in addition to specific requirements:

- 12 hours in BA from the following: BA 63, 114, 127, 128, 131, 143, 190, 195, and 198.
- 6 hours in Economics from the following: Econ 141, 152, 154, 159, 160, 170, and 186.

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 106 Bus Law	3
BA 108 Prin of Mktg	3
BA 110 Corp Finance	3
BA 130 Elements of Ind Adm	3
Literature	3
	15
Senior Year	
BA 194 Wage Adm & Work Anal	3
Econ 141 Labor Problems	3
Philosophy	3
Soc Sci Elective	3
Elective	3
	15
BA 107 Bus Law	3
BA 111 Money & Banking	3
Soc 160 Soc of Ind Relations	3
Electives	6
	15

5. MARKETING. Adviser: Mr. Welch.

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 106 Bus Law	3
BA 108 Prin of Mktg	3
BA 110 Corp Finance	3
BA 130 Elements of Ind Adm	3
Literature	3
	15
Senior Year	
BA 182 Retail Merchandising	3
Philosophy	3
Soc Sci Elective	3
Electives	6
	15
BA 107 Bus Law	3
BA 111 Money & Banking	3
BA 143 Transportation	3
BA 183 Marketing Research	3
Elective	3
	15

6. SECRETARIAL-OFFICE TRAINING. 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		Second Semester	
First Semester			
BA 12 Intern Typ	3	BA 17 Office Mach & Filing	2
Soc Sci Elective	3	Soc Sci Elective	3
Math 15 Coll Alg	3	Elective	3
Foreign Language or History	3	Foreign Language or History	3
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Physical Ed	1	Physical Ed	1
	<u>15</u>		<u>14</u>
	+ PE		+ PE

Sophomore Year

BA 62 Adv Typ	3	Laboratory Science	3-4
Laboratory Science	3-4	Econ 52 Intro to	3
Econ 51 Intro to	3	BA 6 Prin of Acctg	3
BA 5 Prin of Acctg	3	Foreign Lang or Engl 64 (Inf Wrtnng)	3
Foreign Lang or Engl 55 Vocabulary	3	Physical Ed	1
Physical Ed	1	BA 65 Business Communication	3
	<u>15-16</u>		<u>15-16</u>
	+ PE		+ PE

Junior Year

Elective or BA 13 Shorth Theory	3	BA 107 Bus Law	3
BA 106 Bus Law	3	BA 111 Money & Banking	3
BA 108 Prin of Mktg or 110 Corp Finance	3	BA 14 Begin Dictation	3
BA 130 Elements of Ind Adm	3	BA 89 Bus Statistics	3
Gov 51 Amer Gov	3	Government Elective	3
	<u>15</u>		<u>15</u>

Senior Year

BA 53 Transcription	3	BA 54 Speed Dictation	3
BA 108 Prin of Mktg or 110 Corp Finance	3	BA 158 Office Mgt	3
Philosophy	3	Speech	3
Elective	3	Literature	3
BA 157 Sec Office Practice	3	Elective	3
	<u>15</u>		<u>15</u>

Recommended Electives: BA 114, 131; Geography 63; 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	Sophomore
First Semester	First Semester
Engl 1 Wrtnng w/Rdgs in Expos	Econ 51 Intro to
Elective	BA 5 Prin of Acctg
Lab Sci	For Lang or Engl 55
For Lang or Hist	AS 51
Math 15 Coll Alg	Soc Sci Elective
Air S Elective	

Second Semester

Engl 2 Wrting w/Rdgs in Lit
 Lab Sci
 Elective
 For Lang or Hist
 AS 12

Junior

First Semester

BA 106 Bus Law
 BA 110 Corp Fin
 BA 130 El of Ind Adm
 AS 101
 BA Elective

Second Semester

Lit
 BA 107 Bus Law
 BA 111 Mon & Bank
 BA Elective
 AS 102

Second Semester

Econ 52 Intro to
 BA 89 Bus Statistics
 BA 6 Prin of Acctg
 Soc Sci Elective
 For Lang or Enal 64
 Gov 51 Amer Gov
 Air S Elective

Senior

First Semester

Philosophy
 BA 108 Prin of Mtg
 BA Elective
 BA Elective
 Gov 141 Int Pol—
 Air S Elective

Second Semester

Speech
 BA Elective
 BA Elective
 AS 152
 Elective

BUSINESS ADMINISTRATION STUDENTS IN THE NAVY ROTC

Freshman

First Semester

Engl 1 Wrting w/Rdgs in Expos
 Lab Sci
 Math 15 Coll Alg
 NS 11
 For Lang or Hist

Second Semester

Engl 2 Wrting w/Rdgs in Lit
 Lab Sci
 Soc Sci
 NS 12
 For Lang or Hist

Junior

First Semester

BA 106 Bus Law
 BA 110 Corp Fin
 NS 101
 Lit
 BA 130 El of Ind Adm

Second Semester

BA 107 Bus Law
 BA 111 Mon & Bank
 BA Elective
 BA Elective
 NS 102

Sophomore

First Semester

Econ 51 Intro To
 BA 5 Prin of Acctg
 Soc Sci
 General Psych
 For Lang or Engl 55 Vocab Bldg

Second Semester

Econ 52 Intro To
 BA 6 Prin of Acctg
 BA 89 Bus Stat
 NS 52
 For Lang or Engl 64 Inf Writing

Senior

First Semester

BA 108 Prin of Mtg
 NS 151
 BA Elective
 Philosophy
 Gov 51 Amer

Second Semester

BA Elective
 NS 152
 BA Elective
 Speech
 Gov Elective

COLLEGE OF EDUCATION

THE GENERAL purpose of the College of Education is the effective preparation of teachers, supervisors, counselors, and school administrators. The programs designed for this purpose include offerings from the several colleges and departments of the University, including the College of Education.

Great emphasis is placed upon a broad and liberal education for each prospective teacher. Approximately two fifths of every undergraduate curriculum in this College is devoted to this liberal education. Another two fifths of each program is devoted to subject matter in the area of the student's specialization. The remaining one fifth (24 semester hours) of each program of studies includes all the professional education courses, seminars, and professional laboratory experiences deemed necessary for a beginning teacher.

This professional preparation includes: observation of and participation in actual school and community activities in Albuquerque and surrounding areas; student teaching; and courses dealing with the history, philosophy, principles, methods, materials, and evaluation of education.

ACCREDITATION

The University of New Mexico is an active member of the American Association of Colleges of Teacher Education, and is fully accredited by The National Council for the Accreditation of Teacher Education for the bachelor's, master's, and doctoral degrees in Education.

CERTIFICATION

All teacher-preparation programs have been designed to meet the appropriate requirements of the New Mexico State Board of Education for the certification of teachers, supervisors, counselors, and school administrators. The various curricula in Secondary Education also meet the recommendations of the North Central Association of Colleges and Secondary Schools as to courses in professional education and in subject matter for purposes of teaching in secondary schools.

UNDERGRADUATE PROGRAMS

The undergraduate programs in the College are devoted entirely to the preparation of regular classroom teachers and teachers in special areas (i.e., Art Education, Health, Physical Education and Recreation, Music Education, Industrial Arts, and Home Economics) for the elementary and secondary schools. These programs include course work in general (liberal) education and subject matter areas, as well as carefully planned course work and laboratory experiences in professional education.

GRADUATE PROGRAMS

MASTER'S DEGREE PROGRAMS. Graduate programs leading to the master's degree are available in the following areas of work: Art Education, Educational Administration, Elementary Education, Guidance and Counseling, Music Education, Physical Education, Science Education, and Secondary Education. All these

programs include work in subject-matter areas, as well as courses and seminars in professional education. For further information, consult the current **Graduate Bulletin**.

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 of these degree programs require 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 Bulletin** for details of these programs.

PRINCIPLES GOVERNING THE COLLEGE OF EDUCATION

1. The direction and supervision of the programs of all students expecting to receive a degree in Education shall be the responsibility of the College of Education.

2. The College solicits the recommendations of other departments in the University concerning the courses which students should include to form their teaching majors and teaching minors, and as a general policy will accept these recommendations. The College of Education, however, reserves the right of final approval of the specific courses within fields suitable for teaching majors and teaching minors for those students enrolled in the College of Education.

3. Students enrolled in other colleges of the University who expect to complete degrees in those colleges and who wish to be certified to teach in New Mexico schools should consult the deans of their respective colleges and the Dean of the College of Education concerning the courses required for certification. Under the State certification regulations **all** University of New Mexico students applying for teacher certification in New Mexico must have the recommendation of the Dean of the College of Education. It is urged, therefore, that all University of New Mexico students who are not enrolled in the College of Education but who are expecting to be certified in this State, keep in close contact with the College of Education in the planning of programs and in the choice of electives. Such students may find it more satisfactory to enroll in the College of Education, if they are preparing to teach.

4. All courses in professional education, including methods, are to be taught by persons approved by the Dean of the College of Education.

5. Instructors from other colleges teaching courses offered by the College of Education are considered members of the faculty of the College of Education as well as of the college represented by the instructor.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE. All persons enrolled in the University College who wish to transfer to the College of Education are advised to follow during the freshman year at the University the suggested curriculum leading to

the desired College of Education degree. The various curricula are outlined in this section of the Catalog.

To be eligible for transfer to the College of Education from the University College, the student must meet the requirements listed below:

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 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 a remedial English course offered on a non-credit basis by the English Department of The University of New Mexico.
4. A successful interview with a College of Education faculty member, in which the student (a) indicates a positive desire and intent to enter the teaching profession; and (b) gives evidence of physical, personal, and emotional qualities deemed adequate for successful teaching.

TRANSFERS. Students seeking to transfer from the 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 while enrolled in the other degree-granting colleges or other collegiate institutions. They must also comply with specific College of Education requirements listed above under "Admission from University College" with the exception that requirements in Nos. 3 and 4 must be accomplished by students transferring from other institutions during the first semester in which the transfer student is enrolled in the College of Education. The College reserves the right to reject transfer credits in professional education which were earned 15 years or more prior to the student's admission to this institution.

MAXIMUM NUMBER OF HOURS

No student in this College may enroll for more than 17 semester hours, 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.

STUDENT TEACHING FACILITIES

The College of Education has made arrangements with the Albuquerque Public Schools and other nearby school systems whereby student teaching may be

carried on under the personal direction of selected teachers in those systems and professors from the University.

The facilities of these school systems furnish an excellent opportunity for students to work in a practical laboratory situation in which the principles of good teaching can be observed and applied. The student teaching is correlated closely with the subjects taught in the University.

COOPERATING TEACHERS

The University of New Mexico is deeply indebted to the cooperating teachers in the Albuquerque school system 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 these privileges may be extended as the cooperation between the University and nearby school systems is increased. The names of the cooperating teachers are published each year in the **Student Teaching Handbook**, published and distributed by the University.

LABORATORIES

LEARNING MATERIALS 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, 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. A laboratory in business education is now available for those who are preparing to teach in that field.

INDUSTRIAL ARTS LABORATORIES. In cooperation with the College of Engineering, industrial arts laboratories are maintained for use of students in various IA courses. The machine shop is equipped with lathes, shapers, drill presses, vertical and horizontal milling machines, and surface and universal grinders for working metal. The sheet metal shop has a very good assortment of tools and equipment. The wood-working equipment includes band, circular, and jigsaws; jointer, planer, lathes, hand tools and benches for pattern making, carpentry, and cabinet work.

The welding shop contains A.C. and D.C. welding machines and oxyacetylene welding and cutting equipment. The foundry has molding benches and molding tools, and a furnace for melting non-ferrous metals.

EDUCATION PLACEMENT

Education placement is a function of the Placement Bureau of the University. See p. 89 for description of services.

SCHOLASTIC REGULATIONS

See pp. 97-99.

REQUIREMENTS FOR GRADUATION

Upon the completion of all specified requirements, 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, physical education and recreation receive the degree of Bachelor of Science in Health and Physical Education; 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 Bachelor of Arts in Education.

Candidates for degrees in the College of Education are required to comply with the following regulations:

1. 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.

2. 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.

3. In addition to the required work 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 course in observation and student teaching.

4. Students who plan to teach in the elementary schools are required to have a major or a strong minor in a subject area. They will be expected to follow the curriculum as outlined on p. 140.

5. Each candidate for a degree must complete at least 40 semester hours in courses numbered above 100.

6. 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 a remedial English course offered on a non-credit basis by the Department of English of The University of New Mexico. No student shall be recommended for graduation unless he shows ability to write and speak clear and correct English.

7. Every candidate for graduation must take the Graduate Record Examination. (See p. 102.) Any person wishing to take the National Teacher Examination in addition to the Graduate Record Examination may do so at his own expense.

8. For minimum residence requirements, see p. 102.

9. No more than 5 semester hours of credit earned in workshops may be used toward any bachelor's degree. (See Education 129 listed with each of the departmental offerings.) For master's degrees, workshop credit is limited as follows: a maximum of 5 semester hours may be earned under Plan I; a maximum of 8 semester hours may be earned under Plan II. Workshop credit may be applied toward a doctor's degree only with special approval of the student's Committee on Studies, but in no case may it exceed 8 semester hours of credit including the master's degree program.

GENERAL (LIBERAL) EDUCATION REQUIREMENTS

All prospective teachers should be broadly educated as a foundation for a successful professional career. The College of Education therefore requires all graduates to complete a minimum of 48 semester hours in general education subjects plus 4 semester hours in physical education. These general education requirements should be distributed as follows:

1. **Psychology.** Students should generally choose Psychology 51 to meet this requirement 3 sem. hrs.
2. **Language Arts.** English 1 and 2, Speech 55, and at least one literature courses are required. 12 sem. hrs.
3. **Social Sciences.** At least 2 courses must be taken in one department and at least 3 semester hours must be taken in another department. The following fields are accepted in this area: anthropology, economics, geography, history, philosophy, sociology, and government and citizenship. 12 sem. hrs.
4. **Natural Sciences and Mathematics.** This requirement must include work in at least 2 departments and a minimum of 6 hours in laboratory science. The following departments offer work acceptable for meeting this requirement: Physics; Chemistry; Biology; Geology; Mathematics and Astronomy; Home Economics 53L, 54L. 11 sem. hrs.
5. **Fine Arts.** This requirement may be met by work in art, art education, crafts, industrial arts, music, drama, or contemporary dance. 2-3 sem. hrs.
6. **Physical Education.** (Nonprofessional or activity courses) 4 sem. hrs.
7. **Electives.** Electives are to be chosen from the departments in paragraphs No. 1, 2, 3, 4, 5, and from professional physical education courses approved by the adviser. 8-7 sem. hrs.

Total 52 sem. hrs.

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."

ART EDUCATION

(Teacher Certification for Art and Provisional Secondary Certificates)

A student may enroll in either the Department of Art or the Department of Art Education 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 above 100.

The following curriculum prepares the student to teach art in Grades 1-12 and to teach in a second subject area in grades 7-12. The successful completion of this curriculum entitles the graduate to the Art Certificate and the Provisional Secondary Certificate as issued by the New Mexico State Department of Education.

CURRICULUM FOR SECONDARY TEACHERS

First Semester	Freshman Year		Second Semester	
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3	3
*Soc Sci	3	*Soc Sci	3	3
*Math or Science	4	*Math or Science	4	4
Art 3 Two Dim Des or 9 Three Dim Des	3	Art 9 or 3	3	3
Art 6 Begin Draw or 8 Gen Crafts	3	Art 8 or 6	3	3
Physical Ed	1	Physical Ed	1	1
Sophomore Year				
Engl Lit	3	Spch 55 Pub Spkg	3	3
*Math or Science	3	*Soc Sci	3	3
*Soc Sci	3	Psy 51 Gen	3	3
Art Ed 48 Creat Arts in Sec Ed	3	Art Ed 49 Creat Arts in Sec Ed	3	3
Art 71 Gen Art Hist	3	Art 72 Gen Art Hist	3	3
Physical Ed	1	Physical Ed	1	1
Junior Year				
Ed & Ad Serv 115 Intro to Guid	3	Sec Ed 153 Mater & Meths of Tchg	3	3
Art Ed 124 Pre-Tchg Exper in Art	3	in Sec Schs	3	3
Sec Ed 141 Founda of	3	Art Ed 125 Philos of	3	3
Major Group in Art	6	Art Electives	3	3
Art Electives	2	Major Group in Art	6	6
Senior Year				
Ed Electives	3	**Sec Ed 156-157 Student Tchg in	6 or 9	9
Art Electives	6	Sec Schs	6 or 9	9
Gen Electives	6	Gen Electives	9	9

CERTIFICATION (Art and Provisional Elementary Certificates)

The following curriculum prepares the student to teach art in grades 1-12 and to teach in general subject areas in grades 1-8. The successful completion of this curriculum entitles the graduate to the Art Certificate and to the Provisional Elementary Certificate as issued by the New Mexico State Department of Education.

* Choose from General Education requirements listed on p. 136.

** Student teaching may be divided between the 2 semesters of the senior year.

CURRICULUM FOR STUDENTS PREPARING TO TEACH ART IN
GRADES 1-12 AND TO TEACH IN GENERAL SUBJECT AREAS
IN GRADES 1-8

(Leading to the degree of Bachelor of Arts in Education)

Freshman Year	
First Semester	Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3 Engl 2 Wrtnng w/Rdgs in Lit
*Soc Sci	3 *Soc Sci
*Math or Science	4 *Math or Science
Art 3 Two Dim Des or 9 Three Dim Des	3 Art 9 or 3
Art 6 Begin Draw or 8 Gen Crafts	3 Art 8 or 6
Physical Ed	1 Physical Ed
Sophomore Year	
Engl Lit	3 Spch 55 Pub Spkg
*Soc Sci	3 *Soc Sci
*Math or Science	3 Psy 51 Gen
Art Ed 48 Creat Arts in Sec Ed	3 Art Ed 49 Creat Arts in Sec Ed
Art 71 Gen Art Hist	3 Art Electives
Physical Ed	1 Physical Ed
Junior Year	
Ed & Ad Serv 115 Intro to Guid	3 Ed & Ad Serv 90 Founda of Ed
Art Ed 124 Pre-Tchg Exper in Art	3 Physical Ed 72 Hlth Ed
El Ed 119 PE in El Sch	2 El Ed 135 Sup of Arith
El Ed 121 Sup of Pre-1st & Pr Rdg	3 Art Ed 125 Philos of
El Ed 122 Sup of Soc Studies	2 Electives
Art Electives	4
Senior Year	
**El Ed 123 Sup of Interm Rdg	2 †El Ed 136 Student Tchg in El Schs
Art Electives	4 Gen Electives
Gen Electives	9

BUSINESS EDUCATION

SECRETARIAL CURRICULUM

(Leading to the degree of Bachelor of Science in Education.)

Freshman Year	
First Semester	Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3 Engl 2 Wrtnng w/Rdgs in Lit
*Laboratory Science	4 *Laboratory Science
*Soc Sci	3 *Soc Sci
Bus Ad 12 Interm Typ	3 Math 1 Coll Arith
Fine Arts Elective	3 Bus Ad 17 Office Mach & Filing
Physical Ed	1 Physical Ed
Sophomore Year	
English (Literature)	3 Spch 55 Pub Spkg
*Math or Science	1-3 Econ 51 Intro To
Bus Ad 62 Adv Typ	3 Psy 51 Gen
§Bus Ad 5 Prin of Acctg	3 Bus Ad 6 Prin of Acctg
‡Bus Ad 13 Shorth Theory	3 ‡Bus Ad 14 Begin Dictation
Physical Ed	1 Physical Ed

* Choose from General Education requirements listed on p. 136.

** Elementary Ed 124 or 120 may be substituted for Elementary Ed 123.

† Student teaching may be divided between the 2 semesters of the senior year.

§ Business Ad 5 is open to freshmen who are eligible to enroll in, or have completed, Mathematics 15.

‡ 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.

Junior Year			
Bus Ad 53 Transcription	3	Econ 103 Consumer Ec.	3
Education Elective	3	Bus Ad 54 Speed Dicta	3
Bus Ad 106 Bus Law	3	Bus Ad 107 Bus Law	3
Bus Ad 65 Bus Commun	3	Bus Ad 158 Office Mgt	3
Electives & Minor	3-5	Sec Ed 141 Founda of	3
		Electives or Minor	2-3
Senior Year			
Bus Ad 157 Sec Office Prac	3	Sec Ed 156 Student Tchg in Sec Schs	
Sec Ed 155g Tchg of Bus Subjs	3	(in two subjects)	6
§Sec Ed 143 Wk Exper in Sec Schs or		Sec Ed 153 Mater & Meth of Tchg in	
Ed Elective	3	Sec Schs	3
Electives & Minor	8-9	Electives	2
		Education Elective	3

GENERAL BUSINESS CURRICULUM

(Leading to the degree of Bachelor of Science in Education.)

First Semester	Freshman Year		Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Laboratory Science**	4	Laboratory Science**	4
Fine Art Elective	4	Fine Arts Elective	3
Soc Sci**	3	Soc Sci**	3
Math	3	Electives or Minor	3
Physical Ed	1	Physical Ed	1
Sophomore Year			
English (Literature)	3	Spch 55 Pub Spkg	3
Econ 51 Intro to	3	Econ 52 Intro to	3
*Bus Ad 89 Bus Statistics	3	Education Electives	3
Psy 51 Gen	3	Bus Ad Elective	3
†Bus Ad 5 Prin of Actg	3	Bus Ad 6 Prin of Actg	3
Physical Ed	1	Physical Ed	1
Junior Year			
Sec Ed 141 Founda of	3	Bus Ad 111 Money & Banking	3
Bus Ad 106 Bus Law	3	Bus Ad 107 Bus Law	3
Ed Elective	3	Ed Elective	3
Bus Ad 65 Bus Commun	3	Bus Ad 108 Prin of Mktg	3
Electives or Minor	3	Electives or Minor	5
Senior Year			
Sec Ed 156-157 Stu Tchg in Sec Schs	6-9	Bus Ad 110 Corp Finance	3
Sec Ed 153 Mater & Methods of Tchg		Bus Ad 130 Elem of Indus Adm	3
in Sec Schs	3	Electives or Minor	9
Education Elective	3	Bus Ad Elective	3

MINOR STUDY IN BUSINESS EDUCATION (SECRETARIAL)

BA 5 and 6, and 15 additional hours in secretarial Business Administration courses.

MINOR STUDY IN BUSINESS EDUCATION (GENERAL BUSINESS)

BA 5 and 6, and 15 additional hours in Business Administration general business courses and in Economics courses.

§ As approved by the Chairman of the Department of Secondary Education.

** Choose from General Education requirements listed on p. 136.

* Prerequisite: Mathematics 15 or equivalent.

† Business Ad 5 is open to freshmen who are eligible to enroll in, or have completed, Mathematics 15.

EDUCATIONAL AND ADMINISTRATIVE SERVICES

See pp. 227-230 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 GRADES**

(Leading to the degree of Bachelor of Science in Education.)

First Semester	Freshman Year		Second Semester
Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
Biol 1L Gen	4	Biol 2L Gen	4
Hist 11 The Americas or 51 US	3	Hist 12 The Americas or 52 US	3
Art Ed 17 Creat Arts in El Sch	3	Art Ed 18 Creat Crafts in El Sch	3
*Elective	3	*Elective	3
Physical Ed	1	Physical Ed	1
Sophomore Year			
Engl Lit Elective	3	Spch 55 Pub Spkg	3
Geol 1 Physical	3	Geol 2 Historical	3
Math 1 Coll Arith	2	Psy 51 Gen	3
Geog 1 Gen	3	Geog 2 Gen	3
Music Ed 93 Prim Grds	2	Music Ed 94 Interm Grds	2
*Elective	3	*Elective	3
Physical Ed (W81 Recommended)	1	Physical Ed (W80 Recommended)	1
Junior Year			
El Ed 118 Child Growth & Dev	3	Ed & Ad Serv 188 Mental Hyg in Clsrn or Home Ec 138L Child Care & Dev	3-4
El Ed 119 PE in El Sch	2	El Ed 124 Sci in El Sch	3
El Ed 121 Sup of Pre-1st & Pr Rdg	3	El Ed 135 Sup of Arith	2
El Ed 122 Sup of Soc Studies	2	Physical Ed 72 Hlth Ed	3
Soc 55 Prin of	3	Gov 103 Probs of Democ	3
*Elective	3	*Elective	3
Senior Year			
El Ed 123 Sup of Interm Rdg	2	El Ed 136 Student Tchg in El Schs	9
Ed & Ad Serv 90 Founda of Ed	3	*Elective	3
El Ed 120 Child Lit	2		
*Electives	7		

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.)

* Students must use these hours toward a major or a strong minor in a subject area. Students wishing to work with mentally retarded children will be required to use enough of their elective hours to complete Elementary Ed 145 and a minor in Psychology, including Psychology 113 and 114.

Freshman Year		Second Semester	
First Semester			
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
*Soc Sci	3	*Soc Sci	3
PE 64 First Aid	2	PE 72 Hlth Ed	3
PE 44 Swimming	2	PE 74 Th & Prac of Football	2
PE 45 Phys Fitness Prog	2	PE 75 Th & Prac of Basketball	2
Fine Arts Elective	2-3	Elective	3
PE Activity	1	PE Activity	1
Sophomore Year			
Engl (Lit)	3	Spch 55 Pub Spkg	3
*Soc Sci	3	*Soc Sci	3
Biol 12L Gen Zool	4	Biol 36 and 39L Hum Anat & Phys & Lab	5
Psy 51 Gen	3	PE 46 Combatives	2
PE 40 Gymnastics	2	PE 76 Th & Prac of Tr & Fld	2
PE 77 Th & Prac of Baseball	2	PE Activity	1
PE Activity	1		
Junior Year			
Biol 126L Phys of Exercise	3	Sec Ed 141 Founda of	3
Educ Elective	3	El Ed 118 Child Growth & Dev	3
PE 41 Recrea Sports	2	PE 128 Treat of Athl Injuries	2
PE 119 PE in El Sch	2	PE 104 Kinesiology	4
PE 138 Tchng Hlth Ed in Schs	3	PE 172 Org & Adm of	3
PE 171 Prin of	3	Elective	2
Senior Year			
Sec Ed 153 Mater & Meth of Tchng in Sec Schs	3	El Ed 136 Stu Tchng in El Schs or Sec Ed 156 in Sec Schs	3
Sec Ed 156 Stu Tchng in Sec Schs	3-6	PE Elective	3
PE 164 Gen Safety Ed	3	PE 125 Org of Sports Progs	3
Ed Elective	3	PE 185 Adm of a Sch Hlth Prog	3
PE 169 Adapt & Corr PE	3	Elective	3-4
MINOR STUDY IN ATHLETIC COACHING FOR MEN			
PE 46 Combatives	2	PE 75 Th & Prac of Bskball	2
PE 74 Th & Prac of Football	2	PE 77 Th & Prac of Baseball	2
PE 76 Th & Prac of Tr & Fld	2	PE 104 Kinesiology	4
PE 128 Treat of Ath Injuries	2	PE 125 Org of Sports Progs	3
PE 171 Prin of	3		
PE 45 Phys Fitness Prog	2		
MINOR STUDY IN PHYSICAL EDUCATION FOR MEN			
PE 72 Hlth Ed	3	PE 41 Recrea Sports	2
PE 44 Swimming	2	PE 172 Org & Adm of	3
PE 64 First Aid	2	PE 104 Kinesiology	4
PE 40 Gymnastics	2	PE 171 Prin of	3
PE 45 Phys Fitness Prog	2		
PE 46 Combatives	2		
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.

* Choose from General Education requirements listed on p. 136.

First Semester		Freshman Year		Second Semester	
Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3		
†Soc Sci	3	†Soc Sci	3		
Art	3	Biol 36 & 39L Hum Anat & Phys & Lab	5		
Biol 12L Gen Zool	4	PE 49 Team Sports	1		
PE 48 Body Mech & Self-Test Activ	1	PE 72 Hlth Ed	3		
PE Activity	1	PE Activity	1		
Sophomore Year					
English (Literature)	3	Spch 55 Pub Spkg	3		
†Soc Sci	3	†Soc Sci	3		
Psy 51 Gen	3	Ed & Ad Serv 115 Intro To Guid or			
PE 64 First Aid	2	188 Mental Hyg in Classrm	3		
PE 98 Folk Dance	1	PE 99 Indiv & Dual Sports	1		
PE Activity	1	PE Activity	1		
Electives	4	Electives	5		
Junior Year					
Biol 126L Phys of Exercise	3	Sec Ed 141 Founda of	3		
PE 107 Team Sports & Folk Dance		PE 104 Kinesiology	4		
in El Sch	3	PE 108 Aqua, Indiv & Dual Sports in			
PE 119 PE in El Sch	2	Sec Sch	3		
PE 121 Officia in Sports or		PE 155p Tchng of PE in Sec Schs	3		
156 Tchng of Contemp Dance	2	PE 151 Probs	2		
PE 138 Tchng of Hlth Ed in Schs	3				
PE 151 Probs	1				
El Ed 118 Child Growth & Dev	3				
Senior Year					
Sec Ed 153 Mater & Meth of Tchng in		Sec Ed 156 Stu Tchng in Sec Sch	6		
Sec Schs	3	PE 172 Org & Adm of PE	3		
El Ed 136 (PE)* Stu Tchng in El Schs	3	PE 185 Adm of a Sch Hlth Prog	3		
PE 151 Probs	1	PE 125 Org of Sports Progs	3		
PE 164 Gen Safety Ed	3				
PE 171 Prin of	3				
Electives	4				

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 171 Prin of	3	PE 64 First Aid	2
PE 172 Org & Adm of PE or 119 PE in		PE 48 Body Mech & Self-Test Activ or	
El Schs	3 or 2	49 Team Sports or 98 Folk Dance	1
PE 155p Tchng of PE in Sec Schs	3	PE 151 Probs	1
PE 107 Team Sports & Folk Dance in		Electives	3 or 4
El Sch or 108 Aqua, Indiv & Dual			
Sports in Sec Sch	3		

† Choose from General Education requirements listed on p. 136.

* Students wishing to qualify for teaching in grades kindergarten through 12 must take this course and Secondary Ed 156. Those expecting to teach only at secondary level may take an Education elective instead of Elementary Ed 136 (P.E.).

MAJOR STUDY IN RECREATION

(Leading to the degree of Bachelor of Science in Health and Physical Education.)

First Semester	Freshman Year		Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
†Soc Sci	3	†Soc S	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
Sophomore Year			
Engl (Lit)	3	Spch 55 Pub Spkg	3
†Nat Sci	3	Psy 60 Psy of Adjust	3
Mus (Recreational)	2	†Soc S	3
†Soc S	3	Mus (Recreational)	2
Psy 51 Gen	3	PE 90 Social Recreation	2
PE 64 First Aid	2	PE Activity	1
PE Activity	1	Elective	2-3
Junior Year			
PE 103 Prin of Recrea	3	PE 119 PE in El Sch	2
Soc	3	PE 131 Prin & Prac of Camp	3
DA 110 Mater & Meth of Play Prod	3	El Ed 118 Child Growth & Dev	3
PE 45 Phys Fitness Progs or 107 Team Sports & Folk Dance in Sec Sch	2-3	PE 41 Recrea Sports or 108 Aqua, Indiv & Dual Sports in Sec Sch	2-3
PE 44 Swim or 121 Officia in Sports	2	PE 174 Org of Commun Recrea	3
Elective	3	PE 40 Gymnastics or Elec	2-3
Senior Year			
PE 175 Fld Wk in Recrea	3	PE 176 Fld Wk in Recrea	3
Psy 101 Social Psy	3	Gov (City, State, Nat'l)	3
PE 125 Org of Sports Progs	3	Soc	3
Electives	7	Electives	7

MINOR STUDY IN RECREATION

PE 103 Prin of Recrea	3	Electives (chosen from the following):	4
PE 175 Fld Wk in Recrea	3	Mus 5 Harmony	
Specialty in one area (in addition to major field)	8	Mus 6 Harmony	
Courses advised for Specialty:		Mus 39 Mus Apprec	
Art 3 Two-Dim Design		Mus 40 Mus Apprec	
Art 8 Gen Crafts		PE W69 Lifesaving	
Art Ed 17 Creat Arts in El Sch		PE W80 Indiv Sports	
Art Ed 18 Creat Crafts in El Sch		PE W81 Team Sports	
DA 1 Fund of Spch & Rdg		PE 64 First Aid	
DA 29 Stage Craft		PE 90 Social Recrea	
DA 30 Stage Craft		PE 107 Team Spts & Folk Dance in Sec Sch	
IA 10L Gen Wdwk		PE 108 Aqua, Indiv & Dual Spts in Sec Sch	
IA 61L Wood Turn		PE 119 PE in El Sch	
IA 54L Gen Metal		PE 121 Officia in Sports	
IA 55L Gen Metal		PE 125 Org of Sports Progs	
		PE 131 Prin & Prac of Camping	
		PE 151 Probs	
		PE 171 Prin of PE	

† Choose from General Education requirements listed on p. 136.

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.

PE 72 Hlth Ed	3	PE 64 First Aid	2
PE 138 Tchg of Hlth in Schs	3	PE 185 Adm of a Sch Hlth Prog	3
Home Ec 104 Nutrition	3	Electives	3
PE 164 Gen Safety Ed	3		

HOME ECONOMICS

MAJOR STUDY

See curriculum. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 236.

For a combined major in Home Economics Education and Dietetics, the following courses are required in addition to the ones listed in the "Curriculum for Students Preparing To Teach Home Economics": Home Economics 150L, 152, and 159; Biology 93L; Chemistry 64L, or Biology 123L.

MINOR STUDY

Home Economics 2L, 12L, 53L, 104, 109, 128, and 62 or 132. These courses are from the following four areas:

1. Family Relations and Child Development
2. Clothing and Textiles
3. Foods and Nutrition
4. House Furnishings, Home Management and Health

Any substitutions must be approved by the Chairman of the Department.

CURRICULUM FOR STUDENTS WISHING 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 homemaking 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.

A major has a composite of 51 hours so does not require a teaching minor for a secondary certificate in New Mexico, but it is recommended that a student have such a minor.

	Freshman Year		
First Semester		Second Semester	
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
Art Ed 30 Tech of Design Ed	3	Biol 36 Human Anat & Physiol	3
H Ec 12L Cloth Selec & Constr	3	Art Ed 31 Tech of Design Ed	3
H Ec 2L Infant Growth & Dev	3	H Ec 53L Food for Fam Grp	3
*Soc Sci	3	*Soc Sci	3
Physical Ed	1	Physical Ed	1

* Choose from General Education requirements listed on p. 136.

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.

CERTIFICATION (Music and Provisional Elementary Certificates)

The following curriculum prepares the student to teach music in grades 1-12 and to teach in general subject areas in grades 1-8. The successful completion of this curriculum entitles the graduate to the Music Certificate and to the Provisional Elementary Certificate as issued by the New Mexico State Department of Education.

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC IN GRADES 1-12 AND TO TEACH IN GENERAL SUBJECT AREAS IN GRADES 1-8

(Leading to the degree of Bachelor of Arts in Education.)

	Freshman Year		
	First Semester	Second Semester	
Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
*Soc Sci	3	*Soc Sci	3
Mus Ed 93 Mus in Prim Grds	2	Mus Ed 94 Mus in Interm Grds	2
Mus 5 Harmony	3	Mus 6 Harmony	3
Applied Mus elective	3	Applied Mus elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed	1	Physical Ed	1
Sophomore Year			
Engl (Lit)	3	Spch 55 Pub Spkg	3
Psy 51 Gen	3	Psy 110 Ed Psy or Ed elective	3
Mus 65 Harmony	3	Mus 66 Harmony	3
Mus 63 Conducting	1	Mus 64 Choral Cond and Org	1
Applied Mus elective	3	Applied Mus elective	3
Mus history	2	Mus history	2
Ensemble elective	1	Ensemble elective	1
Physical Ed	1	Physical Ed	1
Junior Year			
*Natural Sci	4	*Natural Sci	4
†Fine Arts elective	2	†Fine Arts elective	2
El Ed 121 Sup of Prim Rdg	3	Elem Ed 135 Sup of Arith	2
El Ed 122 Sup of Soc Studies	2	Math or Sci	3
Mus Ed 145 Mus in Jr High	2	Mus Ed 146 Mus in Sr High	2
Mus 109 Form and Comp	2	Mus 110 Form and Comp	2
Applied Mus elective	2	Applied Mus elective	2
Mus 113 Band Org and Cond	1	Mus 114 Orch Cond and Org	1

* Choose from General Education requirements listed on p. 136. 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. 136.

† Fine Arts elective to be chosen from art, art education, drama, industrial art.

Senior Year

*Soc Sci	3	*Soc Sci	3
†Fine Arts elective	2	Phil of Ed	3
El Ed 136 Student Tchj in El Sch	5	Sec Ed 156 Student Tchj in Sec Sch	4
El Ed 123 Sup of Interm Rdg	2	Mus 157 or 158 Adv Choral or Instr Cond	2
Mus 153 Instrumentation	2	Mus 163 or 167 Adv Instr, Choral Arr	2
Applied Mus elective	2	Applied Mus elective	2
Ensemble elective	1	Ensemble elective	1

CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN GRADES 1-12 WITH NO SECOND SUBJECT AREA

First Semester	Freshman Year	Second Semester	
Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
*Soc Sci	3	*Soc Sci	3
Mus Ed 93 Mus in Prim Grades	2	Mus Ed 94 Mus in Interm Grades	2
Mus 5 Harmony	3	Mus 6 Harmony	3
Applied Mus elective	3	Applied Mus elective	3
Ensemble Elective	1	Ensemble Elective	1
Physical Ed	1	Physical Ed	1
Sophomore Year			
Engl (Lit)	3	Spch 55 Pub Spkg	3
Psy 51 Gen Psych	3	Psy 110 Ed Psy or Ed elective	3
Mus 65 Harmony	3	Mus 66 Harmony	3
Mus 63 Conducting	1	Mus 64 Choral Cond and Org	1
Applied Mus elective	3	Applied Mus elective	3
Mus history	2	Mus history	2
Ensemble elective	1	Ensemble Elective	1
Physical Ed	1	Physical Ed	1
Junior Year			
*Natural Sci	4	*Natural Sci	4
†Fine Arts elective	2	†Fine Arts elective	2
Sec Ed 141 Founda of	3	*Math or Science	3
Mus Ed 145 Mus in Jr High	2	Mus Ed 146 Mus in Sr High	2
Mus 109 Form and Comp	2	Mus 110 Form and Comp	2
Applied Mus elective	3	Applied Mus elective	3
Mus 113 Band Org and Cond	1	Mus 114 Orch Cond and Org	1
Ensemble elective	1	Ensemble elective	1
Senior Year			
*Soc Sci	3	*Soc Sci	3
†Fine Arts elective	2	Sec Ed 156 Student Tchj in Sec Sch	5
Elem Ed 136 (music) Student Tchj in El Sch	4	Mus 157 or 158 Adv Choral or Instr Cond	2
Mus 153 Instrumentation	2	Mus 163 or 167 Adv Instr, Choral Arr	2
Applied Mus elective	3	Applied Mus elective	3
Ensemble elective	1	Ensemble elective	1
MINOR IN MUSIC EDUCATION			
Mus 5, 6 Harmony	6	Mus 63, 64 Cond; Choral Cond	2
Mus Apprec or Mus Hist	4	Mus Ed 93, 94 Mus in Prim and Interm	4
Music, Piano	4	or 145 and 145 Mus in Jr & Sr High	4
Music, Voice	2	Ensemble	2

* Choose from General Education requirements listed on p. 136. 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. 136.

† Fine Arts elective to be chosen from art, art education, drama, industrial arts.

PROFICIENCY EXAMINATIONS IN MUSIC EDUCATION

The above curricula will require passing a proficiency examination in piano, voice, and secondary orchestra instruments. All or part of a senior recital in the major area of performance is required.

RECITAL AND CONCERT ATTENDANCE REGULATIONS

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 posted by the Department at the beginning of each semester. Failure to observe attendance requirements results in the addition of one-half hour of credit to the total graduation requirement for each unexcused excessive absence.

SENIOR COMPREHENSIVE EXAMINATION

An examination in music and music education is required of majors before graduation.

PHYSICAL EDUCATION

See Health, Physical Education, and Recreation, p. 140.

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."

Students in the College of Education who plan to teach in secondary schools must file a complete 4-year plan of studies with the departmental adviser not later than the end of the first semester during the junior year, or within one month of transfer from another college. Students in other colleges seeking certification for secondary school teaching should consult the deans of their respective colleges and College of Education departmental advisers and file 4-year programs.

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, As-

tronomy, Business Administration, Dramatic Art, Economics, German, Geography, Geology, Journalism, Latin, Library Science, Psychology, and Sociology.

In some cases only one composite area might be selected for concentration. In these cases, the number of semester credits shall be no less than the total number required for the major and minor concentrations.

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. 136 of this Catalog.)

PROFESSIONAL EDUCATION

	Semester Credits
Sec Ed 141 Foundations of Sec Ed	3
Sec Ed 153 Materials & Methods of Tchg in Sec Schs	3
Sec Ed 155 Special Methods of Tch in Sec Schs or Ed substitute	3
*Sec Ed 156 Student Tchg	6
Ed & Ad Serv 115 Intro to Guid or equivalent	3
Electives in Education	6
Total Professional Education	24

SUBJECT SPECIALIZATION FOR TEACHING

See departmental descriptions for required courses and credit hours in the major and minor teaching subjects which are approved.

1. English: Major or Minor teaching subject
2. Foreign Languages:
 - French: Major or Minor teaching subject
 - German: Minor teaching subject only
 - Latin: Minor teaching subject only
 - Portuguese: Minor teaching subject only
 - Spanish: Major or Minor teaching subject
3. Government and Citizenship: Major or Minor teaching subject
4. History: Major or Minor teaching subject
5. Mathematics: Major or Minor teaching subject
6. Sciences:
 - Biology: Major or Minor teaching subject
 - Chemistry: Major or Minor teaching subject
 - Physics: Major or Minor teaching subject
7. Speech: Major or Minor teaching subject
8. Art Education: For details see p. 137.
9. Business Education: For details see pp. 138-139.
10. Home Economics: For details see p. 144.
11. Industrial Arts Education: For details see p. 145.
12. Music Education: For details see p. 146.
13. Health and Physical Education for Men: For details see p. 140.
14. Health and Physical Education for Women: For details see p. 141.
15. Other Subjects:

Students who wish to elect teaching major and minor subjects not listed above will consult the Chairman of the Department of Secondary Education and of the department concerned for information as to detailed requirements.

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.

* Secondary Education 157 may be included as a second experience in student teaching, with the approval of the adviser.

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 also prepares 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 51 hours, including freshman courses, of which at least 18 hours must be in the Department of History, 9 hours in the Departments of Government and Citizenship, and Economics, 12 hours in the Departments of Sociology, Anthropology, Philosophy, and Geography, and 12 hours in electives from these departments. No minor is required with the general social studies major, but one is strongly recommended.

COMPOSITE IN SCIENCE IN SECONDARY EDUCATION. The composite major in science shall consist of 51 hours including freshman courses, in the Departments of Biology, Chemistry, Physics, Geology, and Naval Science, of which at least 12 hours must be in each of 3 of these departments, and 15 hours of electives from these departments. Regardless of choices of sciences included in this composite, however, students must include a minimum of 8 semester hours of physics. It is desirable that preparation in each of the first four be included in this composite. No minor is required with the composite science major, but one is strongly recommended. Necessary deviation from the rule requiring 40 hours in courses numbered above 100 will be approved in individual cases.

COMPOSITE IN COMMUNICATION ARTS IN SECONDARY EDUCATION. The composite major in communication arts shall consist of 54 hours including freshman courses, in the Departments of English, Speech, Dramatic Art, and Journalism. At least 21 of these hours must be in the Department of English: English 1, 2, 53, 54; 6 hours in upper-division courses in American or World Literature; 3 hours in creative or informative writing, At least 12 hours must be in the Department of Speech: Speech 55 and 9 hours, or Speech 1 and 2 and 6 hours, in courses numbered above 50. Nine hours must be in the Departments of Journalism and (or) Dramatic Art. The remaining 12 hours of electives must be in upper-division courses from any one or any combination of the departments concerned. No minor is required with the communication arts major but one is strongly recommended.

SECONDARY EDUCATION CURRICULUM

First Semester	Freshman Year		Second Semester
Engl 1 Wrtnng w/Rdgs in Expos	3	Engl 2 Wrtnng w/Rdgs in Lit	3
*Math or Sci	3-4	*Math or Sci	3-4
*Soc Sci	3	*Soc Sci	3
Electives or Major	3-6	Electives or Major	3-6
Physical Ed	1	Physical Ed	1

* Choose from General Education requirements listed on p. 136.

Sophomore Year

Eng (Lit)	3	Spch 55 Pub Spkg	3
Psy 51 Gen	3	Ed Elective	3
*Soc Sci	3	*Soc Sci	3
*Math or Sci	3-4	Electives	6-7
‡Fine Arts or Major	2-3	Physical Ed	1
Physical Ed	.1		

Junior Year

Sec Ed 141 Founda of	3	Sec Ed 153 Mater & Meth of Tchg in Sec Sch 3	
Electives, Major or Minor	11-14	Electives, Major or Minor	11-14

Senior Year

Sec Ed 155 Tchg of Sec Sch Subj or elec	3	Ed elective	3
**Sec Ed 156 Student Tchg in Sec Sch	6	Electives, Major or Minor	14-17
Ed & Ad Serv 115 Intro to Guid (or equivalent)	3		

* Choose from General Education requirements listed on p. 136.

‡ The required 2-3 semester hours in Fine Arts may be taken during any semester of the first 2 years.

** 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 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 teacher. 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 an Engineering Experiment Station. For details of the Station's purposes and activities, see p. 47.

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

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.

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.

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, a student can usually secure two degrees in one extra 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. Students enrolled in ROTC will not be required to take the physical education courses listed in the first 2 years of the engineering 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, or Nuclear Engineering. 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

An elective course in this field is 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. 97-99). Special attention is called to the rules on probation and suspension.

COURSES NUMBERED 100 OR ABOVE

A student may be admitted to courses numbered 100 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 100-level course, he will not be eligible to enroll in additional 100-level courses until all required freshman and sophomore courses have been completed.

A student may not complete a 100-level course in the College of Engineering 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 departments must complete all of the work outlined in their respective curricula.

2. Each candidate for a degree must maintain a C-average on the total hours attempted at The University of New Mexico in completing the curricula. 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 p. 102.
6. If a beginning student is placed in Mathematics 50 because of high entrance test scores, the hours required for graduation will be reduced by five.
7. If a student is placed in English 2 because of high entrance test scores, the hours required for graduation are reduced by three.

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

A student may not complete a 100-level course in the College of Engineering by extension or correspondence.

First Semester		Freshman Year		Second Semester		
		Hrs.			Hrs.	
	Cr.	Lect.-Lab.			Cr.	Lect.-Lab.
Math 15 Coll Alg	3	(3-0)		Math 50 Calc & Anal Geom	4	(4-0)
Math 16 Plane Trig	2	(2-0)		Engl 2 Wrting w/Rdgs in Lit	3	(3-0)
Engl 1 Wrting w/Rdgs in Expos	3	(3-0)		Chem 2L Gen	4	(3-3)
Chem 1L Gen	4	(3-3)		CE 2L Engr Graphics II	2	(2-2)
CE 1L Engr Graphics I	2	(2-2)		Physics 60 Gen	3	(3-0)
CE 3L Engr Lectures	2	(1-2)			16	(15-5)
	16	(14-7)		PE	1	
PE	1					

NOTES:

1. Students deficient in mathematics will be required to take a preparatory course in this subject before taking Mathematics 15 or 16.
2. Students deficient in English will be required to take English tutoring.
3. For a description of the freshman courses refer to p. 279 for Mathematics; to p. 259 for English; to p. 220 for Chemistry; and to p. 246 for Civil Engineering.

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 Industrial Arts Shop.

CURRICULUM IN CHEMICAL ENGINEERING

First Semester		Sophomore Year		Second Semester	
	Cr.	Hrs.		Cr.	Hrs.
		Lect.-Lab.			Lect.-Lab.
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)
Physics 61 Gen	3	(3-0)	Physics 62 Gen	3	(3-0)
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)
Chem 101 and 103L Organic	4	(3-3)	Chem 102 and 104L Organic	4	(3-3)
ChE 51 Chem Calculations	3	(3-0)	ChE 52 Ind. Stoichiometry	3	(3-0)
Ec 51 Intro to	3	(3-0)	Chem-53L Quant Analysis	4	(2-6)
	18	(16-6)		19	(15-12)
PE	1		PE	1	
Junior Year					
ChE 111 Unit Oper I	3	(3-0)	ChE 112 Unit Oper II	3	(3-0)
Chem 111 & 113L Physical	4	(3-3)	ChE 114L Unit Oper Lab I	2	(0-6)
CE 60 Engr Statics	3	(3-0)	Chem 112 & 114L Physical	4	(3-3)
† Elective (tech)	3	(3-0)	CE 102 Mech of Mater	3	(3-0)
* Elective	6	(6-0)	† Elective (tech)	3	(3-0)
	19	(18-3)	* Elective	3	(3-0)
				18	(15-9)

† Technical electives may be chosen from ChE 117, 160, 162, 168L.

Students enrolled in the ROTC program may, with the approval of the Department Chairman, substitute 6 hours of Air or Navy courses for 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 113 Unit Oper III	3	(3-0)	ChE 164 Org Unit Proc	3	(3-0)
ChE 115L Unit Oper Lab II	2	(0-6)	ChE 172 ChE Econ	2	(2-0)
ChE 191 Prin of Chem Proc & Thermo I	3	(3-0)	ChE 192 Prin of Chem Proc & Thermo II	3	(3-0)
ChE 181L Process Lab I	2	(0-6)	ChE 182L Process Lab II	2	(0-6)
ChE 151 Seminar	1	(1-0)	ChE 152 Seminar	1	(1-0)
*Elective	6	(6-0)	EE 56L Circ Bases of EE	4	(3-3)
†Elective (tech) or			ChE 194L Design	2	(1-3)
ChE 153 Adv ChE Calc	2	(2-0)	ChE 198 Field Trip	0	(0-0)
	<u>19</u>	<u>(15-12)</u>		<u>17</u>	<u>(13-12)</u>

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. Management and administrative work, in both public and private organizations, offer increasing opportunities. The training offered by this department is designed to give the younger 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. This building was especially designed to house thoroughly modern equipment in a number of separate laboratories.

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 117, 160, 162L, 168L.

Students enrolled in the ROTC program may, with the approval of the Department Chairman, substitute 6 hours of Air or Navy courses for 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 fluid metering and the flow of liquids through pipes, orifices, weirs, and open channels.

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

First Semester		Sophomore Year		Second Semester	
	Cr.	Hrs.		Cr.	Hrs.
		Lect.-Lab.			Lect.-Lab.
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)
Physics 61 Gen	3	(3-0)	Physics 62 Gen	3	(3-0)
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)
CE 51L Engr Meas	3	(1-6)	CE 52L Engr Surveys	3	(2-3)
CE 60 Engr Statics	3	(3-0)	CE 102 Mech of Mater	3	(3-0)
Geol 4 Engr Geology	3	(3-0)	*Elective	3	(3-0)
	17	(14-9)		17	(15-6)
PE	1		PE	1	
Junior Year					
§Math Elective	3	(3-0)	CE 117L Constr Mater	3	(2-3)
CE 118 Transportation Engr	2	(2-0)	ME 101 Thermodynamics	3	(3-0)
CE 107 Fluid Mech	3	(3-0)	CE 140 Struc Anal II	3	(3-0)
CE 103L Mech of Mater Lab	1	(0-3)	Econ 51 Intro to	3	(3-0)
ME 106 Dynamics	3	(3-0)	CE 108L Fluid Mech Lab	1	(0-3)
CE 121 Struc Anal I	3	(3-0)	CE 120 Hydrol & Engr Hydr	2	(2-0)
**Elective	3	(3-0)	**Elective	3	(3-0)
	18	(17-3)		18	(16-6)
Senior Year					
CE 157 Reinf Concrete Design	3	(3-0)	CE 166L Struc Des in Metals	4	(2-6)
CE 161L Water Supply & Waste			CE 168L CE Proj	3	(2-3)
Water Disposal	3	(2-3)	CE 152 Prof Probs in Engr	2	(2-0)
EE 55L Fld Bases of EE	3	(2-3)	**Elective	3	(3-0)
CE 165L Soil Mech	3	(2-3)	‡Tech Elective	6	(6-0)
**Elective	3	(3-0)		18	(15-9)
†Tech Elective	3	(3-0)			
	18	(15-9)			

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

* Elective is to be chosen from English 64 or Speech 55.

§ To be selected from Math 132 through Math 147.

** Electives are to be chosen from the Humanities and Social Sciences. See Department Chairman for list of approved courses.

† Technical electives for the first semester may be chosen from the following courses: CE 171L, 173, 181, 183, 191, 195L.

‡ Technical electives for the second semester may be chosen from the following courses: CE 174, 176, 178L, 188, 190, 196L. Air Science 151-152 and Naval Science 151-152 can be substituted for a total of 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 14 hours in business administration. Other possible combinations include "human engineering" (up to 23 hours of psychology) and medical electronics (up to 14 hours of biology).

ELECTRICAL ENGINEERING LABORATORIES. Circuits, electronics, power, and microwave laboratories are provided. Research laboratories of the Engineering Experiment Station are available for individual projects, and employment on research projects is frequently possible.

The circuits laboratory is equipped to acquaint the student with elementary measurements on electric circuits, and to instruct in the use of a variety of instruments.

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 wave lengths below 5 meters. Standard microwave power and impedance measurement techniques are taught.

CURRICULUM IN ELECTRICAL ENGINEERING

Sophomore Year					
First Semester			Second Semester		
	Cr.	Hrs. Lect.-Lab.		Cr.	Hrs. Lect.-Lab.
*EE 55L Fld Bases of EE	3	(2-3)	*EE 56L Circ Bases of EE	4	(3-3)
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)
Physics 61 Gen	3	(3-0)	Physics 62 Gen	3	(3-0)
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)
Ec 51 Intro to	3	(3-0)	CE 60 Engr Statics	3	(3-0)
Elective	3	(3-0)	Elective	3	(3-0)
	17	(15-6)		18	(16-6)
PE	1		PE	1	

* 55L and 56L may be taken concurrently in the second semester.

Junior Year

EE 111 Electromag Fields	3	(3-0)	EE 112L Trav Waves	3	(2-3)
EE 113 Elec Circ Anal	3	(3-0)	EE 114 Elec Circ Anal	3	(3-0)
EE 117L Fld & Circ Lab	1	(0-3)	EE 131 Electronics I	3	(3-0)
Math 147 Engr Math	3	(3-0)	EE 131L Electronics Lab I	1	(0-3)
ME 106 Dynamics	3	(3-0)	CE 102 Mech of Mater	3	(3-0)
Elective	6	(6-0)	Engl 64 Info Writing	3	(3-0)
	19	(18-3)	Elective	3	(3-0)
				19	(17-6)

Senior Year

EE 132 Electronics II	3	(3-0)	EE 154L Prin of Dir Energy Conv	3	(2-3)
EE 132L Electronics Lab II	1	(0-3)	EE 172 Seminar	1	(1-0)
EE 151L Electromech Energy Conv Prin	3	(2-3)	EE 188 Servomechanisms	3	(3-0)
EE 171 Seminar	1	(1-0)	ME 156 Indus Engr	2	(2-0)
ME 101 Thermodyn	3	(3-0)	Elective	7	(6-3)
Physics 110 Atomic & Nuclear	3	(3-0)		16	(14-6)
Elective	4	(3-3)	Probable EE Electives		
	18	(12-9)	EE 182, 182L, 190, 192, 192L		

Probable EE Electives
EE 191, 191L, 194

ELECTIVES:

1. At least 12 hours of electives are to be taken in the humanities and social sciences.
2. At least 3 hours of electives are required in other engineering, mathematics, science, or business administration, including Nav S 101 or Air S 102.
3. The remaining electives may be taken in any field, with departmental approval. Six hours of Air Science or Naval Science may be used for this purpose. 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 100 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 plants, including steam, hydraulic, internal combustion engine, gas turbine plants, and nuclear power; heating and air conditioning; refrigeration; railroads; machine design; automation; control systems; production planning and control; materials handling; rockets and jet propulsion; thermodynamics; combustion; heat transfer; and fluid mechanics. 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 fundamentals 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, chemistry, graphics, and production methods. 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 select specialized courses which apply the principles previously learned or which prepare the student 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.

In the mechanical engineering laboratory will be found representative examples of commercial machines and instruments used in the fields of heat power, heating, air conditioning, fluid flow, refrigeration, aerodynamics, fuel analysis, and metallurgical testing. The Mechanical Engineering machine shop is equipped with lathes, shapers, drill presses, vertical and horizontal milling machines, and surface and universal grinders for working metal. The welding shop contains ac and dc welding machines and oxyacetylene welding and cutting equipment. The foundry has molding benches and molding tools, a furnace for melting non-ferrous metals, and a cupola.

AERO-SPACE ENGINEERING, PETROLEUM 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 PE)

		Sophomore Year			
First Semester		Hrs.		Second Semester	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)
Phys 61 Gen	3	(3-0)	Phys 62 Gen	3	(3-0)
Phys 63L Gen Lab	1	(0-3)	Phys 64L Gen Lab	1	(0-3)
Econ 51 Intro to	3	(3-0)	CE 60 Engr Statics	3	(3-0)
ME 63L Mfg Processes (Req'd)	4	(2-6)	Engr Elect	3	(3-0)
OR			OR		
Engr Elect	3	(3-0)	ME 63L Mfg Processes (Req'd)	4	(2-6)
ME 73L Kinematics	3	(2-4)	EE 55L Field Bases of EE	3	(2-3)
		17 or 18 + 1 PE			17 or 18 + 1 PE
Junior Year					
ME 101 Thermodynamics	3	(3-0)	ME 102 Thermodynamics	3	(3-0)
ME 106 Dynamics	3	(3-0)	ME 117 Fluid Mech	3	(3-0)
EE 56L Circuit Bases of EE	4	(3-3)	ME 118L ME Lab 1	2	(0-6)
‡Math Elective	3	(3-0)	ME 120 Heat Transfer	3	(3-0)
*Elective	3	(3-0)	CE 102 Mech of Mater	3	(3-0)
			ME 114L Dyn of Mach	3	(2-4)
		16 (15-3)			17 (14-10)

‡ To be selected from Math 132 through Math 147 (excluding Math 141-2).

* Electives are to be chosen from the humanities and social sciences. See Department Chairman for list of approved courses.

Senior Year

ME 151L ME Lab II	2	(0-6)	ME 152L ME Lab III	2	(0-6)
ME 157 Design Anal I	3	(3-0)	ME 156 Indus Engr	2	(2-0)
ME 158L Design Anal Lab	1	(0-3)	ME 173 Seminar	1	(2-0)
ME 161 Engr Metallurgy	3	(3-0)	†Tech Elective	3	(3-0)
ME 163 Anal Fluid Sys	3	(3-0)	†Tech Elective	3	(3-0)
ME 172 Seminar	1	(1-0)	*Elective	3	(3-0)
*Elective	3	(3-0)	*Elective	3	(3-0)
CE 103L Mech of Mater Lab	1	(0-3)			
	17	(13-12)		17	(16-6)

* 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: ME 155; Air S 151 (3), 152 (3) or Nav S 151 (3), 152 (3); ME 159L, 160, 165, 167, 168, 181, 182, 192, 194; Engr 197. Others may be selected with advice of the Department Chairman. Those students interested in Aeronautical Engineering should elect ME 167, 168 and 192. Those interested in Petroleum should elect ME 181, 182, and as much geology and chemistry as possible.

COLLEGE OF FINE ARTS

THE COLLEGE OF FINE ARTS is established for the following purposes: (1) to stimulate a greater interest in and understanding of the arts as a part of a liberal education (several general courses are offered by the departments specifically to serve this end); (2) to offer those who wish to specialize in any of the fields of art an opportunity to do so; (3) to coordinate more efficiently the work of the University in architecture, art, dance, dramatic art, and music; (4) to promote scholarship in the fields of learning embraced by the arts; and (5) to make use of the unique facilities afforded by the State of New Mexico for the study, practice, and teaching of the arts.

DEPARTMENTS AND DEGREES OFFERED

The departments of this College are: Architecture, Art, Dramatic Art, and Music. In addition, the College exercises, jointly with the College of Education, supervision over Music Education and Art Education.

The College of Fine Arts offers the following degrees:

Bachelor of Architecture

Bachelor of Fine Arts in Art with programs in:

1. Painting, Sculpture, and Drawing
2. Crafts and Commercial Art
3. Art History
4. Art Education

Bachelor of Fine Arts in Dramatic Art

Bachelor of Fine Arts in Music with programs in:

1. Applied Music
2. Music Education
3. Music Literature
4. Theory and Composition

Bachelor of Arts in Fine Arts

See Combined Curriculum, p. 165.

TAOS FIELD SCHOOL

The University of New Mexico maintains the Harwood Foundation in Taos, New Mexico, and the College of Fine Arts avails itself of the facilities of the Foundation to offer occasionally a summer field school in advanced painting. Information regarding the field schools may be obtained by writing to the Director of Summer Sessions of The University of New Mexico.

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. All students 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 A, a non-credit course offered by the Department of English.
4. A student majoring in Architecture, Art, Music, or Dramatic Art must have achieved a grade of C or better in every course attempted within the field of his proposed concentration.
5. A student majoring in Music Education or Art Education must have: (a) given satisfactory evidence (by personal interview with the appropriate adviser in his major field) of physical, personal, and emotional qualities adequate for successful teaching; and (b) expressed his intention and desire to enter the teaching profession.

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 grade-point index of 2.0 or better on all work attempted in the other degree-granting colleges or institutions and if he qualifies for item 4 or 5 of "Admission from University College" above. Students transferring from other institutions who plan to major in Music Education or Art Education may satisfy the requirements listed in item 5 during the first semester here. Transfer students from other institutions may satisfy the English Proficiency Examination requirement, item 3 above, during the first semester of residence at The University of New Mexico. All transfer students must follow one of the prescribed departmental programs of study in the College of Fine Arts.

GRADUATION REQUIREMENTS

Candidates for degrees must:

1. complete all requirements outlined in the respective curricula. A grade of C or better is necessary for all courses in the major field in order to apply this credit toward graduation;
2. maintain a C average to remain in good standing in the College of Fine Arts;
3. pass the English Proficiency Examination, or make a grade of C or better in English A, a non-credit course offered by the Department of English;
4. make official application for degree with the College of Fine Arts prior to the last semester of residence.

The student is solely responsible for completing all requirements for graduation.

SCHOLASTIC REGULATIONS

Students in the College of Fine Arts will be governed by the scholastic regulations given under "General Academic Regulations."

College of Fine Arts majors who wish 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 desires an introduction to the fine arts combined with a liberal academic course. The degree requires a total of 132 hours. Its major and minor requirements provide study in two of the arts elected by the student; if he desires to explore in a third field, he may do so in the free elective hours. Hours required in the major field, 45; in the minor, 25. (Specific course information is listed under departmental headings.) Free elective hours 17-23.

	Freshman Year		
	First Semester		Second Semester
Major Field	6	Major	7
Minor Field	5	Minor	5
Engl 1 Wrtng w/Rdgs in Expos	3	Engl 2 Wrtng w/Rdgs in Lit	3
Physical Ed	1	Physical Ed	1
	<u>15</u>		<u>16</u>
	Sophomore Year		
Major	6	Major	6
Minor	4	Minor	4
Foreign Language	3	Foreign Language	3
Soc Sci	3	Soc Sci	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>
	Junior Year		
Major	5	Major	5
Minor	2	Minor	2
Science or Math	4	Science or Math	4
Foreign Lang (Music Majors only)	3	Foreign Lang (Music Majors only)	3
Elective	3-6	*Elective	3-6
	<u>17</u>		<u>17</u>

Senior Year			
Major	5	Major	5
Minor	3	Literature	3
Literature	3	Electives	8
Science or Math	3		
Elective	3		
	17		16

A minor in Air Science may be substituted in the Combined Curriculum with approval of the Dean of the College of Fine Arts.

DEPARTMENTS OF INSTRUCTION

The College of Fine Arts offers work in the departments listed in alphabetical order on the following pages. Curricula 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."

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.

The Architectural Building has three well-lighted and adequately equipped design rooms, in addition to necessary offices, exhibition room and storage space.

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.

CURRICULUM IN ARCHITECTURE

(Leading to the degree of Bachelor of Architecture. Hours required for graduation, 173.)

First Semester		First Year		Second Semester	
		Hrs.			
Cr.	Lect.-Lab.	Cr.	Lect.-Lab.	Cr.	Lect.-Lab.
Arch 31L Elem of	3 (0-9)	Arch 32L Elem of	3 (0-9)	Arch 33 Mater & Constr	2 (2-0)
Arch 33 Mater & Constr	2 (2-0)	Arch 34 Mater & Constr	2 (2-0)	Arch 3 Two Dim Design	3 (0-6)
Arch 3 Two Dim Design	3 (0-6)	Arch 9 Three Dim Design	3 (0-6)	Math 15 Coll Alg	3 (3-0)
Math 15 Coll Alg	3 (3-0)	Math 16 Plane Trig	2 (2-0)	Engl 1 Wrting w/Rdgs in Expos	3 (3-0)
Engl 1 Wrting w/Rdgs in Expos	3 (3-0)	Engl 2 Wrting w/Rdgs in Lit	3 (3-0)	Elective	3 (3-0)
Elective	3 (3-0)	Elective	3 (3-0)		
	17		(11-15)		16 (10-15)
PE	1	PE	1		
Second Year					
Arch 81L Arch Design I	4 (0-12)	Arch 82L Arch Design II	4 (0-12)	Art 6 Begin Draw	3 (0-6)
Art 6 Begin Draw	3 (0-6)	Art 103 Landsc (Water Clr)	2 (0-6)	Math 50 Calc & Anal Geom	4 (4-0)
Math 50 Calc & Anal Geom	4 (4-0)	Math 51 Calc & Anal Geom	4 (4-0)	Phys 60 Gen	3 (3-0)
Phys 60 Gen	3 (3-0)	Phys 61 Gen	3 (3-0)	Phys 63 Gen Lab	1 (0-3)
Engl 64 Info Writing	3 (3-0)	Phys 63 Gen Lab	1 (0-3)	CE 60 Engr Statics	3 (3-0)
	17		(10-18)		17 (10-21)
PE	1	PE	1		

Third Year

Arch 131L Arch Design III	4	(0-12)	Arch 132L Arch Design IV	4	(0-12)
Arch 61 Hist of Anc & Med Arch	3	(3-0)	Arch 62 Hist of Ren Arch	3	(3-0)
Art Elective	2	(2-0)	Art Elective	3	(3-0)
Hist 1 Western Civ	3	(3-0)	Hist 2 Western Civ	3	(3-0)
CE 102 Mech of Mater	3	(3-0)	CE 124 Struc Des	2	(2-0)
CE 121 Struc Anal I	3	(3-0)	CE 140 Struc Anal II	3	(3-0)
	<u>18</u>	<u>(14-12)</u>		<u>18</u>	<u>(14-12)</u>

Fourth Year

Arch 181L Arch Design V	5	(0-15)	Arch 182L Arch Design VI	5	(0-15)
Arch 111 Sources of Mod Arch	2	(2-0)	Arch 112 Survey of Cont Arch		
ME 108 Mech Eq of Bldgs	3	(3-0)	in Eur & Amer	2	(2-0)
CE 157 Rein Conc Des	3	(3-0)	EE 56L Circ Bases of EE	3	(2-3)
Elective	3	(3-0)	Phil 51 Intro to	3	(3-0)
			Elective	3	(3-0)
	<u>16</u>	<u>(11-15)</u>		<u>16</u>	<u>(10-18)</u>

Fifth Year

Arch 191L Arch Design VII	5	(0-15)	Arch 199L Problems	5	(0-15)
Arch 193L Working Draw	3	(0-9)	Arch 194L Working Draw	3	(0-9)
Arch 195 Specific & Est	2	(2-0)	Arch 196 Office Practice	2	(2-0)
Arch 197 Seminar	1	(1-0)	Arch 198 Seminar	1	(1-0)
Elective	6	(6-0)	Elective	6	(6-0)
	<u>17</u>	<u>(9-24)</u>		<u>17</u>	<u>(9-24)</u>

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.

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. 206.

UPPER DIVISION REQUIREMENTS

The candidate for the B.F.A. must complete at least 38 hours of upper division work (courses numbered above 100) in which he has maintained at least a 2.0 average; of this requirement at least 22 hours must be in art courses (or, in the case of Teacher Certification, Art and Art Education).

MAXIMUM NUMBER OF HOURS

No student in the Art Department may enroll in more than 18 semester hours without permission from the Chairman of the Department and the Dean of the College.

CURRICULA IN ART

Leading to the degree of Bachelor of Fine Arts in Art.

Four possible courses of study are offered by the Art Department:

Group I —Painting, Sculpture and Drawing

Group II —Crafts and Commercial Art

Group III—Art History

Art Education (Teacher certification for Art and Provisional Secondary Certificate)

In relation to the first three courses of study: at the end of his freshman year a student will select one of these in which to specialize (or major).

Students pursuing one of the first three areas will follow the curriculum listed below for the freshman year.

Freshman Year	
First Semester	Second Semester
Art 3 Two Dim Design (or Art 9 Three Dim Design)	Art 9 Three Dim Design (or Art 3 Two Dim Design)
3	3
Art 6 Begin Draw (or Art 8 Gen Crafts)	Art 8 Gen Crafts (or Art 6 Begin Drawing)
3	3
Engl 1 Wrting w/Rdgs in Expos	Engl 2 Wrting w/Rdgs in Lit
3	3
Soc Studies	Soc Studies
3	3
*Foreign Language	*Foreign Language
3	3
Physical Ed	Physical Ed
1	1
<hr/> 16	<hr/> 16

CURRICULUM FOR GROUP I OR GROUP II MAJORS

Sophomore Year	
First Semester	Second Semester
Art (Major Group)	Art (Major Group)
4	4
Art 71 Gen Art Hist	Art 72 Gen Art Hist
3	3
Art (other than Major)	Natural Science
2	4
Natural Science	Physical Ed
4	1
Eng 64 Info Writing	Free Elective
3	2
Physical Ed	†Elective
1	3
<hr/> 17	<hr/> 17
Junior Year	
Art (Major Group)	Art (Major Group)
3	3
Art Group III	Art Group III
3	3
Art (other than major)	Free Elective
2	5
Soc Sci	†Elective
3	6
Free Elective	3
3	
†Elective	<hr/> 3
<hr/> 17	<hr/> 17
Senior Year	
Art (Major Group)	Art (Major Group)
3	3
Art Group III	Free Elective
3	7
Literature	†Elective
3	6
Free Elective	4
4	
†Elective	<hr/> 3
<hr/> 16	<hr/> 16

All Group I Majors, in their sophomore year, must take, and pass with a C or better, Art 63 and Art 65.

All Group II Majors in Crafts, in their sophomore year, must take, and pass with a C or better, two of the following: Art 57, 58, or 97.

For Group II Majors only, 12 hours of sculpture may be substituted for Group II courses.

For Majors in Commercial Art, 8 hours of credit in painting or drawing courses may be substituted for Group II courses.

* 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.

† These electives must be taken in courses outside the Art Department.

CURRICULUM FOR GROUP III MAJORS

First Semester		Sophomore Year		Second Semester	
Art 71 Gen Art Hist	3	Art 72 Gen Art Hist	3	Art 72 Gen Art Hist	3
Art (other than major)	2	Art (other than major)	2	Art (other than major)	2
Anth 1 Orig and Antiq of Man	3	Anth 2 Devel of Cult	3	Anth 2 Devel of Cult	3
Engl 64 Info Writing	3	Physical Ed	1	Physical Ed	1
Physical Ed	1	Free Elective	2	Free Elective	3
Free Elective	2	†Elective	3	†Elective	5
†Elective	3				
	<u>17</u>				<u>17</u>
Junior Year					
Art (Major Group)	3	Art (Major Group)	3	Art (Major Group)	3
Art (other than major)	3	Phil 102 Aesthetics	3	Phil 102 Aesthetics	3
Natural Science	4	Natural Science	4	Natural Science	4
Free Elective	4	Free Elective	4	Free Elective	4
†Elective	3	†Elective	3	†Elective	3
	<u>17</u>				<u>17</u>
Senior Year					
Art (Major Group)	3	Art (Major Group)	6	Art (Major Group)	6
Art (other than major)	3	Art (other than major)	3	Art (other than major)	3
Literature	3	Free Elective	4	Free Elective	4
Free Elective	4	†Elective	3	†Elective	3
†Elective	3				
	<u>16</u>				<u>16</u>

ART EDUCATION (Teacher Certification for Art and Provisional Secondary Certificates)

A student may enroll in either the Department of Art or the Department of Art Education and satisfy the 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 above 100.

The following curriculum prepares the student to teach art in Grades 1-12 and to teach in a second subject area in grades 7-12. The successful completion of this curriculum entitles the graduate to the Art Certificate and the Provisional Secondary Certificate as issued by the New Mexico State Department of Education.

(Curriculum for secondary teachers)

First Semester		Freshman Year		Second Semester	
Engl 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3	Engl 2 Wrting w/Rdgs in Lit	3
Soc Studies	3	Soc Studies	3	Soc Studies	3
Math or Science	4	Math or Science	4	Math or Science	4
Art 3 Two Dim Design (or Art 9 Three Dim Design)	3	Art 9 Three Dim Design (or Art 3 Two Dim Design)	3	Art 9 Three Dim Design (or Art 3 Two Dim Design)	3
Art 6 Begin Drawing (or Art 8 Gen Crafts)	3	Art 8 Gen Crafts (or Art 6 Begin Drawing)	3	Art 8 Gen Crafts (or Art 6 Begin Drawing)	3
Physical Ed	1	Physical Ed	1	Physical Ed	1
	<u>17</u>				<u>17</u>

† These electives must be taken in courses outside the Art Department.

Sophomore Year

Engl Lit	3	Spch 55 Pub Spkg	3
Math or Science	3	Soc Studies	3
Soc Studies	3	Psy 51 Gen	3
Art Ed 48 Cr Arts in Sec Ed	3	Art Ed 49 Cr Arts in Sec Ed	3
Art 71 Gen Art Hist	3	Art 72 Gen Art Hist	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

Junior Year

Ed & Ad Serv 115 Intro to Guid	3	Sec Ed 153 Mat & Meth Tchg in Sec Sch	3
Art Ed 124 Pre-Tchg Exp in Art	3	Art Ed 125 Phil of	3
Sec Ed 141 Found of Sec Ed	3	Art Electives	3
Major Group in Art	6	Major Group in Art	6
Art Electives	2		
	<u>17</u>		<u>15</u>

Senior Year

Ed Electives	3	*Sec Ed 156-157 Stu Tchg in Sec Sch	6 or 9
Art Electives	6	Gen Electives	6
Gen Electives	6		
	<u>15</u>		<u>15</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. 223.

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 1 Wrting w/Rdgs in Expos	3	Engl 2 Wrting w/Rdgs in Lit	3
Elective in Soc Sci	3	Elective in Soc Sci	3
D A 15 Theatre Apprec	2	D A 16 Theatre Apprec	2
D A 1 Fund of Spch & Rdg	3	D A 2 Fund of Spch & Rdg	3
D A 29 Stage Craft	3	D A 30 Stage Craft	3
Physical Ed	1	Physical Ed	1
	<u>15</u>		<u>15</u>

Sophomore Year

Art Elective	3	Art Elective	3
Foreign Language	3	Foreign Language	3
D A 55 Stage Lighting	3	D A 56 Stage Lighting	3
D A 75 Technical Prod	3	D A 76 Technical Prod	3
D A 85 Acting Tech	3	D A 86 Acting Tech	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

* Student teaching may be divided between the 2 semesters of the senior year.

Junior Year

Engl 57 Masterw of Early Lit	3	Psych 51 Gen	3
D A 89 Rehearsal & Perform	3	D A 90 Rehearsal & Perform	3
D A 95 Theatre Hist	3	D A 96 Theatre Hist	3
D A 185 Costume Design	3	D A 186 Costume Design	3
Philosophy Elective	3	English Elective	3
Mus 39 Music Apprec	3	Mus 40 Music Apprec	3
	<u>18</u>		<u>18</u>

Senior Year

D A 175 Scene Design	3	D A 176 Scene Design	3
D A 161 Adv Rehears & Perform	3	D A 162 Adv Rehears & Perform	3
Engl 141 or 142 Shakespeare Electives	3	Engl Elective	3
	<u>8</u>	Other Electives	<u>8</u>
	<u>17</u>		<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 51, 65, and 6 hours selected from 165, 166, and 180, Dramatic Art 52 and 152. All course substitutions shall be made with the consent of a departmental adviser.

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

(Same as Freshman year outlined above)

Sophomore Year

First Semester		Second Semester	
Engl Elective	3	Soc Sci	3
Math or Science	4	Math or Science	4
D A Stage Lighting	3	D A 56 Stage Lighting	3
D A 85 Acting Tech	3	D A 86 Acting Tech	3
Psy 51 Gen	3	Psy 110 Ed Psy or Ed Elective	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>

Junior Year

Engl 57 Masterw of Early Lit	3	Philosophy Elective	3
D A 75 Technical Prod	3	D A 76 Technical Prod	3
Sec Ed 141 Founda of Sec,Ed	3	Sec Ed 153 Mat & Meth of Tchg in Sec Sch	3
D A 89 Rehearsal & Perform	3	D A 90 Rehears & Perform	3
D A 185 Costume Design	3	D A 96 Theatre Hist	3
Engl Elective	3	Ed & Ad Serv 115 (or equiv) Intro to Guid	3
	<u>18</u>		<u>18</u>

Senior Year

D A 161 Adv Rehears & Perform	3	D A 162 Adv Rehears & Perform	3
Spch 170 (or Ed Elec) Spch Activ in Schs	3	Sec Ed 156 Stu Tchg in Sec Sch	6
Engl 141 or 142 Shakespeare	3	Spch 130 (or Ed Elec) Spch Corr in Schs	3
D A 175 Scene Design	3	Math or Science	3
Other Electives	5		
	<u>17</u>		<u>15</u>

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.

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. 289.

A limited number of courses in creative dance and choreography are offered through the Department of Music.

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.

RECITALS, PUBLIC PERFORMANCE, AND ATTENDANCE REGULATIONS

Music majors are required to participate in certain specified recitals and public performances. 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 posted by the Department at the beginning of each semester. Failure to observe these requirements results in the addition of one-half hour of credit to the total graduation requirement for each unexcused excessive absence.

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 1, 2 Wrting w/Rdgs in Expos & Lit	}	10 hours each Semester
Mus 5, 6 Harmony		
P. E.		
One of the following:		
Social Science Language Mathematics or Science		

In the following curricula freshmen should enroll for additional courses as indicated:

Applied music, instrumental	}	5 hours each semester
Music 1, 2 (major instrument)		
Ensemble		

Applied music, vocal Music 1, 2 Music 19, 20 (piano)	}	5 hours each semester
Theory and Composition Music 19, 20 (piano) Music 155 (Orch Instrum) each semester Ensemble each semester	}	3 hours each semester
Music Literature Music 19, 20 (piano) Music 155 (Orch Instrum) each semester Ensemble each semester	}	3 hours each semester

Freshmen in Music Education should enroll for the following courses:

CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN GRADES 1-12 AND TO TEACH IN GENERAL
SUBJECT AREAS IN GRADES 1-8

Freshman Year			
First Semester	Second Semester		
Engl 1 Wrtn g w/Rdgs in Expos	3	Engl 2 Wrtn g w/Rdgs in Lit	3
*Soc Sci elective	3	*Soc Sci elective	3
Mus Ed 93 Mus in Prim Grs	2	Mus Ed 94 Mus in Interm Grs	2
Mus 5 Harmony	3	Mus 6 Harmony	3
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN GRADES 1-12 WITH NO SECOND SUBJECT AREA

Freshman Year			
First Semester	Second Semester		
English	3	English	3
‡Soc Sci elective	3	‡Soc Sci elective	3
Mus Ed 93 Mus in Prim Grs	2	Mus Ed 94 Mus in Interm-Gr s	2
Mus 5 Harmony	3	Mus 6 Harmony	3
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

FIELDS OF CONCENTRATION

THEORY AND COMPOSITION (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.

Applied music (14 hours): Piano, 8 hrs.; orchestra instruments, 155, 4 hrs.; voice 2 hrs.

Theory (35 hours): 5, 6, 63, 65, 66, 105, 106, 109, 110, 153, 157, 158, 163, 191, 192.

History and literature (16 hours): 71, 72, 111, 112, 175, 177, plus 4 hrs. selected from 73, 74, 147, 149, 178, 179.

Ensemble: 6 hours.

Elective: 21 hours.

* Should include 6 hrs. of music history.

‡ Should include 6 hrs. music history.

APPLIED MUSIC (PIANO) (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.
Applied Music (34 hours): 32 hours in piano; 2 hours in orchestral instruments (155).
Theory (24 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110.
History and literature (16 hours): 71, 72, 111, 112, 149, 175 or 177, plus 4 hours selected from 73, 74, 147, 178, 179, 175, or 177.
Ensemble: 8 hours, including 2 semesters of 137 and 1 of 195.
Electives: 10 hours.

APPLIED MUSIC (INSTRUMENTAL, OTHER THAN PIANO) (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.
Applied music (38 hours): 32 hours in major instrument, 4 hours in piano, 2 hours in Music 155.
Theory (24 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110.
History and literature (14 hours): 71, 72, 111, 112, 175 or 177, plus 4 hours selected from 73, 74, 147, 149, 178, 179, 175 or 177.
Ensemble: 8 hours.
Electives: 8 hours.

APPLIED MUSIC (VOCAL) (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language (French and/or German), 12 hrs.; physical education, 4 hrs.
Applied music (42 hours): Voice, 32 hrs.; piano, 4 hrs.; plus 129, 4 hrs., and 187, 2 hrs.
Theory (24 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110.
History and literature (12 hours): 71, 72, 111, 112, 147, plus other history or literature, 2 hrs.
Ensemble (6 hours): chorus, 4 hrs.; ensemble elective, 2 hrs.
Electives: 8 hours.

MUSIC LITERATURE (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.
Applied music (8 hours): piano, 4 hrs.; elective, 4 hrs.
Theory (30 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110, 153, 155 (2 hrs.); 167 or 165.
History and literature (26 hours): 71, 72, 111, 112, 147, 149, 175, 177; other music literature or musicology, 10 hours.
Ensemble: 6 hours.
Electives: 22 hours.

MUSIC EDUCATION—CURRICULUM TO TEACH
MUSIC IN GRADES 1-12 AND GENERAL SUBJECT AREAS
IN GRADES 1-8. (136 hours)

(Qualifies the graduate for the Music Certificate and the Provisional Elementary Certificate in the State of New Mexico.)
General Education (48 hours): English, 9 hrs.; Speech 55, 3 hrs.; ‡ social science, 12 hrs.; mathematics or science including Physical Education 72, 11 hrs.; fine arts, 6 hrs.*; Psychology 51, 3 hrs.; physical education 4 hrs.
Professional Education (32 hours): Educational Psychology 110 or Education elective, 3 hrs.; philosophy, 3 hrs.; Elementary Education 121, 122, 123, 135, 9 hrs.; Music Education 93, 94, 145, 146, 8 hrs.; Elementary Education 136, 5 hrs.; Secondary Education 156, 4 hrs.
Music (56 hours):
Theory (20 hours): Mus. 5, 6, 65, 66, 109, 110, 153, 163 or 167.
Music literature or history: 4 hrs.
Applied music: 20 hours.
Conducting (6 hours): 63, 64, 113, 114, 157 or 158.
Ensemble: 6 hours.

‡ Should include 6 hrs. music history or literature.

* Fine Arts elective to be chosen from art, art education, drama.

CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN GRADES 1-12 WITH NO SECOND SUBJECT AREA (133 hours)

(Qualifies the graduate for the Music Certificate.)

General Education (48 hours): English, 9 hrs.; Speech 55, 3 hrs.; ‡social science, 12 hrs.; math or science, 11 hrs.; fine arts, 6 hrs.*; Psychology 51, 3 hrs.; physical education, 4 hrs.

Professional Education (24 hours): Psychology 110 or Education Elective, 3 hrs.; education elective, 3 hrs.; Music Education 64, 93, 94, 145, 146, 9 hrs.; Elementary Education 136, 4 hrs.; Secondary Education 156, 5 hrs.

Music (61 hours):

Theory (20 hours): 5, 6, 65, 66, 109, 110, 153, 163 or 167.

Music history: 4 hours.

Applied music: 24 hours.

Conducting (5 hours): 63, 113, 114, 157 or 158.

Ensemble: 8 hours.

**PIANO PROFICIENCY

Before graduation every candidate for the bachelor's degree must demonstrate proficiency at the piano by successfully passing an examination. This examination may be taken at the end of any semester before graduation, upon written application to the Department Chairman. Students should consult adviser for graduation requirements.

* Fine Arts elective to be chosen from art, art education, drama.

** For Proficiency Examinations in Music Education, see p. 148.

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, Geology, Government, Guidance and Counseling, History, Industrial Administration, Latin American Studies, Mathematics, Mechanical Engineering, Music, Music Education, Philosophy, Physical Education, Physics, Portuguese, Psychology, Science Education, Secondary Education, Sociology, Spanish, the 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 Bulletin** may be obtained by writing 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 must have their applications, transcripts, and the \$5.00 transfer application fee* on file in the Graduate Office at least one month in advance (for Semester I, August 15; for Semester II, January 1; for Summer Session, May 1) of the beginning date of the session in which they plan to enroll. 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 (provisional or regular). Under no circumstances are out-of-state students accepted on the special validation basis. For status categories, consult the **Graduate**

* Not required of The University of New Mexico graduates.

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.

INFORMATION

For further information regarding advanced work and the conditions under which higher degrees may be obtained, consult the **Graduate 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 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, 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 now a baccalaureate degree from an approved college or university, although exceptional students who have completed at least one year and not more than two years of college work 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. and the LL.B. degrees.

Under either 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, law review 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 50,000 accessioned volumes and is being augmented by approximately 250 volumes each month. Since 1958 generous gifts from the Journal Publishing Company of Albuquerque in memory of the founder, T. M. Pepperday, have made possible special collections in fields designated by the law faculty. 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. 50.

ADMISSION

TESTS

All students entering the School of Law are required to take the Iowa Legal Aptitude Test (LAT) and the Educational Testing Service's Law School Admission Test (LSAT). The LSAT is administered four times a year and the LAT is administered by individual arrangement, by The University of New Mexico's Director of Counseling and Testing.

The LSAT is also given four times a year at various other places throughout the United States. Information as to times and places can be obtained by writing to the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

The LAT is also administered at various other colleges and universities through-

out the United States. Detailed information as to the administering institutions may be obtained from the School of Law.

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 basic requirement for admission to the law school is a baccalaureate degree from an accredited college or university. However, students of exceptional qualifications who are eligible to transfer from The University of New Mexico University College to the College of Arts and Sciences of the University, or students with equivalent qualifications, 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 but must earn a baccalaureate degree before making application for law school admission. 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. 179, *supra*). Permission to pursue the combined course will be based upon the student's total scholastic record in all college work attempted, 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 April 1 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. 275, *infra*. In all other respects, they must meet the normal degree requirements of the College of Arts and Sciences. Such students 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 minor requirements and electives for such degree, by the faculty of the School of Law.

Beginning law students will be admitted at the opening of the fall semester only.

Save for requests for permission to pursue the combined course, all correspondence regarding law work and entrance, all applications for admission, and all transcripts should be addressed to the Director of Admissions, The University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the University Office of Admissions and Records. 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 required official transcripts

from each institution attended, showing courses and grades for all academic work. Such transcripts should be forwarded to the Office of Admissions and Records directly by the institution certifying the transcripts.

No person will be considered for admission until he has filed a formal application and the required transcripts, nor is he assured of entrance or rejection until he has received official notice from the Director of Admissions.

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. 183, *infra*.) The transferring student must have sent to the Dean of the School of Law:

1. An official transcript 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. An official transcript 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 his work done here (see "Scholarship Index," this Catalog).

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. 179, *supra*.)

All correspondence regarding admission as a transfer student with advanced standing, all applications for such admission, and all transcripts should be ad-

dressed to the Dean of 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.

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, but 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 excessive subject credit.** At least 1 year of resident study must be done at The University of New Mexico, and if but 1 year is done here, it must comprise not less than 12 semester hours of law credit each semester.
3. Have secured by and 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. 183, *infra*.)

THE DEGREE WITH HONORS. For requirements for graduation honors in the School of Law, see p. 105, *supra*.

PART-TIME STUDENTS AND OUTSIDE WORK

No student will be permitted to register for less than 10 credit hours in the law school in any one semester without the approval of the Dean.

If a student spends 19 or more 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 less than 19 hours per week in outside work whose cumulative grade average in the Law School falls below 2.2 (C = 2.0).

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.

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 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 is also required although no grade is given in this course. 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 accounting and/or in other courses 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.

OFFERINGS

1961-62

First Year

First Semester		Second Semester	
103 Contracts and Contract Remedies	3	101 Criminal Law	3
107 Torts	4	104 Contracts and Contract Remedies	3
109 Civil Procedure I	3	140 Civil Procedure II	4
110 Legal Analysis	2	112 Legal Research	2
118 Estates	3	158 Legislation	2
	<u>15</u>		<u>14</u>

Second Year

167 Federal Income Taxation	3	125 Business Units	4
160 Evidence	4	127 Family Law and Community Property	3
141 Legal Writing	2	148 Commercial Transactions I	2
123 Constitutional Law	4	128 Local Government Law	2
183 Jurisprudence	2	158 Legislation	2
Seminar	2	Seminar	2
	<u>17</u>		<u>15</u>

Third Year

156 Debtors' Estates	3	125 Business Units	4
167 Federal Income Taxation	3	135 Administrative Law	3
152 Security	3	127 Family Law and Community Property	3
131 Estate Planning I	3	132 Estate Planning II	3
183 Jurisprudence	2	149 Commercial Transactions II	2
Seminar	2	Seminar	2
	<u>16</u>		<u>17</u>

Seminars

¹ 190 Seminar in Water Law	2	³ 191 Seminar in Civil Liberties	2
² 195 Seminar in Mining and Public Lands	2		

STUDENT AIDS

LOAN FUNDS

The 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

¹ Prerequisite: 118 Estates

² Prerequisite: 171 Law of Oil and Gas.

³ Prerequisite: 123 Constitutional Law.

sponsoring committee to establish a student loan fund was set up in 1954 under the chairmanship of Sam G. Bratton, then 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 the 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 so created 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.

AWARDS, PRIZES AND SCHOLARSHIPS

See "Scholarships and Awards," pp. 74-87.

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 Georgina Radosevich, 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.

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 daily 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 College of Nursing was accredited by the Accrediting Service of the National League for Nursing in December, 1959; this includes accreditation of the program 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 staff positions in hospitals, out-patient departments, health departments, visiting nurse associations, industries, schools, and the military services. They 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 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

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. (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 English Department of The University of New Mexico.

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 while enrolled in the other degree-granting colleges or other collegiate institutions.

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.

UNIFORMS

Students are expected to purchase the uniforms which are worn in nursing practice periods. Order blanks are available from the College of Nursing. These must be mailed to the uniform company at least 6 weeks before the registration date of the semester in which the student first enrolls in a nursing practice course.

HEALTH SUPERVISION

The health program for students includes the medical examinations, consultation, and care offered to all University students by the University Health Service, with emphasis on the control of preventable diseases.

Students are required to carry insurance for hospitalization and medical care. If they are not included in health insurance policies carried by a parent, they are expected to purchase their own policies. An adequate health insurance policy is available through the University and may be purchased at the time of registration.

Students are required to submit evidence of immunizations for diphtheria, tetanus, typhoid fever, and smallpox on the registration date of the semester in which the student first enrolls in a nursing practice course.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Nursing is granted on fulfillment of the following requirements:

1. Completion of the 127 semester hours outlined in the nursing curriculum, plus 4-semester hours of physical education.

2. Maintenance of a grade of C or better for all courses attempted in the College of Nursing. For students transferring from the University College a grade average of not less than 2.0 for courses attempted in the two semesters previous to admission to the College of Nursing (minimum of 26 hours).

No student will be permitted to enroll in the professional courses of the senior year unless the grade average is 2.0 or better.

CURRICULUM

Descriptions of the courses offered will be found, listed by departments, in the Catalog section "Courses of Instruction."

Students planning to complete the requirements for the degree of Bachelor of Science in Nursing in four years will, while freshmen in the University College, complete the courses outlined for the freshman year.

Freshman Year	
First Semester	Second Semester
Engl 1 Wrtng w/Rdgs in Expos	Engl 2 Wrtg w/Rdgs in Lit
*Chem 41L Elem of Gen Chem	*Chem 42L Elem of Org Chem
Anthro 2 Develop of Cult	*Biol 36 Human Anat & Physiol
Nurs 1 Intro to	*Biol 39L Human Anat & Physiol Lab
Elective (Anthro, Biol, Fine Arts, Foreign Lang, Hist, Phil, Soc, Spch)	Elective (Anthro, Biol, Fine Arts, Foreign Lang, Hist, Phil, Soc, Spch)
Physical Ed	Physical Ed
1	1
<u>16</u>	<u>16</u>
Sophomore Year	
*Biol 93L Gen Bacteriology	Pharmacology 66L Prin of
Psych 51 Gen	Home Ec 104 Nutrition
Home Ec 138 Child Care & Development	Soc 55 Prin of
†Nurs 51L Fund of	Nurs 52L Fund of
Elective (Anthro, Econ, Engl, Fine Arts, Foreign Lang, Gov, Hist, Soc, Spch)	Elective (Anthro, Econ, Engl, Fine Arts, Foreign Lang, Gov, Hist, Psych, Soc, Spch)
Physical Ed	Physical Ed
1	1
<u>17</u>	<u>17</u>
Junior Year	
Ed & Adm Serv 115 Intro to Guid or	Soc 140 Social Change
Psych 158 Industrial	Nurs 101L Medical Nursing
Nurs 121L Pediatric Nursing	Nurs 102L Surgical Nursing
Nurs 122L Obstetric Nursing	Elective (Anthro, Engl, Fine Arts, Foreign Lang, Gov, Hist, Psych, Soc)
Elective (Anthro, Engl, Fine Arts, Foreign Lang, Gov, Hist, Psych, Soc)	
3	
<u>16</u>	<u>16</u>

* Prerequisites for Nursing 51 in sophomore year.

† Prerequisites: Chemistry 41L-42L, Biology 36, 39L, 93L.

Senior Year			
Nurs 151L Psychiatric Nursing	9	Nurs 161L Med-Surg Nurs Processes	5
Nurs 152L Public Health Nursing	9	Nurs 162L Adv Obstetric-Pediatric Nurs	5
		Nurs 182 Seminar: Probs & Trends in Nurs	2
		Elective (Anthro, Engl, Fine Arts, Foreign	
		Lang, Gov, Hist, Psych, Soc)	3
	<hr/>		<hr/>
	18		15

BACCALAUREATE PROGRAM FOR GRADUATES OF HOSPITAL SCHOOLS OF NURSING

ADMISSION REQUIREMENTS

Registered nurses who have been graduated from accredited hospital schools of nursing will be accepted as candidates for the degree of Bachelor of Science in Nursing if evaluation of previous professional and general education qualifies them to meet the minimum requirements listed under "Transfers" on p. 187.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING

- Completion of the following group requirements, including at least 40 semester hours of upper division courses:
 - Natural Sciences —23 semester hours
 - Social Sciences —19 semester hours
 - English — 6 semester hours
 - General Electives —21 semester hours
 - Nursing —58 semester hours
- Completion of 30 semester hours in residence during regular or summer sessions, including a minimum of 15 semester hours in Nursing. (Extension and correspondence hours are not counted as part of the residence requirements. As many as 40 semester hours in correspondence and extension courses will be acceptable toward the bachelor's degree provided that at least 10 hours are earned in extension courses taught by regular resident instructors of the University and that the remainder are taken through universities accredited by regional accrediting associations.)
- Completion of all course requirements with a grade average of not less than 2.0. No student will be permitted to enroll in the professional courses of the senior year if the grade average is less than 2.0.
- Completion of the English Proficiency Examination with a satisfactory score, or completion of a stipulated course in remedial English with a grade of C or better.

COLLEGE OF PHARMACY

IT IS THE primary purpose of the College of Pharmacy to provide the fundamental training requisite to success in the practice of the profession of pharmacy. Incident to this training, the College 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.

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 the academic year but may be withdrawn at the end of the first semester should the student not maintain a satisfactory academic 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 applica-

tion 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 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 1L and 2L and Biology 1L and 2L 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.

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 41-42, 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 including physical education.

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

A. For those who entered the College of Pharmacy **before** April 1, 1961.

The student who entered the College of Pharmacy before April 1, 1961, and who remains in continuous attendance may be granted the degree of Bachelor of Science in Pharmacy upon completion of the requirements listed on pages 192-193 of the 1960-61 catalog issue of the University Bulletin.

B. For those who enter the College of Pharmacy **after** April 1, 1961.

The student who enters the College of Pharmacy after April 1, 1961 may be granted the degree of Bachelor of Science in Pharmacy upon completion of the requirements listed below:

The candidate for the degree must:

1. Complete all of the work outlined in the pharmacy curriculum. Of the 33 elective hours, the student may not elect more than a total of 18 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 not less than 2.0, the calculation of the grade average being based on (a) all work attempted* while enrolled in the College of Pharmacy or another degree-granting college of The University of New Mexico, and, (b) in the case of a student who was enrolled in the University College, the work upon which his admissibility to the College of Pharmacy was determined.

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.

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

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.

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 1 Wrtng w/Rdgs in Expos	3	Engl 2 Wrtg w/Rdgs in Lit	3
Chem 1L Gen	4	Chem 2L Gen	4
Biol 1L Gen	4	Biol 2L Gen	4
Math 15 Coll Alg	3	Math 16 Plane Trig	2
Elective	3	Elective	3
Physical Ed	1	Physical Ed	1
	18		17

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 page 191 for specific requirements for admission to the College of Pharmacy.

PROFESSIONAL CURRICULUM

Second Year (First Professional Year)			
Phm 41 Orientation I	1	Phm 42 Orientation II	1
Chem 101 Organic Chem	3	Chem 102 Organic Chem	3
Chem 103L Organic Lab	1	Chem 104L Organic Lab	1
Physics 11L Gen	4	Physics 12L Gen	4
Biol 93L Bacteriology	4	Econ 51 Intro	3
Elective	3	Elective	3
Physical Ed	1	Physical Ed	1
	17		16

Third Year (Second Professional Year)			
Phm 141L Intro	5	Phmcog 72L Gen	4
Chem 53L Quant Analysis	4	Biol 123L Biol Chem	4
Phmcol 191 Biol Med	3	Biol 130 L Verte Physiol	4
Elective	4	Spch 55 Pub Spkg	3
	16	Elective	2
			17

Fourth Year (Third Professional Year)			
Phm 153L Operative Phm I	5	Phm 154L Operative Phm II	5
Acct 5 Prin of	3	Phm 122 Pharmaceutical Law	3
Phmcol 195L Phmcol I	4	Phmcol 196L Phmcol II	5
Elective	3	Elective	3
	15		16

Fifth Year

(Fourth Professional Year)

Phm Chem 163L Med Chem I	5	Phm Chem 164L Med Chem II	4
Phm 181L Disp Phm I	5	Phm 182L Disp Phm II	5
Phm 121 Phm Management	2	Phm 161 Hist of Pharmacy	2
Phm 193 Inspection Trip	0	Elective	6
Elective	3		
	<u>15</u>		<u>17</u>

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 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 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. 96.

CORRESPONDENCE COURSES. A number of courses are offered which are carried on entirely by mail and are planned and conducted by qualified university professors. Credits received in this manner may be applied toward an undergraduate degree to the extent of 30 semester hours.

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 particu-

lar 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. A separate bulletin on the Summer Session may be obtained by addressing the Director of the 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. 60 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.

A bulletin listing both credit and non-credit courses offered each semester will be supplied to anyone making a request to the Director of the Community College, 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 discuss 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

In September of 1960 a one-year program in Dental Assisting was inaugurated at The University of New Mexico. The program is designed to train women to become thoroughly familiar with all phases of dental procedure and to act as chairside assistants. A curriculum has been developed for the year which consists of non-credit dental courses and credit courses in English, Typing, First Aid, and Health Education. In addition, dental laboratory proficiency is developed in a dental clinic which is on the campus. Upon satisfactory completion of the course, the student is awarded a Certificate of Proficiency in Dental Assisting.

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 and responsible citizens.

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. AFROTC students must complete

this processing before academic registration. The \$8 fee for Military Property and Special Handling must be paid to the University Cashier before AFROTC processing. This fee is collected only at the beginning of the fall semester. Students entering during the spring semester pay a \$5 fee.

(For further information refer to the section on Military Training under General Information, p. 51 in this bulletin.)

DEPARTMENT OF AIR SCIENCE

	Freshman Year (Air Science 1)	
First Semester Selected and approved University courses		Second Semester Air S 12 (2)
Air S 51 (2)	Sophomore Year (Air Science 2)	Selected and approved University courses
Air S 101 (4)	Junior Year (Air Science 3)	Air S 102 (4)
Govt 141 (3) Air S 151 (1)	Senior Year (Air Science 4)	Air S 152 (4)

Juniors and seniors should note that Air Science 3 and 4 are offered in alternate years (Air Science 4 in academic year 1962-63 and Air Science 3 in 1961-62, etc.). Government 141 must be completed in the junior or senior year as offered.

Descriptions of courses will be found in the catalog section "Courses of Instruction."

All Air Force ROTC Cadets are required to attend 2 hours of Leadership, Drill, and Exercise of Command laboratory per week.

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
NS11. Naval Orientation	3	NS12. Evolution of Sea Power 3
	Sophomore Year	
Psy 51. General Psy	3	NS 52. Naval Weapons 3

	Junior Year		
NS101. Naval Engineering	3	NS102. Navigation	3
	Senior Year		
NS151. Naval Operations	3	NS152. Naval Administration and Leadership	3

Marine Corps subjects, given below, are substituted by Marine Corps applicants during junior and senior years.

	Junior Year		
	First Semester	Second Semester	
NS101M. Evolution of the Art of War	3	NS102M. Modern Basic Strategy and Tactics	3
	Senior Year		
NS151M. Amphibious Warfare Part I	3	NS152M. Amphibious Warfare Part II, Leadership, and Military Justice	3

NROTC students are required to attend 2 hours of Naval Science drill and laboratory per week.

COURSES OF INSTRUCTION

ON 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 400. Courses from 1 to 49, lower division, are normally open to freshmen; from 50 to 99, lower division, normally open to sophomores; from 100 to 199, upper division, normally open to juniors, seniors, fifth-year undergraduates, and graduates; 200 to 400, graduate, normally open to students enrolled in the Graduate School only.

An asterisk (*) preceding a course indicates that the course is allowed for graduate credit to students enrolled in the Graduate School.

Other symbols used in course descriptions: L—part of the course is laboratory work; F—course is given during field session; SS—course offered in summer session only; Yr—course offered throughout two semesters and credit for a single semester's work is suspended until the entire course is completed; ()—Semester hours' credit; credit hours separated by a dash (1-3) indicates variable credit in the course; []—former course number or title.

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)	Education, Psychology (See Psychology)
Air Science	Education, Secondary
American Studies	Electrical Engineering (See Engineering, Electrical)
Anthropology	Elementary Education (See Education, Elementary)
Architecture	Engineering
Art	Engineering, Chemical
Art Education (See Education, Art)	Engineering, Civil
Astronomy (See Mathematics & Astronomy)	Engineering, Electrical
Basic Language (See Modern & Classical Languages)	Engineering, Mechanical
Biology	English
Business Administration	English-Philosophy
Business Education (See Business Administration)	Folklore (See Modern & Classical Languages, and English 161)
Chemical Engineering (See Engineering, Chemical)	French (See Modern & Classical Languages)
Chemistry	General Studies
Chemistry, Pharmaceutical (See Pharmacy)	Geography
Civil Engineering (See Engineering, Civil)	Geology
Classical Languages (See Modern & Classical Languages)	German (See Modern & Classical Languages)
Comparative Literature	Government & Citizenship
Dramatic Art	Greek (See Modern & Classical Languages)
Economics	Health, Physical Education, and Recreation (See Education, Health, Physical Education, and Recreation)
Education, Art	History
Education, Business (See Business Administration)	Home Economics (See Education, Home Economics)
Education, Educational & Administrative Services	Ibero-American Studies
Education, Elementary	Industrial Arts (See Education, Industrial Arts)
Education, Health, Physical Education, and Recreation	Italian (See Modern & Classical Languages)
Education, Home Economics	Journalism
Education, Industrial Arts	Latin (See Modern & Classical Languages)
Education, Library Science	
Education, Music	

- Law
- Library Science (See Education, Library Science)
- Mathematics & Astronomy
- Mechanical Engineering (See Engineering, Mechanical)
- Modern & Classical Languages
- Music
- Music Education (See Education, Music)
- Naval Science
- Nursing
- Pharmaceutical Chemistry (See Pharmacy)
- Pharmacognosy (See Pharmacy)
- Pharmacology (See Pharmacy)
- Pharmacy
- Philosophy
- Physical Education (See Education, Health, Physical Education & Recreation)
- Physics
- Portuguese (See Modern & Classical Languages)
- Psychology
- Recreation (See Education, Health, Physical Education & Recreation)
- Russian (See Modern and Classical Languages)
- Secondary Education (See Education, Secondary)
- Social Science
- Sociology
- Spanish (See Modern & Classical Languages)
- Speech

ACCOUNTING

See Business Administration.

AIR SCIENCE

Herbert M. Campbell, Lt. Colonel USAF (Chairman), Professor of Air Science;
 Assistant Professors: LeRoy R. Waterman, Major USAF; Arnold W. Brown,
 Major USAF.

CURRICULUM

See p. 199.

Note: Government 141 must be completed prior to graduation.

11. **AIR SCIENCE 1. (2-3)**
 Selected and approved University courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences.
12. **AIR SCIENCE 1. (2)**
 Foundations of Aerospace Power--1. The elements of aerospace power, and basic aeronautical science.
51. **AIR SCIENCE 2. (2)**
 Foundations of Aerospace Power--2. The development of aerial warfare, with emphasis on principles of war, concepts of employment of forces, and changing weapon systems. Treatment of aerial warfare covers targets, weapon systems, delivery vehicles, bases and operations.
52. **AIR SCIENCE 2. (2-3)**
 Selected and approved University courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences.
- 101-102. **AIR SCIENCE 3. (4, 4)**
 Air Force Officer development. The knowledge and skills required of a junior officer in the Air Force with special emphasis on staff duties and leadership. Includes Air Force leadership doctrine, staff organization and functions, communicating, instructing, problem solving techniques, leadership principles and practices, and the military justice system. Offered 1961-62 and alternate years, alternates with 151-152.
- 151-152. **AIR SCIENCE 4. (4, 4)**
 Global Relations. Global relations of special concern to the Air Force officer with attention to such aspects as weather, navigation, geography, and international relations. Offered 1962-63 and alternate years, alternates with 101-102.

AMERICAN STUDIES

An interdepartmental offering at the doctoral level presupposing a Master of Arts degree in such majors as history, English, education, sociology, govern-

ment, philosophy, and economics. For requirements for the degree of Doctor of Philosophy, consult the **Graduate Bulletin**.

- *201. **Interdepartmental Seminar in the Culture of the United States.** (3) Arms, Bunting, Dabney, McMurray, Reeve, G. Smith, Tedlock, Walter
Religious backgrounds in the United States during the 19th century; architecture and culture of 19th century America; travelers' accounts of America, 1744-1844; contemporary American political thought; the New Deal; the influence of radical politics on art and literature, 1918-1939; American society in transition.

- *400. **Dissertation.**

ANTHROPOLOGY

Professors W. W. Hill (Chairman), F. H. Ellis, F. C. Hibben, S. S. Newman; Associate Professor H. W. Basehart; and Staff.†

MAJOR STUDY

Anthropology 1, 2, 193, and 28 more semester hours in courses numbered from 100 through 199 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 1 and 2, at least 6 hours to be taken in courses numbered above 100.

1. **General Anthropology: Origin and Antiquity of Man.** (3) Basehart, Hibben
2. **General Anthropology: Development of Culture.** (3) Basehart, Ellis, Hill, Newman
- 60L. **Beginning Museum Techniques and Methods.** (3)
Museum administration, publicity, exhibits and curatorial techniques. 1 lecture, 5 hrs. lab. (Offered at the State Museum by Extension only).
- 66F. **Archaeologic Field Method.** (2)

General prerequisite: Anthropology 1 and 2 or equivalent.

Archaeology:

- *112. **European Prehistory.** (3) Hibben
Early European cultures; human development as shown in physical and cultural remains.
- *155. **Southwestern Archaeology; Mogollon and Hohokam.** (3) Ellis
Field trips included.
- *156. **Southwestern Archaeology: Pueblo Area.** (3) Ellis
Field trips included.
- *162. **Archaeology of the Old World.** (3) Hibben
Prehistory of Africa, Asia, Oceania.
- *184. **Archaeology of Mexico, Central America, and the West Indies.** (3) Hibben
- *185. **American Archaeology: North America.** (3) Hibben
Excludes the Southwest and Mexico from consideration.

† New appointment to be made July, 1961.

- *186. **American Archaeology: South America.** (3) Hibben
- *191. **Classical Archaeology.** (3) Hibben
Cultural beginnings of Greece and Rome with special reference to the importance of classical backgrounds in modern culture.

Ethnology:

- *105. **The American Indian: North America.** (3) Hill
- *106. **The American Indian: South America.** (3) Newman
- *110. **Latin American Peasant Culture.** (3)
- *120. **Races and Cultures of Europe.** (3)
- *121. **Races and Cultures of Asia.** (3) Basehart
- *136. **Ethnography of Africa.** (3) Basehart
- *147. **Oceania.** (3) Hill
- *157. **Southwestern Ethnology: Non-Pueblo Peoples.** (3) Ellis
Field trips included.
- *158. **Southwestern Ethnology: Pueblo Peoples.** (3) Ellis
Field trips included.
- *182. **Ethnology of Middle America and the Caribbean.** (3) Newman

Linguistics:

- *113L. [113] **Linguistic Field Methods.** (3) Newman
2 lectures, 2 hrs. lab.
- *117L. [117] **Phonetics and Phonemics.** (3) Newman
2 lectures, 2 hrs. lab.
- *118L. [118] **Structural Analysis.** (3) Newman
A continuation of 117L. Deals with grammatical structures in the same way that 117L concerns itself with phonemic systems. Prerequisite: 113L or 117L. 2 lectures, 2 hrs. lab.
- *146. **Native Languages of America.** (3) Newman
Prerequisite: 113L or 117L.
- *154. **The Nature of Language.** (3) Newman

Technical:

- *103L. **Chronology.** (3) Ellis
Methods of dating in relationship to archaeological problems. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- *107L. **Physical Anthropology: Osteology.** (3) Basehart
2 lectures, 2 hrs. lab.
- *108L. **Physical Anthropology: Somatology.** (3) Basehart
Racial variation and constitution. Prerequisite: 107L. 2 lectures, 2 hrs lab.
- *109L. **Southwestern Pottery.** (3) Ellis
Prehistoric development of ceramic art. Prerequisite: 155 or 156. 2 lectures, 2 hrs. lab.
- *160L. **Advanced Museum Techniques and Methods.** (3)
Specialized work and highly technical training in one area of anthropology, art, or folk art. 1 lecture, 5 hrs. lab. (Offered at the State Museum by Extension only.)

Topical:

- *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.
- *102. **Perspectives of Anthropology.** (3) Basehart
Essential concepts of the nature of culture and of racial relationship. No prerequisite.
- *104. **Comparative Social Structure.** (3) Basehart

- *150. **Methods in Cultural Anthropology.** (3) Ellis
Methods used in the collection and ordering of anthropological data for historical, scientific, and administrative problems.
- *152. **Primitive Literature.** (3) Newman
- *193. **History of Anthropology.** (2) Basehart, Hill
- *198. **Primitive Religion.** (3) Hill

Field Courses:

- 75F. **General Field Session.** (2-6) Ellis, Hibben, Newman
Introductory summer field course in archaeology, ethnology, or linguistics.
- *175F. **Advanced Summer Field Session.** (2-6) Ellis, Hibben, Newman
For upper-division and graduate students. Prerequisite: 75F or equivalent.
- *199F. **Field Research.** (2-6)
Field course. Prerequisite: permission of staff.

Graduate Courses:

- *205. **Proseminar: Introduction to Research.** (2) Hill
- *208. **Processes of Culture Change.** (2) Basehart
- *210. **Kinship Studies.** (2) Basehart
- *212. **Seminar: Ethnology.** (2) Basehart, Hill
- *214. **Seminar: South American Archaeology.** (2)
- *216. **Seminar: European Prehistory.** (2) Hibben
- *251-252. **Problems.** (2, 2) Basehart, Ellis, Hibben, Hill, Newman
No more than 4 hours may be taken towards the M.A., nor more than 8 hours towards the Ph.D. degree.
- *257. **Seminar: Early Man in the New World.** (2) Hibben
- *260. **Methods of Comparative Linguistics.** (2) Newman
- *261. **Types of Linguistic Structure.** (2) Newman
Prerequisite: 113L or 117L.
- *282. **Seminar: American Archaeology.** (2) Hibben
- *294. **Seminar: Southwestern Archaeology and Ethnology.** (2) Ellis
- *300. **Master's Thesis.** (6) Basehart, Ellis, Hibben, Hill, Newman
- *400. **Dissertation.** Basehart, Ellis, Hibben, Hill, Newman

ARCHITECTURE

Professor J. J. Heimerich (Chairman); Associate Professor D. P. Schlegel; Assistant Professor H. R. Benson; Lecturers (Part-time) J. P. Conron, G. S. Wright; Part-time Instructor C. W. Quinlan.

CURRICULUM

See p. 166.

- 3. **Two Dimensional Design.** (3)
(Same as Art 3.)
- 9. **Three Dimensional Design.** (3)
(Same as Art 9.)
- 31L-32L. **Elements of Architecture.** (3, 3)
Principles of architectural design, shades, shadows, perspective and delineation. 9 hrs. lab.
- 33-34. [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; visits to sites of construction and manufacture. Corequisite: 31L or equivalent.

61. **History of Architecture, Ancient and Medieval.** (3) Bunting
(Same as Art 61).
62. **History of Renaissance Architecture.** (3) Bunting
(Same as Art 62.)
- 81L-82L. **Architectural Design I and II.** (4, 4)
Design and planning of small buildings involving horizontal circulation, their relation to the site; development and coordination of construction details. Prerequisite: 32L. 12 hrs. lab.
111. **The Sources of Modern Architecture.** (2) Bunting, Schlegel
(Same as Art 111.)
112. **Survey of Contemporary Architecture in Europe and the Americas.** (2) Bunting, Schlegel
(Same as Art 112.)
- 131L-132L. **Architectural Design III and IV.** (4, 4)
Original problems in plan, elevation, and section of various types of buildings, involving horizontal and vertical circulation, planning and relationship of building types with their neighborhood, and coordination of structural systems. Prerequisite: 82L. 12 hrs. lab.
- 181L-182L. **Architectural Design V and VI.** (5, 5)
Advanced problems in plan, elevation and section of buildings, involving horizontal and vertical circulation, site planning, with multiple units and irregular terrain, and coordination of mechanical equipment. Prerequisites: 132L, Civil Engineering 60. 15 hrs. lab.
- 191L. **Architectural Design VII.** (5)
A continuation of 182L with emphasis on city planning and team projects. Prerequisites: 182L, Civil Engineering 140. 15 hrs. lab.
- 193L-194L. **Working Drawings.** (3, 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.
- *195. **Specifications and Estimating.** (2) Heimerich
Analysis of various specification forms and writing of specifications, showing the quality of the material and erection procedure for a building. Methods of estimating buildings and cost analysis of materials. Prerequisite: senior standing.
- *196. **Office Practice.** (2) Heimerich
Duties of the architect, relationship of architect-client-contractor, professional ethics, office management, and requirements for licensing. Prerequisite: senior standing.
- *197-198. **Seminar.** (1, 1) Schlegel
Discussion of, and oral and written reports on, the theory and creative process of architectural design and related fields. Prerequisite: senior standing.
- 199L. **Problems.** (5)
Solution of an architectural problem which is written by the student and approved by the faculty. Prerequisite: 191L. 15 hrs. lab.

ART

Professors L. L. Haas (Chairman), K. M. Adams, A. S. Masley, J. Tatschl; Associate Professors B. Bunting, S. D. Smith; Assistant Professors R. W. Lewis, R. W. Mallary, K. Monroe, C. E. Paak, W. H. Thonson; Instructor B. B. Townsend.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts, a 51-hour major is offered leading to the degree of B.F.A. in Art. (See curricula, p. 167.)

2. For the student enrolled in the College of Arts and Sciences, a 32-hour Art major may be taken in one of three fields of specialization: Group 1 (Painting and

Design), Group II (Crafts), Group III (Art History).

Of these 32 hours at least 12 must be in courses numbered above 100.

Those specializing in Group I or II take the following:

6 hours chosen from Art 3, 6, 8, 9, or 100.

8 hours Group III including Art 71 or 72.

18 hours additional in the field of specialization.

Those specializing in Group III take the following:

6 hours consisting of Art 3, 6.

6 hours Group I or II.

20 hours additional of Group III courses including Art 71 and 72.

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.

3. For the student enrolled in the College of Fine Arts and pursuing the Combined Curriculum (see p. 165) a 45-hour art major is offered. This consists of Art 3, 6, 8, 9, 71 and 72; Group I, 6 hours; Group II, 5 hours; Group III, 3 hours; 13 hours of Art electives in field of specialization. A total of 15 hours must be taken in courses numbered over 100.

MINOR STUDY

20 or 25 hours (20 hours for College of Arts and Sciences; 25 hours for College of Fine Arts) in a field of particular interest, such as Commercial Art, Sculpture, Painting, etc. (Art 100 is recommended for those not taking the basic freshman courses.) The student shall satisfy the following requirements: (1) prerequisite courses shall be taken; (2) the advice of an Art adviser, to be appointed by the Art Department, shall be obtained, and the advised program approved by the major department chairman; (3) at least 6 hours shall be taken in courses numbered above 100.

MATERIALS AND STUDENT WORK

Students enrolling in Art courses furnish their own materials 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 with the Department one or several pieces of original work to be added to the permanent collection.

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)

100. Art Appreciation. (3) Art Faculty

Introduction to the visual arts; acquaints the general student with various fields, media, and masterpieces.

110. Interior Decoration. (3) Staff

Contemporary materials for home decoration, furnishings, and interior planning will be fully investigated. Sketches, plans, and models will be executed. Prerequisites: 3, 8.

(GROUP I)**Painting, Sculpture, and Drawing****3. Two Dimensional Design. (3)**

The elements of design (line, color, value, shape, etc.) and the principles of composition underlying their application in painting, drawing, advertising, crafts, etc. No prerequisites.

6. Beginning Drawing. (3)

Training in understanding the form of objects and of the human figure. Teaching of elementary drawing techniques. No prerequisites.

9. Three Dimensional Design. (3)

Acquaints the student with various materials (paper, wood, metal, plastics, etc.) and with the various modern techniques used in such fields of three dimensional design as sculpture, architecture, store display, etc.

63. Painting and Design. (2) Adams, Haas, Mallary, Smith

Introductory study of the painter's craft; various media; figure, portrait, and still life. Prerequisites: 3, 6. May be repeated to a maximum of 6 hours.

65. Drawing. (2) Adams, Mallary, Smith, Tatschl

Craftsmanship of drawing in various media, including still life, anatomy, and figure drawing. Prerequisite: 6. May be repeated to a maximum of 4 hours.

89. Sculpture. (2) Monroe, Tatschl

Technique, executed in various media of sculpture. Prerequisites: 3, 6. May be repeated to a maximum of 4 hours.

HA. Reading in Honors. (1-3 each semester)**HB. Research in Honors. (1-3 each semester)*****103. Landscape. (2) Adams, Haas, Lewis, Smith**

Landscape painting in watercolor, gouache, or oils. Prerequisite: 63. May be repeated for credit.†

***154. Materials and Media. (3) Haas**

Experimentation in the various media of painting including tempera, mixed technique, gouache, plastics, etc. Prerequisite: 63.

***163. Advanced Painting and Design. (3) Adams, Haas, Mallary, Smith**

Prerequisite: 63. May be repeated for credit.†

***165. Advanced Life Drawing. (3) Adams, Haas, Mallary, Smith, Tatschl**

Prerequisite: 65. May be repeated for credit.†

***189. Advanced Sculpture. (3) Monroe, Tatschl**

Prerequisite: 89. May be repeated for credit.†

***251-252. Problems. (2-3 each semester) Adams, Haas, Mallary, Monroe, Smith, Tatschl**

Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.

273-274. Seminar in Painting and Design. (2, 2) Adams, Haas, Tatschl**300. Master's Thesis. (6) Adams, Haas, Smith, Tatschl**

The thesis should be taken over 2 semesters.

(GROUP II)**Crafts and Commercial Art****8. General Crafts. (3)**

Introduction to the basic processes involved in ceramics, jewelry, textiles, and the study of form as related to these materials. No prerequisites.

17-18. Crafts for Industrial Arts. (2, 2)

Introduction to design and processes involved in jewelry, art metal work, ceramics, plastics, book binding, leather work, and graphic arts.

† Instructor and department chairman must approve all cases of repetition in this course.

27. **Manuscript Lettering.** (2) Thonson
The essential form of the Roman alphabet and its derivatives as applied to calligraphy. No prerequisite.
28. **Commercial Lettering.** (2) Thonson
Creative lettering with the brush and pen as used in advertising. No prerequisite.
57. **Beginning Jewelry.** (2) Lewis
Beginning jewelry design in various media, with emphasis upon the inherent qualities of the materials used. Of interest to teachers. Prerequisites: 3, 8.
58. **Beginning Textiles.** (2) Townsend
An experimental approach to textile design with emphasis on the use of new materials. Prerequisites: 3, 8.
67. **Graphic Arts.** (2) Tatschl
Techniques and methods in lithography, etching, and woodcuts. Prerequisites: 3, 6, 65. May be repeated to a maximum of 4 hours.
- 77-78. **General Commercial Art.** (2, 2) Thonson
Art and layout in advertising, various techniques and methods of reproduction; optional work in cartooning. Prerequisites: 3, 6, and 27 or 28.
- 87-88. **Photography.** (2, 2) Haas, Thonson
Elementary photography including shooting, dark room procedure, and photographic composition. (An adequate camera is necessary for this course.) 87 must be taken prior to 88.
97. **Beginning Ceramics.** (2) Paak
Beginning ceramics, including practice in casting, shaping, wheel throwing, firing and glazing. No prerequisite.
- HA. **Reading in Honors** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
117. **Calligraphy.** (3) Thonson
Research and practice in historic manuscript hands. Prerequisite: 27.
- *127. **Advanced Jewelry** (3) Lewis
Jewelry design in various media with emphasis upon the inherent qualities of the materials used. Prerequisite: 57. May be repeated for credit.†
- *137. **Advanced Ceramics.** (3) Lewis, Paak
Continuation of 97. May be repeated for credit.†
- *147. **Advanced Textiles.** (3) Townsend
An experimental approach to weaving and textile design with emphasis upon the combination of materials and the use of new materials. Prerequisite: 58. May be repeated for credit.†
- *167. **Graphic Arts.** (3) Tatschl
Techniques and methods of etching, lithography, and woodcut. Prerequisite: 67. May be repeated to a maximum of 6 hours.
- 177-178. **Commercial Art Problems.** (3-3) Thonson
Second year commercial art. Prerequisites: 77, 78.
198. **Community Crafts Workshop.** (3) Staff
Problems involved in developing a community crafts program. Emphasis upon procuring materials, equipment, and developing a program while working in a controlled workshop situation.
- *251-252. **Problems.** (2-3 each semester) Lewis, Paak, Tatschl
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.
- *300. **Master's Thesis.** (6) Lewis, Paak, Tatschl
The thesis should be taken over 2 semesters.

(GROUP III)**Art History**

61. **History of Architecture, Ancient and Medieval.** (3) Bunting

† Instructor and department chairman must approve all cases of repetition in this course.

- Ancient architecture of Egypt, Greece, and Rome; medieval architecture of the Early Christian, Byzantine, Romanesque, and Gothic periods. No prerequisites.
62. **History of Renaissance Architecture.** (3) Bunting.
Architecture of Italy, Northern Europe, U.S.A., from 1400 to 1850. No prerequisites.
71. **General Art History.** (3) Bunting, Haas
Introductory study of Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, and Medieval art.
72. **General Art History.** (3) Bunting, Haas
Introductory study of art of the Renaissance, Baroque, and 19th and 20th centuries.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
111. **The Sources of Modern Architecture.** (2) Bunting, Schlegel
The sources of modern architecture in Europe and America, the International style in Europe; city planning to the present.
112. **Survey of Contemporary Architecture in Europe and the Americas.** (2) Bunting, Schlegel
An analysis of the major architectural trends since 1940 with emphasis on the development of regional schools of architecture.
- *122. **History of 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.
- 131 **Pre-Cortesian Art.** (3) Haas
The arts of the Americas prior to the conquests of the Spanish in the 15th century. No prerequisites.
- *132. **History of American Indian Art.** (3) Haas
Prehistoric and historic art forms of the Indians of North America. No prerequisites.
- *141. **Art of the United States.** (3) Bunting
A survey of painting, sculpture, and architecture from Colonial times to the present. No prerequisites.
- *142. **Spanish Colonial Art.** (3) Bunting
History of the 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.
- *151. **Renaissance Painters.** (3) Bunting
An analytical study of the painters of the Renaissance. No prerequisites.
- *152. **History of Modern Painting.** (3) Haas
History of 20th century painting. No prerequisites.
- *162. **Hispanic Art.** (3) Bunting
Survey of Hispanic art in Europe and the New World.
- *171. **Primitive Art.** (3) Haas
The art forms of those peoples outside the direct influence of the better-known Occidental and Oriental traditions. Main emphasis is placed on African and Oceanic areas. No prerequisites.
199. **Special Problems.** (2)
Advanced work in projects or fields not covered in the regular catalog courses. Maximum 2 hours per semester with a total of 8 hours toward graduation. Open to juniors and seniors having a B average in their art courses. (For undergraduates only.)
- *251-252. **Problems.** (2-3 each semester) Bunting, Haas
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.
- *281-282. **Seminar in the History of Contemporary Art.** (2, 2) Haas
- *291-292. **Seminar in the History of Art.** (2, 2) Bunting
- *300. **Master's Thesis.** (6) Bunting, Haas
The thesis should be taken over 2 semesters.

ART EDUCATION

See Education, Art

ASTRONOMY

See Mathematics and Astronomy

BIOLOGY

Professors L. D. Potter (Chairman), E. F. Casterter, H. J. Dittmer, C. C. Hoff, W. J. Koster; Consulting Professor D. E. Johnson; Associate Professor M. W. Fleck; Assistant Professors J. S. Findley, W. C. Martin, M. L. Riedesel, E. W. Rypka; Visiting Assistant Professor W. G. Degenhardt.

MAJOR STUDY

Biology 1L, 2L, 71L, 72L, 93L, 109, 129L or 160L or 178L, and 12 additional hours. Courses 33L, 36, 39L, 41, 48, 102L and 126L are not accepted toward a major. Chemistry 2L and Mathematics 15 are required of biology majors. The mathematics requirement may be met by examination.

Students desiring to concentrate in some special field of biology such as bacteriology, botany, ecology, physiology, or zoology, should consult the Chairman of the Department early in their college careers.

MINOR STUDY

Biology 1L and 2L and 12 additional hours. 33L and 126L are not acceptable toward the minor.

CURRICULA PREPARATORY TO DENTISTRY, FORESTRY, MEDICAL TECHNOLOGY, OR MEDICINE

See pp. 115-118.

Note: Credit will not be allowed for both 12L and 1L-2L; or for 36-39L and 130L; or for 36-39L and 102L; or for 102L and 130L; or for 48 and 109.

- 1L. **General Biology.** (4) 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 2L is completed. 3 lectures, 3 hrs. lab.
- 2L. **General Biology.** (4) Degenhardt, Dittmer, Fleck, Koster
A continuation of 1L. Survey of the plant and animal kingdoms; heredity, environmental relations, and evolution. Prerequisite: 1L. 3 lectures, 3 hrs. lab.
- 12L. **General Zoology.** (4) 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.
- 33L. **Microbiology.** (3) Rypka
The part played by microorganisms in the environment of man; a lecture and demonstration course emphasizing the general aspects of disinfection, public health, and the common infectious diseases. 2 lectures, 2 hrs. lab.
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, 39L. Not accepted toward a biology major.

- 39L. Human Anatomy and Physiology Laboratory. (2)**
Laboratory work in elementary anatomy and physiology with emphasis on anatomy. Cannot be taken independently of 36.
- 41. Survey of New Mexico Plant Life. (2)** Martin
Lectures, demonstrations, and field trips.
- 48. Human Heredity. (2)** Dittmer, Fleck
A cultural survey of the field of inheritance.
- 71L. Invertebrate Zoology. (4)** Hoff and Assistant
A comparative study of the structure, habits, and classification of the invertebrates. Prerequisite: 2L. 2 lectures, 4 hrs. lab.
- 72L. Comparative Plant Morphology. (4)** Dittmer
A comparative study of the four great groups of the plant kingdom. Prerequisite: 2L. 2 lectures, 4 hrs. lab.
- 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: 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- 93L. General Bacteriology. (4)** Rypka
Biology and significance of bacteria and other microorganisms; fundamental principles governing the bacteriology of water, sewage, milk, food, and sanitation. Prerequisites: 2L, Chemistry 2L. 2 lectures, 4 hrs. lab.
- 102L. Human Physiology. (4)** Fleck, Riedesel and Assistant
Functions of the human body with emphasis on the central nervous and autonomic nervous systems, excretion, reproduction, blood, and respiration. Prerequisite: 2L; corequisites: Chemistry 102, 104L. 3 lectures, 3 hrs. lab.
- *109. Genetics. (3)** Martin
The scientific, cultural, and philosophical aspects of inheritance. May be taken with, or independently of, 109L. Prerequisite: 2L.
- *109L. Genetics Laboratory. (2)** Martin and Staff
Methods of culturing and breeding fruit flies and of compiling and presenting genetic data. May not be taken independently of 109 without permission of instructor. 6 hrs. lab.
- *110. Evolution. (3)** Koster, Martin
History of the principle and theories of evolution. Prerequisite: 109.
- *112L. Comparative Embryology of the Vertebrates. (4)** Koster
Prerequisites: 2L, 71L. 2 lectures, 6 hrs. lab.
- *114L. General Entomology. (4)** Hoff
Structure, habits, and classification of the insects. Prerequisite: 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *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.)
- *121L. Comparative Vertebrate Anatomy. (5)** Findley
Prerequisites: 2L, 71L. 2 lectures, 6 hrs. lab.
- *123L. Biological Chemistry. (4)** Rypka
An introductory course dealing with the chemistry of biological compounds and their transformation in plants and animals. Prerequisites: Chemistry 102, 104L. 3 lectures, 3 hrs. lab.
- *129L. Cellular Physiology. (4)** Riedesel, Rypka
Physiological processes and their relation to exercise. Prerequisite: 12L or 2L. Open to P. E. majors only. 2 lectures, 3 hrs. lab.
- *129L. Cellular Physiology. (4)** Riedesel, Rypka
Prerequisites: 2L, Chemistry 2L, Mathematics 1.5. 3 lectures, 3 hrs. lab.
- *130L. Vertebrate Physiology. (4)** Riedesel and Assistant
Functions and structures with emphasis on fundamental physiological processes and mechanisms. Prerequisites: 129L or 160L or 178L, Chemistry 2L, Mathematics 1.5. 3 lectures, 3 hrs. lab.

- *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. (1961-62 only.)
- *143L. **Comparative Physiology.** (4) Riedesel
A comparison of physiological processes with emphasis on the invertebrates. Osmoregulation, nutrition, and metabolism are stressed. Prerequisites: 71L, 129L or 160L or 178L, Chemistry 2L. Organic chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *144L. **Comparative Physiology.** (4) Riedesel
Continuation of 143L but with emphasis on respiration, circulation, and excretion in the vertebrates. Prerequisites: 71L, 129L or 160L or 178L, Chemistry 2L. Organic chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *147. **Endocrinology.** (2) Riedesel
The glands of internal secretion with special reference to the vertebrates. Deals primarily with the hormones of reproduction. Prerequisite: 129L or 130L or 144L.
- *148. **Endocrinology.** (2) Riedesel
The glands of internal secretion with special reference to the vertebrates. Emphasis on hormones associated with metabolism. Prerequisite: 129L or 130L or 144L.
- *153L. **Sanitary Bacteriology.** (4) Rypka
Microorganisms of milk, dairy products, and other foods, and their relation to spoilage and sanitation. Techniques and significance of the standard methods of bacteriological procedures for water and dairy products. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 154L.)
- *154L. **Pathogenic Bacteriology.** (4) Rypka
The properties and characteristics of disease-producing bacteria and their relationship to disease. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 153L.)
- *156L. **Immunity and Serological Methods.** (4) Rypka
Mechanisms of resistance to disease; hypersensitivity, and serologic procedures. Prerequisite: 153L or 154L. Chemistry 102-104L and Biology 123L recommended. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 157.)
- *157. **Virology.** (3) Rypka
The nature of viruses and host-virus relationship in plant and animal diseases. Prerequisite: 93L. (Offered in alternate years; alternates with 156L.)
- *160L. **Bacterial Physiology.** (4) Rypka
Enzymes, metabolism, biochemistry, and growth of the bacterial cell and the chemical changes produced in microorganisms. Prerequisites: 8 hours of bacteriology, organic chemistry (or permission of instructor), Mathematics 15. 3 lectures, 3 hrs. lab. (Offered on demand.)
- *163L. **Flora of New Mexico.** (4) Martin
Identification, classification, and nomenclature of vascular plants. Field trips required. Prerequisite: 2L. 2 lectures, 4 hrs. lab.
- *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: 2L. 3 lectures, 3 hrs. lab.
- *174L. **Plant Anatomy.** (4) Martin, Potter
Structure of vascular plants, Prerequisite: 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 176L.)
- *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: 2L, 72L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 174L.)
- *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.)

- *178L. **Plant Physiology.** (4) Potter
General physiology of plant functions, emphasizing photosynthesis, respiration, and transpiration. Prerequisites: 2L, Chemistry 2L, Mathematics 15. 2 lectures, 4 hrs. lab.
- *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.)
- *181L. **Medical Entomology.** (3) Hoff
The insects and arachnids of importance in human and veterinary medicine. Emphasis in the laboratory on identification. Prerequisite: 71L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *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: 71L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *184L. **Limnology.** (4) Koster
Fresh-water habitats and aquatic invertebrates with special reference to problems of productivity. All-day field trips required. Prerequisite: 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *186L. **Ornithology.** (4) Findley
Classification, phylogeny, natural history and literature of birds. Early morning field trips required. Prerequisite: 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *187L. **Ichthyology.** (4) Koster
Classification, phylogeny, natural history and literature of fishes. All-day field trips required. Prerequisite: 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *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: 2L. 3 lectures, 3 hrs. lab.
- *190L. **Histological Technique.** [Histology and Microtechnique] (3) 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: 2L, and permission of Chairman of Department. 1 lecture, 4 hrs. lab. (Offered in alternate years.)
- *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: 2L, 129L or 160L or 178L, Physics 11L. One year of organic chemistry recommended. 2 lectures, 6 hrs. lab.
- *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: 2L, 129L or 160L or 178L; pre- or corequisite: Physics 12L. One year of organic chemistry recommended. 3 lectures, 3 hrs. lab.
- *195L. **Pharmacology I.** (4) Duke
(Same as Pharmacology 195L.) Not allowed for undergraduate Biology credit.
- *196L. **Pharmacology II.** (5) Duke
(Same as Pharmacology 196L.) Not allowed for undergraduate Biology credit.
- *201. **Seminar: Current Topics in Biology.** (2) Degenhardt, Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka
- *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.)
- *205L. **Experimental Physiology.** (3) Riedesel
Introduction to materials, methods, and experimental procedures used in research problems in physiology. 1 lecture, 6 hrs. lab. (Offered in alternate years.)
- *206L. **Advanced Bacteriology.** (4) Rypka
Advanced techniques and recent trends in bacteriology. Prerequisites: 8 hours of bacteriology and biochemistry. 1 lecture, 6 hrs. lab. (Offered on demand.)

- *208L. **Advanced Invertebrate Zoology.** (4) Hoff
Emphasis on the phylogeny of invertebrate groups, principles of comparative morphology and embryology. Prerequisite: 71L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *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.)
- *251. **Problems.** (2-3) Degenhardt, Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka
- *252. **Phylogeny of the Plant Kingdom.** (2) Dittmer
Evolutionary trends with emphasis on the vascular plants.
- *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.)
- *300. **Master's Thesis.** (6) Degenhardt, Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka
- *400. **Dissertation.** Degenhardt, Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka

BUSINESS ADMINISTRATION

Professors W. J. Parish (Dean), R. L. Edgel, W. H. Huber, V. G. Sorrell, R. E. Strahlem; Associate Professors H. V. Finston, R. B. Goode, P. T. Mori, V. Reva, A. C. Welch; Assistant Professors K. Christman, E. I. Glaese; Lecturers J. Perovich, D. M. Smith; Instructor J. W. Park.

CURRICULA AND CONCENTRATIONS

See pp. 124-130.

For Business Education, see p. 138.

- 5-6. **Principles of Accounting.** (3, 3) Christman, Mori, Perovich, Smith, Strahlem
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 (6) emphasizes the function of accounting in reporting data for management planning and for general evaluation of the firm. Credit in 5 can be obtained without continuing in 6. Open to students of sophomore status or to freshmen eligible to enroll in Mathematics 15 or higher level courses, and to Non-degree students with the permission of the Bus. Adm. adviser.
- †11. **Beginning Typewriting.** (2) Park
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 11.
- †12. **Intermediate Typewriting.** (3) Park
Business forms, correspondence and letter styles, manuscripts, tabulation, speed building with individual goals. Prerequisite: knowledge of typewriter operation and keyboard.
- §13-14. **Shorthand Theory; Beginning Dictation.** (3, 3) Glaese, Park, Reva
Gregg theory and essentials of writing; speed goal: 60 wpm. 14: Review of theory; introduction of transcription; speed goal: 80 wpm. Students who have had shorthand in high school or business school should enroll in 14 or a more advanced class, as they will not receive credit in 13. Prerequisites for 14: 11, 13, or equivalent. 4 one-hour classes per week.
- 17. **Office Machines and Filing.** (2) Reva
Laboratory work in filing, transcription from recorded dictation, mimeograph, direct process duplicators, listing and non-listing calculators. Prerequisite: 12.

† No credit allowed toward degrees in Colleges of Arts and Sciences, and Pharmacy.

§ 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.

51-52. Introduction to Economics. (3, 3)

(Same as Economics 51, 52.)

§53-54. Transcription; Speed Dictation. (3, 3) Glaese, Park

Review of theory; dictation and transcription from shorthand notes correctly and speedily. Mailable letters are required. Prerequisites: 12 and 14 or equivalent. Speed goal for 53: 100 wpm; for 54: 120 wpm.

62. Advanced Typewriting. (3) Glaese, Park

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: 12 with grade of B.

63. Intermediate Accounting I. (3) Christman, Mori, Strahlem

An expansion of the fundamentals of accounting; accounting theory; problems relating to control of, and accounting for, current assets. Prerequisites: 5, 6, with minimum grade of C in 6.

64. Intermediate Accounting II. (3) Christman, Mori, Strahlem

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: 63.

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.

89. Business Statistics. (3) Goode

Introduction to the statistical analysis of numerical data pertinent to decision making, including descriptive statistics. Index numbers, sampling, and statistical inference. Emphasis is on the logic of analysis, application, and interpretation. Prerequisite: Mathematics 15.

***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: 63.

****106. Business Law. (3) Huber**

The structure of the legal system; the nature of law, its purpose, processes, and divisions, and a comprehensive treatment of the law of contracts. Prerequisite: upper-division standing.

****107. Business Law. (3) Huber**

The law of principal-agent relationship, employer-employee relationship, and negotiable instruments. Prerequisites: 106 and upper-division standing.

108. Principles of Marketing. (3) Welch, Robertson

Economic significance, functions, middlemen and channels of trade, competition, price policies, marketing management, market planning, budgets and cost, market research; consumer problems.

110. Corporation Finance. (3) Goode, Parish, Sorrell

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.

****111. Money and Banking. (3)**

(Same as Economics 111.)

114. Management of Advertising. [Advertising] (3) Welch

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.

***121. Advanced Accounting I. (3) Christman, Mori, Strahlem**

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: 64.

§ 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.

- *122. **Advanced Accounting II.** (3) Christman, Mori, Strahlem
Branch accounting; preparing consolidated financial statements; effecting combinations and mergers. Prerequisite: 64.
- *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.
128. **Property and Casualty Insurance.** (3) Goode, 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.
- *129L. **Quantitative Methods for Decision Making.** [Applied Business Statistics] (3) Goode
The application of modern quantitative techniques to management problems having varying degrees of uncertainty. Includes allocation, inventory, and waiting-line models, decision theory, forecasting and advanced statistical techniques. Permission of instructor required for undergraduate students. 2 lectures, 3 hrs. lab.
130. **Elements of Industrial Administration.** [Principles of Organization and Management] (3) Christman, Finston
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.
- *131. **Financial Analysis and Credit Administration.** (3) Sorrell
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.
- *141. **Labor Problems.** (3) Wollman
(Same as Economics 141.)
143. **Transportation.** (3) Duncan, Sorrell
Principles and problems of transportation. Prerequisite: Economics 51 or consent of instructor.
- *147. **Auditing.** (3) Christman
Auditing principles and procedure; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems. Prerequisite: 121.
- *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: 147.
- *149-150. **Income Tax Accounting.** (3, 3) Christman
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: 121. Credit may be obtained in 149 without continuing in 150.
- *152. **Public Finance.** (3) Wollman
(Same as Economics 152.)
- 155g. **The Teaching of Business Subjects in Secondary Schools.** (3) Glaese
(Same as Secondary Education 155g.)
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: 12, 14, or equivalent.
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.

- *162. **Economic Fluctuations.** [Business Fluctuations] (3) Hamilton
(Same as Economics 162.)
- 163. **Rise of Modern Industry.** (3) Hamilton
(Same as Economics 163.)
- *180. **Government Control of Business.** (3) Duncan, Robertson
(Same as Economics 180.)
- *182. **Retail Merchandising.** (3) Finston, Welch
Principles and problems emphasizing position of the retailer; organization and administration; buying, planning, control; expense distribution; promotion; personnel administration; operating efficiency; expense reduction. Prerequisite: 108.
- *183. **Marketing Research.** (3) Edgel, Welch
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: 108.
- *184. **Cost Accounting.** (3) Mori, Strahlem
Industrial and distribution cost accounting principles and techniques; job and process cost systems; standard costs. Prerequisite: 63.
- *185. **Marketing Management.** (3) Welch
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: 108 for undergraduate students; 108 or permission of the instructor for graduate students.
- *190. **Policy Formulation.** [Business Policy] (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.
- *193. **Management, Labor, and Collective Bargaining.** (3) Finston
The collective bargaining process, labor union structure and policy, management philosophies and practices, the labor-management agreement, contract administration, and public policy. Intensive analysis of arbitration and court cases in the areas of employee discipline, seniority rights, union security, management prerogatives and other collective bargaining issues. Prerequisite: 130 or permission of instructor.
- *194. [132, 194] **Wage Administration and Work Analysis.** [Salary and Wage Administration; Motion and Time Study] (3) Finston
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: 130, or permission of instructor.
- *195. **Administrative Theory and Practice I.** [Human Factors in Administration] (3) Finston
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: 130 or permission of instructor.
- *198. **Investment Principles and Analysis.** [Security 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: 110, 131.
- *202. **Advanced Accounting Theory.** (3) Mori, Strahlem
Controversial aspects of depreciation, treasury stock, surplus, goodwill, no par capital stock, inventory valuation, fixed assets valuation, overhead costs.
- *203. **Research in Administrative Problems** [Research in Business] (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.
- *204. **Seminar in Marketing.** (3) Welch
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 manu-

factured product, conduct the necessary research, and present a report on the complete marketing program.

- *205. **Records Control.** [Accounting Systems] (3) Strahlem
Control of and by records; systems studies, methods, and procedures; work measurement; work simplification; forms design; control of forms, manuals and correspondence; work sampling; records management. Prerequisites: 5, 6.
- *206. **Seminar in Industrial Administration.** [Seminar in Industrial Management] (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.
- *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.
- *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.
- *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.
- *210. **Cost Control.** (3) Mori, Strahlem
Control of materials, labor, and overhead costs; budgetary control and standards; profit analysis; costs in management decisions. Prerequisites: 5, 6.
- *215. **Administrative Theory and Practices II.** (3) Finston
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: 195.
- *216. **Administrative Responsibilities and Public Relations 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.
- *251-252. **Problems.** (1-2 each semester) Edgel, Finston, Huber, Mori, Parish, Smith, Sorrell, Strahlem, Welch
Special permission of the adviser and of the Dean of the College of Business Administration required.
- *300. **Master's Thesis.** (6) Edgel, Finston, Huber, Mori, Parish, Smith, Sorrell, Strahlem, Welch

CHEMICAL ENGINEERING

See Engineering, Chemical

CHEMISTRY

Professors J. L. Riebsomer (Chairman), R. N. Castle, M. Kahn, S. E. Smith; Associate Professors G. H. Daub, E. L. Martin; Assistant Professors G. A. Crosby, 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 1L, 2L, 53L, 101, 102, 103L, 104L, and at least 8 additional hours selected from courses numbered above 100.

For the degree of Bachelor of Science: Chemistry 1L, 2L, 53L, 101, 102, 103L (2 hr.), 104L (2 hr.), 111, 112, 113L, 114L, 150, 152L, and at least 8 additional hours selected from courses numbered above 100. The program must also include 12 hours of German.

MINOR STUDY

20 hours in Chemistry, including Chemistry 1L, 2L, 53L, and either 101, 102, 103L and 104L or 111, 112, 113L, and 114L. Chemistry 41L does not count toward the minor.

1L. General Chemistry. (4)

Introduction to the chemical and physical behavior of matter. Prerequisite: Mathematics A or eligibility for Mathematics 15 on basis of placement test. 3 lectures, 3 hrs. lab.

2L. General Chemistry. (4)

Continuation of 1L and including qualitative analysis. Prerequisite: 1L with grade of C or better. 3 lectures, 3 hrs. lab.

41L. Elements of General Chemistry. (4) Searcy

A one-semester course in general chemistry. The lectures of this course and Chemistry 42L may be elected separately by those wishing a restricted course in chemistry. 3 lectures, 3 hrs. lab.

42L. Elements of Organic Chemistry. (4) Searcy

A brief course in organic chemistry. Prerequisites: 41L or 2L. 3 lectures, 3 hrs. lab.

53L. Quantitative Analysis. (4) Martin

Theory and techniques of volumetric and gravimetric analysis. Prerequisite: 2L. 2 lectures, 6 hrs. lab.

64L. Elements of Physiological Chemistry. (4) Searcy

The chemistry of food, nutrition and animal metabolism. Prerequisites: 41L, 42L, or their equivalents. 3 lectures, 3 hrs. lab.

101-102. Organic Chemistry. (3, 3) Castle, Daub, Riebsomer

The chemistry of the compounds of carbon. Prerequisite: 2L.

103L. Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 101. 3 or 6 hrs. lab.

104L. Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 102. 3 or 6 hrs. lab.

***105L. Qualitative Organic Analysis. (3-4) Castle, Daub**

Identification of carbon compounds through the characteristic reactions of the functional groups. Prerequisites: 102, 104L, and permission of instructor. 1 lecture, 6 hrs. lab. or 1 lecture, 9 hrs. lab.

***106L. Organic Preparations. (2-4) Castle, Daub, Riebsomer**

The synthesis of organic compounds utilizing the usual reactions such as Grignard, Friedel-Crafts, etc. Prerequisite: 104L and permission of instructor. 6 to 12 hrs. lab.

***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: 102 and permission of instructor.

****111-112. Physical Chemistry. (3, 3) Crosby, Kahn**

The quantitative principles of chemistry, developed by numerous problems. Prerequisites for 111: 53L, Mathematics 51; pre- or corequisites: Mathematics 52, Physics 62. Prerequisite for 112: 111.

****113L. Physical Chemistry Laboratory. (1) Crosby, Kahn**

Experimental study of the subjects discussed in 111-112. Pre- or corequisite: 111. 3 hrs. lab.

****114L. Physical Chemistry Laboratory. (1) Crosby, Kahn**

Continuation of 113L. Pre- or corequisite: 112. 3 hrs. lab.

** Available for graduate credit except for graduate majors in chemistry.

- *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. Prerequisites: 53L, 102.
- *120. **Advanced Organic Chemistry.** (3) Castle, Daub, Riebsomer
Prerequisite: 102 with grade of B or better or permission of instructor.
- *131. **Inorganic Chemistry.** (3) Martin, Yamauchi
A systematic survey of the chemical behaviors of the elements and their inorganic compounds. Prerequisite: 102.
- *136L. **Inorganic Preparations.** (3) Yamauchi
Synthesis and purification of typical inorganic compounds. Prerequisite: 104L. 1 lecture, 6 hrs. lab.
- *141-142L. **The Principles of Chemistry.** (4, 4) 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.
150. **Special Methods in Quantitative Analysis.** (2) Martin
A lecture survey of the theory and practice of qualitative and quantitative analysis. Prerequisites: 53L, 111.
- 152L. **Special Methods in Quantitative Analysis Laboratory.** (2) Martin
Laboratory and conferences. Chemical and instrumental analyses; colorimetry; potentiometric and conductometric titrations. Pre- or corequisite: 150. 6 hrs. lab.
- *153L. **Quantitative Organic Analysis.** (3) Martin
Quantitative determination of carbon and hydrogen; Dumas nitrogen; exceptional cases of Kjeldahl nitrogen; Carius halogen; sulfur. Some semimicro techniques will be used. Prerequisite: 53 L or equivalent. 1 lecture, 6 hrs. lab.
- *154L. **Instrumental Analysis.** (4) Martin
Application of instrumental methods to chemical analysis, including colorimetry, spectrophotometry, polarography, and electrometric measurements. Prerequisites: 53L, 112. 2 lectures, 6 hrs. lab.
- *171-172. **Advanced Physical Chemistry.** (3, 3) Kahn
Includes the thermodynamics and kinetics of chemical reactions and their relationships to the structure of chemical substances. Prerequisites: 111, 112, with grades of C or better.
- 197-198. **Undergraduate Problems.** (2-5 each semester)
- *204-205. **Theoretical Organic Chemistry.** (3, 3) Daub
The more important theories of organic chemistry. Prerequisites: for 204: 102, 112; for 205: 204.
- *206L. **X-ray Crystallography.** (4) Rosenzweig
(Same as Geology 206L.) Theory and practical application of X-ray crystallography. Prerequisite: Geology 191L or permission of instructor. 2 lectures, 6 hrs. lab.
- *208. **Advanced Topics in Organic Chemistry.** (3) Castle, Riebsomer
Prerequisite: 102.
- *209. **Advanced Topics in Organic Chemistry.** (3) Castle, Daub, Riebsomer
Topics such as carbohydrates, synthesis of polycyclic compounds, relation of chemical structure to physiological activity. Prerequisite: 102.
- *210. **The Chemistry of the Heterocyclic Compounds.** (3) Castle, Daub
The chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisite: 102.
- *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: 112 or permission of instructor.

- *213. **Radiochemistry.** (3) Kahn
Elementary nuclear theory; radiations and their interactions with matter; detection of radiation. Prerequisite: 112.
- *214. **Radiochemical Techniques.** (3) Kahn
Principles, ideas, and tracer techniques in the application of radioactivity to chemistry. Prerequisite: 213 or permission of instructor.
- *232. **Advanced Topics in Inorganic Chemistry.** (3) Yamauchi
Prerequisites: 111, 131.
- *234. **Advanced Topics in Analytical Chemistry.** (3) Martin
Prerequisite: 112.
- *300. **Master's Thesis.** (6) Castle, Crosby, Daub, Kahn, Martin, Riebsomer, Yamauchi
- *400. **Dissertation.** Castle, Crosby, Daub, Kahn, Martin, Riebsomer, Yamauchi

CHEMISTRY, PHARMACEUTICAL

See Pharmacy

CIVIL ENGINEERING

See Engineering, Civil

CLASSICAL LANGUAGES

See Modern and Classical Languages

COMPARATIVE LITERATURE

Committee in Charge: Professors W. D. Jacobs (English), Chairman; G. W. Arms (English), R. M. Duncan (Languages), R. R. MacCurdy (Languages), D. A. McKenzie (Languages), H. Trowbridge (English); Assistant Professor H. F. Graham (Languages).

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. There is no minor in Comparative Literature.

MAJOR STUDY

The minimum requirement of 30 hours includes: English 75-76; Greek 139 or Latin 140; Comparative Literature 166; British or American literature (9 hours, including at least 6 in courses numbered above 100); 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

Not offered.

- *138. **Russian Literature in Translation.** (3) Graham
(Same as Russian 138.)

- *165. **Tragedy.** (3) Dickey, MacCurdy, Trowbridge
Selected tragedies from world literature in translation and theories of the tragic form. Prerequisite: 3 hrs. in literature.
- *166. **Literary Criticism.** (3) Arms, Trowbridge
A history of major critical attitudes toward literature. Prerequisite: 6 hrs. in literature.

DRAMATIC ART

Professor E. Snapp (Chairman); Associate Professor J. E. Yell; Assistant Professor N. Blackburn.

MAJOR STUDY

For Dramatic Art Curriculum in Fine Arts and for Major with Emphasis in Television-Radio see p. 170.

For the purposes of Combined Curriculum in Fine Arts: 43 hours in Dramatic Art including 1, 2, 15, 16, 29, 75, 76, 85, 86, 89, 90, 96, plus 9 hours to be chosen from 55, 56, 95, 175, 176, 185 and 186.

College of Education: Dramatic Art 1, 2, 15, 16, 29, 75, 76, 89, 90, 96, 161, and English 141. Total 34 hours.

MINOR STUDY

College of Education and College of Fine Arts: Dramatic Art 1, 2, 15, 16, 29, 89, 90, 96, English 141. Total 25 hours.

College of Arts and Sciences: A minimum of 22 hours including Dramatic Art 15, 16, 89, 95, English 141 or 142; 3 hours to be chosen from Dramatic Art 29, 90, or 96; 6 additional hours in Dramatic Art numbered above 50.

- 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.
- 15-16. **Theatre Appreciation.** [Introduction to the Theatre] (2, 2) Snapp
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.
- 29-30. **Stage Craft.** (3, 3) Staff
Methods, materials, and techniques of stage carpentry. Students construct scenery for season's productions. 3 lectures, 3 hours lab.
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.
52. **Radio-Television Drama Production.** (3) Staff
Basic directing techniques for the dramatic radio and television program. Workshop. 3 lectures, 3 hrs. lab.
- 55-56. **Stage Lighting.** (3, 3) Blackburn
Theory and practice of present-day methods of lighting the stage.
- 75-76. **Technical Production.** (3, 3) Staff
Analysis, planning, and construction of stage scenery and properties; study of the theatre plant. Prerequisite: minimum of one semester of stage craft.
- 85-86. **Acting Technique.** (3, 3) Snapp
Basic methods of interpretation for stage, television, and screen.
- 89-90. **Rehearsal and Performance.** (3, 3) Yell
Elementary techniques of both actor and director; analysis of plays for methods of interpretation in production.

95-96. Theatre History. (3, 3) Staff

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.

110. The Materials and Methods of Play Production. (3) Snapp

A theatre workshop course specifically designed for the teacher; basic essentials of play selection, casting, rehearsal procedures, technical production, and performance.

140. Designing and Equipping the Theatre. (3) Staff

Theatre architecture and theatre planning, sight lines, acoustics, equipment and installations; advanced problems of the scene technician. Prerequisite: upper-division standing and permission of instructor.

150. Theatre Organization and Management. (3) Staff

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.

152. Advanced Radio-Television Drama Production. (3) Staff

Advanced directing techniques, adapting and editing the dramatic radio-television program. Workshop. Prerequisite: 52 or permission of instructor. 3 lectures, 3 hrs. lab.

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.

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: 89, 90.

175-176. Scene Design. (3, 3) Yell

Materials, techniques, and methods of scene design and scene painting. Student designs compete for season's productions.

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.

ECONOMICS

Professors N. Wollman (Chairman), J. S. Duncan; Associate Professor D. B. Hamilton; Assistant Professors W. L. McDaniel, R. A. Robertson.

MAJOR STUDY

30 hours including Economics 51, 52, and 24 upper-division hours in Economics.

MINOR STUDY

Economics 51 and 52, and 12 hours in upper-division courses in Economics.

1. Introduction to Social Science. (3)

(Same as Social Science 1.)

2. Introduction to Social Science: Economics. (3)

An application to economics of the elements of thought and method common to the social sciences. Prerequisite: 1.

51. Introduction to Economics. (3)

Basic economic concepts and the nature of the economic organization; the analysis of market price determination; national income; money and banking; international trade.

52. Introduction to Economics. (3)

Application of economic principles to problems of modern society. Prerequisite: 51.

63. Economic Resources. (3)

(Same as Geography 63.)

- 73. Introduction to Latin America.** (3)
(Same as Government 73, and Sociology 73.)
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- *103. Consumer Economics.** (3) Hamilton
Designed for those whose chief interest is in the theory of consumption. It is especially recommended for students in Education and Home Economics. Prerequisite: 51.
- 110. Corporation Finance.** (3) Goode, Parish, Sorrell
(Same as Business Administration 110.)
- *111. Money and Banking.** (3) McDaniel
Principles of money, credit, and banking; organization and operation of the banking system. Prerequisite: 51.
- *121. Economically Underdeveloped Countries.** (3) Duncan
Economics and trade of low per capita income areas. Prerequisite: 51 or 73.
- *122. The Administrative Process.** (3) Richards
(Same as Government 122.)
- *141. Labor Problems.** (3) Wollman
Labor force, unions, labor-management relations, protective legislation, wage theory, and level of employment. Prerequisite: 52.
- 143. Transportation.** (3) Duncan
(Same as Business Administration 143.)
- *144. Economic Security.** (3) Hamilton
Public and private annuity, unemployment compensation, workmen's compensation, and medical programs. Prerequisite: 51.
- *152. Public Finance.** (3) Wollman
Taxation, governmental borrowing, financial administration, and public expenditures. Prerequisite: 52.
- *154. Comparative Economic Systems.** (3) Duncan
A critical analysis of the proposed major reforms of the existing economic system. Prerequisite: 51.
- *159. History of Economic Thought.** (3) Robertson
Development of the principal economic doctrines and schools of economic thought from the Physiocrats to Keynes.
- *160. Economic Theory.** (3) Robertson.
Advanced economic analysis with particular attention to problems of monopolistic competition; distribution of incomes, employment, and national income. Prerequisite: 52.
- *162. Economic Fluctuations.** [Business Fluctuations] (3) Hamilton
The history of the theory of economic fluctuations, including contemporary theory; proposals to increase economic stability. Prerequisite: 51.
- *163. Rise of Modern Industry.** (3) Hamilton
Institutional and technological forces in the evolution of the industrial economy. Prerequisite: 51.
- *170-171. Introduction to Mathematical Economics.** (3, 3) McDaniel
Maximization procedures, derivatives, theory of costs and production, utility and consumer demand, oligopoly, macro-economic models, and an introduction to linear programming. Prerequisites: 51, 52, Mathematics 15, or permission of instructor. Course 170 is prerequisite to 171.
- *180. Government Control of Business.** (3) Robertson
Government and social control of business enterprise, including public utilities; the economics of ratemaking in public utilities. Prerequisite: 51 or permission of instructor.
- *181. International Economic Relations.** (3) Robertson
International trade, investments, balance of payments; intergovernmental transactions; economic aspects of cultural relations. Prerequisite: 51.
- *185. Economic History of the United States.** (3) Smith
(Same as History 185.) Accepted toward major only.

- *186. **National Income Analysis.** (3) Wollman
Sector accounts; short-run and long-run changes in income components; relation to input-output and money-flow analyses. Prerequisite: 51.
- *190. **The Soviet Economic System.** (3)
Structure, institutions, growth rate, international position, and economic and military potentials of U.S.S.R. economy.
- *211. **Theory of Economic Development.** (3) Duncan
Theory and policy pertaining to economic development.
- *212. **Case Studies in Economic Development.** (3) Duncan
Case studies of economic development in industrialized and semi-industrialized countries. Prerequisite: 211.
- *220. **Econometrics.** (3) McDaniel
Quantitative measurement of economic relationships; analysis of interdependent economic systems; empirical testing of economic theories. Prerequisites: graduate standing in Economics, 170, or permission of instructor.
- *237. **Institutional Economics.** (3) Hamilton
The "American contribution" to economic thought as found in the work of Veblen, Mitchell, Commons, and other institutional economists.
- *239. **Recent Economic Theory.** (3) Wollman
Big business and competition; value and distribution; conditions of progress and economic equilibrium.
- *251. **Problems.** (2-3 each semester) Duncan, Hamilton, Wollman
- *300. **Master's Thesis.** (6) Duncan, Hamilton, Wollman

EDUCATION, ART

Professor A. S. Masley (Chairman); Instructor J. A. Philipp.

CURRICULA

See p. 137.

- 17. **Creative Arts in the Elementary School.** (3) Masley, Philipp
An experimental approach to the art needs and interests of children in the elementary classroom.
- 18. **Creative Crafts in the Elementary School.** (3) Masley, Philipp
Development of craft experiences suitable for children in the elementary classroom.
- 30-31. **Techniques of Design Education.** (3, 3) Masley, Philipp
An introductory investigation of design in everyday life and formulation of effective teaching techniques.
- 48-49. **Creative Arts in Secondary Education.** (3, 3) Masley
An introduction to art education through creative art activities.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- 124. **Pre-Teaching Experience in Art: Classroom and Workshop.** (3) Masley
Introductory and exploratory classroom and workshop experiences in art education. Prerequisite: 49.
- *125. **Philosophy of Art Education.** (3) Masley
An introduction to the philosophy of art education.
- *129. **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *148. **Creative Paper Crafts.** (2) Masley, Philipp
- 151. **Problems in Art Education.** (1-3) Masley, Philipp

- 155a. **Teaching Art in High School.** (3) Masley
Planning, testing, and evaluating objectives and classroom procedures in art education.
- *229. **Workshop.** (1-4)
For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin.**
- *251-252. **Problems in Art Education.** (1-3 each semester) Masley, Philipp
- *298-299. **Seminar in Art Education.** (2, 2) Masley
- *300. **Master's Thesis.** (6) Masley
- *400. **Dissertation.** Masley

EDUCATION, BUSINESS

See Business Administration.

EDUCATION, EDUCATIONAL AND ADMINISTRATIVE SERVICES

Professors P. V. Petty (Chairman), C. C. Travelstead (Dean); Associate Professors F. Angel, G. J. Collins, G. L. Keppers; Assistant Professors P. B. Loren, P. D. Lynch, D. A. Ryan.

Three areas are included in this Department: Foundations of Education, Guidance and Counseling, and Educational Administration. Course work in all three areas is for graduate credit. Program information concerning master's and doctoral degree plans available is contained in the **Graduate Bulletin.**

COURSES IN EDUCATIONAL ADMINISTRATION

- *105-106. **Adult Education.** (3, 3) Travelstead
Origin, development, philosophy, objectives, methods, and materials.
- *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.
- *164. **Introduction to School Administration.** (3) Angel, Collins, Petty, Ryan
An overview of the field of educational administration including school organization, operational areas, and principles. Required of all school administration majors.
- *166. **The School Principalship.** (3) Angel, Drummond, Ivins, Ryan
The organizational, administrative, and supervisory responsibilities of the school principal—elementary and secondary.
- *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.
- *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.
- *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.
- *261. **School Law.** (3) Angel, Petty
Legislation and court decisions, with special reference to New Mexico school law.
- *263. **State and Federal School Administration.** (3) Angel, Ryan
State school systems; federal and state policy; and forms of control.
- *268. **Public School Finance.** (3) Angel, Ryan
Basic principles underlying the financing of public schools. Special attention is given to New Mexico.

- *269. **School Business Management.** (3) Collins, Petty, Ryan
Practices in school budgeting, purchasing, funds accounting, auditing, payroll administration, supply management, and miscellaneous business transactions.
- *271. **Administration of Staff Personnel.** (3) Collins, Petty
The principles of educational administration applied to the organization and administration of the staff personnel.
- *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.
- *277. **School Buildings and Equipment.** (3) Angel, Collins
Problems of building construction and maintenance. *Standards and practices.* Field trips are included.
- *289. **Seminar for Practicing School Administrators.** (1-3) SS
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.

COURSES IN FOUNDATIONS OF EDUCATION

- 90. **Foundations of Education.** (3) Loren
An introduction to the philosophical, social, historical and comparative foundations of education.
- *101. **History of Education in Western Civilization.** [History of Education in Europe] (3) Ivins, Loren, Ryan
The development of education in Europe and the United States. An analysis of contributions of prominent educators.
- *104. **Philosophies of Education.** (3) Loren
Prerequisite: 90 or equivalent.
- *109. **Educational Sociology.** (3) Angel, Loren
Sociological aspects of school problems.
- *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.
- *127. **Education Across Cultures in the Southwest.** (3) Zintz
(Same as Elementary Education 127.)
- 151. **Problems.** (1-3) Staff
- 179. **Statistics in Education.** (2) Keppers, 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.
- *180. **Measurement and Evaluation in the School Curriculum.** (3) Crawford, Keppers, Lynch
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.
- *201. **Research Methods in Education.** (2) Crawford, Keppers, Lynch
Required of all candidates for a graduate degree in the College of Education.
- *202. **Research Seminar in Education.** (2) 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 Ed. & Adm. 206. Prerequisite: 201.
- *204. **Comparative Philosophies of Education.** (3) Loren
Inquiry into differences of basic outlook and their implications for educational practice of competing philosophical positions. Prerequisite: 90 or equivalent.

- *205. Comparative Education. (3) Loren**
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.
- *243. Principles of Curriculum Development. (3) Drummond, Ivins, Ryan**
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.
- *279. Advanced Statistics in Education. (2) Keppers, Lynch**
Application of advanced techniques in statistical treatment of education data. These techniques include testing experimental hypotheses, regression and prediction, analysis of variance, and partial and multiple correlation. Prerequisite: a course in statistics.
- *295. Advanced Seminar in Education. (3) Drummond, Ivins, Petty, Travelstead**
For doctoral and selected master's candidates 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.

COURSES IN GUIDANCE AND COUNSELING

- *115. Introduction to Guidance. (3) Keppers, Loren, Lynch**
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.
- *188. Mental Hygiene in the Classroom. (3) Collins, Crawford, Keppers, Lynch**
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.
- *213. Socio-Economic Information in Guidance. (3) Doxtator, Keppers, Lynch**
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: 115 or permission of instructor.
- *214. Organizing and Supervising Guidance Services. (3) 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.
- *216. The Case Study in Guidance. (3) 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: 180 or Psychology 131.
- *217. Group Techniques in Guidance. (3) 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: 188 or Psychology 102.
- *218. Techniques of Counseling. (3) 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: 213, 216; Psychology 102 or permission of instructor.
- *219. Practicum in Guidance. (1-4) Keppers**
The objective is 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: 218.
- *220. Seminar in Guidance. (3) Keppers**
Current problems and research in the field of guidance. Prerequisites: experience as a school counselor; basic courses in guidance or permission of instructor.

COURSES OF GENERAL APPLICATION

- HA. Reading in Honors. (1-3 each semester)
- HB. Research in Honors. (1-3 each semester)
- *112. Current Educational Problems (3)
- *129. Workshop. (1-4) Staff
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *229. Workshop. (4) SS Staff
For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *251-252. Problems (1-3, 1-3) Angel, Collins, Keppers, Loren, Lynch, Petty, Ryan, Travelstead
- *300. Master's Thesis. (6) Angel, Collins, Keppers, Loren, Lynch, Petty, Ryan, Travelstead
- *400. Dissertation. Angel, Keppers, Petty, Ryan, Travelstead

EDUCATION, ELEMENTARY

Professor H. D. Drummond (Chairman); Associate Professors M. V. Zintz, L. H. Walters.

CURRICULUM

See p. 140.

- HA. Reading in Honors. (1-3 each semester)
- HB. Research in Honors. (1-3 each semester)
- *118. Child Growth and Development. (3) Schroeder, Drummond, Zintz
Principles of child growth and development and implications for the school curriculum.
- 119. Physical Education in the Elementary School. (2) Gugisberg, Milliken
4 class meetings per week.
- *120. Children's Literature. (2) Walters
Materials and techniques of teaching.
- *121. Supervision of Pre-First and Primary Reading. (3) Walters, Zintz
- *122. Supervision of Social Studies. (2) Drummond
- *123. Supervision of Intermediate Reading. (2) Zintz
Supervision of reading in the 4th, 5th, and 6th grades; diagnosis and remedial work. Prerequisite: 121.
- *124. Science in the Elementary School. [Supervision of Elementary Science] (3) Zintz
- *125. Curriculum for Early Childhood. [Teaching Kindergarten and Pre-First] (3) Staff
Curriculum and methods of teaching children 2-5 years of age. Relationship of nursery school and kindergarten to the elementary school and the community. Prerequisite: Home Ec 138L.
- *126. Teaching Oral and Written English. (2) Walters, Zintz
- *127. Education Across Cultures in the Southwest. (3) Zintz
Educational implications of the Pueblo, Navajo, Apache, and Spanish-American cultures. Research on New Mexico school problems will be reviewed and evaluated.
- *129. Workshop. (1-4) Staff
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *135. Supervision of Arithmetic. (2) Drummond
- 136. Student Teaching in Elementary Schools. [Directed Teaching in Elementary Grades] (3-9) Walters
Prerequisites: 121, 122, 123.

- *139. **Remedial Reading Problems.** (2) Zintz
Actual remedial cases. Prerequisite: 121.
- *141. [219]. **Education of the Exceptional Child.** (2) Zintz
The teaching of atypical children in the regular classroom. Prerequisite: Psychology 113.
- *145. **Teaching the Mentally Retarded.** (3) Staff
Objectives, curriculum, content, methods, and organization of work in classes for mentally retarded children. Prerequisite: Psychology 114.
- 151. **Problems.** (1-3) Staff
- *220. **Education of Gifted Children.** (3)
Research concerning gifted children. Desirable educational programs for them. Prerequisite: 141.
- *221. **Investigations in Primary Language Arts.** (2) Walters
Prerequisite: Ed. & Adm. Services 201.
- *222. **Investigations in Intermediate Language Arts.** (2) Zintz
Prerequisite: Ed. & Adm. Services 201.
- *223. **Investigations in Early Childhood Education.** (3) Walters
Prerequisite: Ed. & Adm. Services 201.
- *229. **Workshop.** (4) SS
For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *232. **Investigations in Social Studies** (2) Drummond
Prerequisite: Ed. & Adm. Services 201.
- *235. **Investigations in Arithmetic.** (2) Drummond
Prerequisite: Ed. & Adm. Services 201.
- *237. **Curriculum in the Elementary School.** (2) Drummond
Problems of selecting, organizing, and presenting content in the elementary school.
- *251-252. **Problems.** (1-3 each semester) Drummond, Walters, Zintz
- *253. **Bilingual Education.** (2) Zintz
- *257. **Application of Linguistics to Language Instruction in the Elementary School.** (3) Ulibarri
(Same as Spanish 257.)
- *258. **Preparation of Language Materials for the Elementary School.** (4) Ulibarri
(Same as Spanish 258.)
- *259. **Proseminar in Problems of Language Instruction in the Elementary School.** (4) Ulibarri
(Same as Spanish 259.)
- *300. **Master's Thesis.** (6) Drummond, Walters, Zintz
- *400. **Dissertation.** Drummond, Zintz

EDUCATION, HEALTH, PHYSICAL EDUCATION, AND RECREATION

CURRICULA

See pp. 140-144.

Department of Health, Physical Education and Recreation for Men: Professors A. H. Seidler (Chairman), L. Burley; Assistant Professors W. Barnes, W. W. Clements, F. Papcsy, G. Petrol, R. Sweeney, W. Weeks, J. Williams; Instructor L. F. Diehm.

Department of Health, Physical Education and Recreation for Women: Associate Professor M. Gugisberg (Chairman); Assistant Professors F. McGill, G. E. Milliken; Instructors S. Anderson, C. Piper, E. Waters; Part-time Instructor L. W. Caton.

ALL UNIVERSITY REQUIREMENTS

Four semester hours of required physical education shall be completed by all undergraduate students at 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. 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.

The instructor in each course should be consulted concerning proper clothing or uniform.

There is a special fee of \$20.00 per semester for each course in riding.

NON-PROFESSIONAL COURSES

M indicates that the course is for men only.

W indicates that the course is for women only.

M & W indicates that the course is coeducational.

- M5. **Beginning Swimming.** (1) Williams
- M6. **Advanced Swimming and Life Saving.** (1) Williams
Prerequisite: ability to swim.
- M7. **Springboard Diving and Water Polo.** (1) Williams
Prerequisite: ability to swim.
- M10. **Personal Defense Activities.** (1) Seidler
- M11. **Wrestling.** (1) Barnes
- M14. **Apparatus Stunts.** (1) Petrol, Williams
- M15. **Individual Tumbling Stunts.** (1) Papcsy, Petrol
- M16. **Track and Field Athletics.** (1) Papcsy
- M17. **Weight Lifting.** (1) Burley
- M21. **Archery.** (1) Papcsy
- M23. **Handball.** (1) Williams
- M28. **Soccer.** (1) Barnes
- M31. **Volleyball-Badminton.** (1) Harter
- M32. **Flickerball-Bowling.** (1) Papcsy
- M33. **Basketball-Softball.** (1) Clements
- M34. **Tennis.** (1) Staff
- W51. **Beginning Tennis.** (1) Milliken
- W52. **Intermediate Tennis.** (1) Milliken
- M&W55. **Beginning Riding.** (1)
- W56. **Intermediate Riding.** (1)
- M&W61. **Beginning Golf.** (1) McGill, Petrol
- W62. **Intermediate Golf.** (1) Gugisberg

- W66. **Beginning Swimming.** (1) Anderson, Piper
- W67. **Intermediate Swimming.** (1) Anderson, Piper
- W68. **Advanced Swimming.** (1) McGill, Piper
- W69. **Lifesaving and Waterfront Safety.** (1) McGill
Upon satisfactory completion of the course, the American Red Cross Senior Lifesaving and Water Front Safety Certificates will be awarded. Prerequisite: advanced swimming course or equivalent.
- W71. **Badminton.** (1) Anderson, Milliken
- W80. **Individual Sports.** (1) Piper
- W81. **Team Sports.** (1) McGill, Milliken
- M&W91. **Ballroom Dancing.** (1) Anderson
- M&W92. **Mexican and New Mexican Dancing.** (1)
- M&W93. **American Country Dance.** (1) Anderson
- M&W94. **Beginning Contemporary Dance.** (1) Waters

PROFESSIONAL COURSES

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.

40. **Gymnastics.** (2) Williams
The professional course in gymnastics. 5 class meetings per week.
41. **Recreational Sports.** (2) Papcsy
The professional course in recreational sports. 5 class meetings per week.
44. **Swimming.** (2) Williams
The professional course in swimming. Prerequisite: ability to swim. 5 class meetings per week.
45. **Physical Fitness Programs.** (2) Burley, Papcsy
The professional course in physical fitness programs. 5 class meetings per week.
46. **Combatives.** (2) Seidler
The professional course in combatives. 5 class meetings per week.
48. **Body Mechanics and Self-testing Activities.** (1) Piper
Five class meetings per week.
49. **Team Sports.** (1) Milliken
Five class meetings per week.
64. **First Aid.** (2) Clements
Prevention and treatment of the common injuries and accidents occurring in and about the school. American Red Cross First Aid Certificates awarded.
72. **Health Education.** (3) Clements
Personal and community health for prospective teachers.
74. **Theory and Practice of Football.** (2) Weeks
The game of football is treated from the standpoint of individual and team play—offensive and defensive strategy, promotion, scouting, conditioning, coaching methods and organization of practice, and the general theory-philosophy of the sport for the beginning coach. 5 class meetings per week.
75. **Theory and Practice of Basketball.** (2) Sweeney
The game of basketball is treated from the standpoint of individual and team play—offensive and defensive strategy, promotion, scouting, conditioning, coaching methods and organization of practice, and the general theory-philosophy of the sport for the beginning coach. 5 class meetings per week.

76. **Theory and Practice of Track and Field.** (2) Hackett
Track and field is analyzed for individual form and technique as well as team play where applicable. The organization and administration of meets are dealt with from the aspects of the coach. The entire program is treated in terms of *promotion, conditioning, organization of practice, placement of entries in meets, and the general theory-philosophy of the sport.* 5 class meetings per week.
77. **Theory and Practice of Baseball.** (2) Petrol
The game of baseball is analyzed for individual techniques of hitting and fielding as well as team strategy on offense and defense. Special emphasis is given to conditioning, organization of practice periods, coaching methods, conduct of games, scoring, and the general theory-philosophy of the sport. 5 class meetings per week.
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. 4 class meetings per week.
98. **Folk Dance.** (1) Anderson
Five class meetings per week.
99. **Individual and Dual Sports.** (1) McGill
Five class meetings per week.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
103. **Principles of Recreation.** (3) McGill, Petrol
Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques.
104. **Kinesiology.** (4) Burley
Prerequisites: Biology 12L, 36, 39L.
107. **Team Sports and Folk Dance in the Secondary School.** (3) Anderson, Milliken
Prerequisite: permission of instructor. 5 class meetings per week.
108. **Aquatics, Individual and Dual Sports in the Secondary School.** (3) McGill
Prerequisite: permission of instructor. 5 class meetings per week.
119. **Physical Education in the Elementary School.** (2) Gugisberg, Milliken
(Same as Elementary Education 119.) 4 class meetings per week.
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.
125. **Organization of Sports Programs.** (3) McGill, Seidler
Organization and administration of games and sports in intramural, interschool and community recreation programs. Prerequisite: permission of instructor.
- 126L. **Physiology of Exercise.** (3) Fleck, Riedesel and Assistant
(Same as Biology 126L.)
128. **The Treatment of Athletic Injuries.** (2) Diehm
- *129. **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
131. **Principles and Practices of Camping.** (3) Burley, McGill
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.
138. **Teaching of Health Education in the Schools.** (3) Gugisberg
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: 72.
145. [151] **Professional Laboratory Experiences in Health, Physical Education and Recreation.** [Problems] (1-3)
(May be repeated to a maximum of 4 sem. hrs.)

151. **Problems.** (1-3) Papcsy, Gugisberg
- 155p. **Teaching of Physical Education in Secondary Schools.** (3) Gugisberg
(Same as Secondary Education 155p.)
156. **Teaching of Contemporary Dance.** (2) Waters
Selection of methods and materials for teaching modern dance. 4 class meetings per week.
164. **General Safety Education.** (3) 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.
165. **Traffic Safety Education in Secondary Schools.** (3) 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.
- *167. **Tests and Measurements in Physical Education.** (3) Burley, Papcsy, Seidler
Techniques to determine abilities, needs, and placement in the physical education program.
169. **Adaptive and Corrective Physical Education.** (3) Burley, Papcsy
The field of adaptive and corrective physical education and its relationship to the regular curriculum in P.E.
171. **Principles of Physical Education.** (3) Gugisberg, Seidler
The aims and objectives of physical education; physiological, psychological, and sociological principles which underlie practices in the profession. Prerequisite: permission of instructor.
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.
174. **Organization of Community Recreation.** (3) McGill, Petrol
The organization, administration, and conduct of recreation programs on the community level. Prerequisite: 103.
- 175-176. **Field Work in Recreation.** (3, 3) McGill, Papcsy
Theory and practice in recreation leadership in centers, playgrounds, etc. Prerequisite: 174.
- *185. **Administration of a School Health Program.** (3) Clements, Gugisberg
Prerequisite: 138.
- *190. **Supervision of Health and Physical Education Programs.** (3) Burley, Clements, Gugisberg
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.
- *192. **History of Physical Education.** (3) Clements, Papcsy
- *205. **Foundations for a Philosophy of Physical Education.** (3) Burley, Seidler
Prerequisite: at least 3 hrs. in history, principles, or methods of physical education.
- *207. **Foundations for a Philosophy of Recreation.** (3) Burley, Seidler
- *210. **Curriculum Construction in Physical Education.** (3) Burley, Seidler
- *214. **The Remedial Program in Physical Education.** (3) Burley, Papcsy, Seidler
- *216. **Seminar in Health, Physical Education, and Recreation.** (3) Burley, Seidler
- *223. **Analysis of Physical Education Activities.** (3) Burley, Seidler
Analysis of a selected number of physical education activities by application of principles and methods of advanced physiology of exercise, mechanics and kinesiology.
- *224. **Evaluation of Recreation Resources and Programs.** (3) Burley, 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.
- *229. **Workshop.** (1-4)
For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *251. **Problems in Physical Education.** (1-3 each sem.) Burley, Gugisberg, Seidler

*300. **Master's Thesis.** (6) Burley, Seidler

*400. **Dissertation.** Burley, Seidler

EDUCATION, HOME ECONOMICS

Associate Professors G. L. Elser (Chairman), F. M. Schroeder; Assistant Professor I. H. McMurray; Instructor R. B. Harris.

CURRICULUM IN EDUCATION

See p. 144.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS

See p. 144.

MAJOR STUDY IN ARTS AND SCIENCES

A major study in Home Economics in the College of 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 2L, 12L, 53L, 54L, 104, 107L, 109, 128, 132, 138L and one of the following courses: 60 or 63L. Chemistry 41L and 42L and Biology 12L, 36, and 93L 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. 144.

MINOR STUDY IN COLLEGE OF ARTS AND SCIENCES

Home Economics 2L, 12L, 53L, 54L and at least 7 additional hours approved by the Chairman of the Department. At least 6 hours must be taken in courses numbered above 100.

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.

12L. [1 & 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.

†**53L-54L. Food for the Family Group.** (3, 3) Harris

Selection, preparation, and service of family meals. 1 lecture, 4 hrs. lab.

60. Textiles. (3) McMurray

Construction, identification, use and care of clothing and household textiles.

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.

† Open to second semester freshmen with the permission of the Director of University College or of the Dean of the college in which the student is registered.

- 63L. **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.
- 64L. **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.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
104. **Nutrition.** (3) Elser
The relation of nutrition to the health program: normal nutrition for all ages, prenatal through old age.
- 107L. **Experimental Foods.** (3) Elser
Experimental methods applied to food preparation and preservation; food marketing and food laws. Prerequisites: 54L; Chemistry 41L, 42L. 2 lectures, 3 hrs. lab.
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.
- *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: 53-54 or equivalents, Chemistry 41L and 42L or equivalents, Biology 36. 3 lectures, 2 hrs. lab.
128. **Family Relationships.** (3) Schroeder
Family relationships as they affect courtship, marriage, parenthood, old age, and community responsibilities and activities.
129. **Workshop.** (1-4)
For degree restrictions see p. 135 of this Catalog.
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.
- 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 corequisites: 132, 2L. Special fee.
- *138L. **Child Care and Development.** (4-3) Schroeder
Pre-school through adolescence. For laboratory work, observation, and participation in nursery school and in kindergarten. 3 lectures, 2 hrs. lab. May be taken without laboratory for 3 hrs. credit.
- 140L. **Nursery School Methods and Administration.** (3) Schroeder
Observation and practical experience in guidance of children in nursery school, including an investigation of play materials, literature, music, equipment, records, housing, and budget. 1 lecture, 4 hrs. lab.
- 150L. **Large Quantity Cookery.** (3) Harris
Standard methods of food production in quantity; cost accounting; standardization of formulas; menu planning and table service. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
151. **Problems.** (1-3)
152. **Diet in Disease.** (3) Harris
The adaptation of diet in the treatment of impaired digestive and metabolic conditions. Prerequisite: permission of instructor.
- 157L. **Quantity Purchasing.** (3) Harris
Factors influencing quality, grade, and cost of food products; current procedures in large quantity purchasing. Prerequisites: 107L, 127L, 150L. 1 lecture, 4 hrs. lab.
159. **Institutional Management.** (3) Harris
Principles of organization and scientific management applied to institutional administration. Prerequisites: 107L, 132.

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.

EDUCATION, INDUSTRIAL ARTS

Associate Professor C. R. Brown; Instructor R. A. Warner.

CURRICULUM IN INDUSTRIAL ARTS EDUCATION

See p. 145.

1. **Shop Computations.** (3) Brown
Review of algebra and geometry as used in various shops; use of the various measuring instruments.
2. **Shop Computations.** (3) Brown
The slide rule and its use in the various shops; trigonometry as applied to shop problems.
5. **Introduction to Industrial Arts.** (1) Brown
Orienting students in the various phases of industrial arts and its place in general education.
- 10L. **General Woodwork.** (1-3) Brown
The proper use and care of woodworking tools. Emphasis placed upon correct procedures in fundamental tool operations. Basic instruction for woodworking power machinery; introduction to the various wood finishes and processes; fundamental wood-turning operations in spindle, faceplate, and other special turning processes.
- 20L. **Machine Shop.** (3) Warner
Bench work such as filing, tapping, and simple layouts, and the operation of engine lathes, drill presses, shapers, grinders, and milling machines.
25. [25L]. **Design in Industrial Arts.** (2) Brown, Staff
Theory and application of the fundamental principles of design in the development and use of wood, metal, and other materials. 5 class meetings per week.
- 30L. **General Finishing.** (1) Brown
Techniques, processes, and application of finishes on wood, metal, and other materials.
- 35L. **Woodshop Tool and Machine Care and Maintenance.** (1) Brown
Practice in tool and machine maintenance, tool fitting and sharpening, and saw filing. Advanced instruction in the use of woodworking tools and equipment.
- 40L. **Metal Spinning.** (1-2) Brown
The art of spinning the various metals. Construction of the different types of chucks used in spinning. Fundamentals of etching, chasing, and raising metal.
- 54L-55L. **General Metal.** (1; 1) Warner
Basic instruction in the fabrication of metals in the various metal areas.
- 60L. **Cabinet Work.** (2) Brown
Advanced instruction in the use of power woodworking machinery for cabinet and furniture construction; related information concerning woods, tools, finishes, and types of furniture; construction of projects designed and planned by the student. Prerequisite: 10L or equivalent.
- 61L. **Wood Turning.** (1-2) Brown
The proper use and care of wood-turning tools and equipment; spindle, faceplate, and special turning processes; kinds of woods used and their finishing.
- 70L. **General Printing.** (1) Staff
Basic process of printing including composition, proofing, and operation of the platen press.
- 75L. **General Automechanics.** (1) Staff
The basic principles involved in the upkeep and repair of automobiles.
- 80L. **General Electricity.** (2) Brown, Warner
The basic fundamentals of electrical circuits; care and maintenance of school shop equipment.

- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- 102L. **Forging and Ornamental Iron Work** (2) Warner
Building forge fire; hand forging operations in drawing, upsetting, bending, welding; construction of wrought iron work. Prerequisite: junior standing.
- 105L. **Sheet Metal.** (1-2) Brown, Warner
Fundamental machine and hand tool operations, care and use of sheet metal equipment; development of patterns and layouts for sheet metal construction. Prerequisite: Civil Engineering 61L.
- 110L. **Cabinet Work.** (1-3) Brown
Advanced designing, construction and finishing of the various styles of furniture; further development of skills in the use and care of woodworking tools and equipment. Prerequisites: 10L, 60L.
129. **Workshop.** (1-4) Staff
For degree restrictions see p. 135 of this Catalog.
- 145L. **Pattern Making and Foundry.** (4) Brown, Warner
Construction of the various patterns and core boxes. Molding procedures and the melting and casting of ferrous and non-ferrous metals. Prerequisite: junior standing.
151. **Problems.** (1-3) Staff
- 159L. **Arc and Acetylene Welding.** (2) Warner
Use of arc and oxyacetylene welding; the brazing of ferrous and non-ferrous metals and torch cutting. Prerequisite: junior standing.
- 162L. **Carpentry.** (3) Brown
Fundamentals in plot layouts, foundations, floor and wall framing, roof construction, and inside and outside finishing; use of the steel square in house construction. Prerequisite: 10L or equivalent.
- 165L. **Machine Shop.** (3) Warner
Advanced machine shop processes on all machines, and the machining and assembling of some machine such as wood lathe, permanent mold, sub press, wood vise. Prerequisite: 20L or equivalent.
166. [Sec Ed 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. Prerequisite: junior standing. 5 class meetings per week.
- 170L. **Advanced Carpentry.** (1-3) Brown
Advanced work on building construction and inside finishing; to develop further knowledge and skills in carpentry. Prerequisites: 10L, 162L.
- 171L. **Machine Shop.** (1-3) Warner
Tool and die work. For advanced machine shop students with emphasis on tool design and construction, and the study of construction of dies and punches for piercing, blanking, drawing, forming, and stamping. Prerequisites: 20L, 165L.

EDUCATION, LIBRARY SCIENCE

Professor D. O. Kelley.

MAJOR STUDY

Not offered.

MINOR STUDY

Library Science 120; 125; 126 or 128; 127; and 129.

10. **The Use of Books and Libraries.** (1)
Introduction to library organization, and reference books essential to effective university work. For freshmen and new students.
120. **Children's Literature.** (2)
(Same as Elementary Education 120.)

- 125. **Reference and Bibliography.** (3)
Training in the use of standard works of reference.
- 126. **Public Library Administration.** (3) Kelley
The place of the library in the community; its organization, financing, and administration.
- 127. **Classification and Cataloging.** (3)
Principles of classification and the techniques of cataloging for libraries.
- 128. **School Library Administration.** (3) Kelley
Practical study of the management of the school library, including the organization of the book collection, housing, equipment and maintenance.
- 129. **Book Selection for Young People.** (3)
A survey course covering tools and principles of selection of books for young people.

EDUCATION, MUSIC

Professor L. C. Clauve †; Associate Professors J. M. Batcheller, J. R. Stephenson.

CURRICULA

See pp. 146-148.

- 63. **Conducting.** (1) Blankenship, Davis, Frederick, Thornton
(Same as Music 63.)
- 64. **Choral Conducting and Organization.** (1) Davis
(Same as Music 64.)
- 93. **Music in the Primary Grades.** (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 will be observed in the public schools.
- 94. **Music in the Intermediate Grades.** (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: 93.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- 113. **Band Organization and Conducting.** (1) Rhoads
(Same as Music 113.)
- 114. **Orchestral Conducting and Organization.** (1) Frederick
(Same as Music 114.)
- *129. **Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- *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: 93, 94.
- *145. **Music in the Junior High School.** (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.
- *146. **Music in the Senior High School.** (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.

† Retirement effective July 1, 1961.

- *159. **Advanced Practices in 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 musical ensemble participation. Prerequisite: permission of instructor.
- *250. **Foundations and Principles of Music Education.** (3) Batcheller, Stephenson
Philosophical foundations and principles of music education and their application to practices in school. Prerequisites: 93, 94, 145 or 146.
- *251-252. **Problems in Music Education.** (1-3 each semester) Batcheller, Stephenson
- *300. **Master's Thesis.** (6) Batcheller, Blankenship, Stephenson

EDUCATION, PHYSICAL

See Education, Health, Physical Education and Recreation.

EDUCATION, PSYCHOLOGY

See Psychology.

EDUCATION, SECONDARY

Professors W. H. Ivins (Chairman), B. M. Crawford, H. O. Ried; Associate Professor W. B. Runge; Assistant Professors R. J. Doxtator, P. Prouse.

CURRICULUM

See p. 148.

- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *129. **Workshop.** (1-4) Staff
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
- 141. **Foundations of Secondary Education.** (3) Crawford, Doxtator, Ivins, Runge
The history of the 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 are considered. Includes a study of the secondary school population, the organization of the educational system, and status of the modern secondary school.
- *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.
- 151. **Problems.** (1-3) Staff
- 153. **Materials and Methods of Teaching in Secondary Schools.** (3) Crawford, Doxtator, Ivins, Runge, Prouse
Special attention given to methods applicable to all secondary teachers, such as socialized procedures, experimental and problem; observation and demonstration; question and answer; lecture; and the project. Examination and analysis of instructional materials used in secondary schools. Prerequisite: 141 or permission of instructor.
- 155. **The Teaching of Secondary School Subjects**
All specific methods courses are listed under the general number, Secondary Education 155, with the designating subscripts as indicated. By agreement between the Department of Secondary Education and the departments concerned, 155c and 155g carry credit both in education and in those respective subject matter departments. Required of students following secondary curricula. Prerequisite: 153.

- a. **Teaching Art in High School.** Masley
(Same as Art Education 155a.)
 - b. **The Teaching of Biology.** (3)
 - c. **The Teaching of English.** (3) Kuntz
Prerequisite: English 2.
 - d. **The Teaching of Home Economics.** (3) Elser
 - e. **The Teaching of Mathematics.** (3) Mitchell
 - g. **The Teaching of Business Subjects.** (3) Glaese
 - h. **The Teaching of Sciences.** (3)
 - i. **The Teaching of Industrial Arts.** (3) Brown
 - k. **The Teaching of Social Studies.** (3) Doxtator
 - m. **The Teaching of Spanish.** (2)
(Offered in alternate years.)
 - n. **The Teaching of Reading.** (2)
 - p. **The Teaching of Physical Education.** (3) Gugisberg
- 156-157. Student Teaching in Secondary Schools.** [Directed Teaching in Secondary Schools]
(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: 141, 153; 2.3 grade-point average in teaching major; minimum of 12 hours in professional education.
- *229. **Workshop.** (4) SS Graduate Staff
For degree restrictions see p. 135 of this Catalog or consult the **Graduate Bulletin**.
 - *241. **Seminar in Secondary Education.** (3) Crawford, Doxtator, Ivins, Prouse, Runge
 - *242. **Curriculum in the Secondary School.** (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.
 - *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.
 - *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 are included, as well as sponsorship and the teacher's role in activities.
 - *251-252. **Problems.** (1-3 each semester) Crawford, Doxtator, Ivins, Prouse, Runge
 - *260-261. **Seminar in the Teaching of Sciences.** (2, 2) Ivins
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.
 - *300. **Master's Thesis.** (6) Crawford, Doxtator, Ivins, Prouse, Runge
 - *400. **Dissertation.** Crawford, Doxtator, Ivins, Prouse, Runge

ELECTRICAL ENGINEERING

See Engineering, Electrical.

ELEMENTARY EDUCATION

See Education, Elementary.

ENGINEERING

Professor R. H. Clough (Dean); Assistant Professor G. A. Whan.

- *191L-192L. [211L-212L]. **Fundamentals of Nuclear Engineering.** (3, 3) Graves, Whan, Zabel
Nuclear reactions, cross sections, scattering and moderation, and their applications to reactor design and operation. Laboratory includes experiments on statistics for counting, radioactive decay, neutron counting, neutron scattering, moderation, total cross sections, activation cross sections, absorption of radiations, and health monitoring. Pre- or corequisites: for 191L: Mathematics 147; for 192L: Mathematics 148.
- **197. **Introduction to Nuclear Engineering.** (3) Dove, Skoglund, Whan
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; and production and processing of nuclear materials.
- *201-202. **Advanced Engineering Analysis.** (3, 3) Erteza, Whan
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.
- *213-214. [213L-214L]. **Reactor Principles and Engineering.** (3, 3) Whan, Zabel
Basic theory of reactors, multiplication, slowing down and diffusion of neutrons, and Fermi age theory. Applications of theory to bare and reflected reactor systems. Engineering principles of reactor design and construction. Heat removal, thermal stresses, and shielding. Prerequisites: 191L-192L or equivalent; pre- or corequisites: Mathematics 147-148 or equivalent.
- *215. **Seminar in Nuclear Engineering.** (1-3) Graves, Hansen, Nereson, Whan, Zabel
Review of reactor types; experimental research reactors, production reactors, reactor experiments, power reactors, breeder reactors. Examination of the main variables in reactor design: nuclear system, heat removal systems, structure, controls, shields, etc. Special topics in nuclear engineering. Prerequisite: 214.
- *216. **Reactor Fuel Processing.** (3) Whan, York
Fuel cycles in nuclear reactors; production of reactor fuels; processing of spent fuels by precipitation, solvent extraction, etc.; and separation of isotopes. Prerequisite: 192L or equivalent.
- *217. **Reactor Materials.** (3) Busey, Whan
Properties of materials for reactor moderators, reflectors, coolants, shielding and structure. Effects of radiation on metals, plastics, etc.
- *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: 191L-192L, 213-214, and Mathematics 147-148 or the equivalent, or permission of instructor.
- *223L. **Nuclear Engineering Laboratory I.** (1) Nereson, Whan, Zabel
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; flux distribution, reactor kinetics, control rod calibration, temperature coefficient, neutron spectrum, irradiation practice, and heat transfer. Pre- or corequisite: 213. 3 hrs. lab.
- *224L. **Nuclear Engineering Laboratory II.** (1-2) Nereson, Whan, Zabel
A continuation of 223L. Prerequisite: 223L; pre- or corequisite: 214. 3 or 6 hrs. lab.
- *227L. **Nuclear Metallurgy.** (3) Whan
Physical metallurgy of uranium, plutonium, thorium, zirconium, hafnium, beryllium, and selected alloys. Extractive metallurgy of uranium and thorium. Powder metallurgy as related to nuclear materials. Laboratory experiments include the preparation, metallography, deformation, heat treatment, and corrosion of uranium and uranium alloys. 2 lectures, 3 hrs. lab.

** Available for graduate credit except for graduate majors in nuclear engineering.

- *251-252. **Problems.** (1-3 each semester) Graves, Hansen, Nereson, Whan, Zabel
Advanced reading, analysis, design, or research.
- *300. **Master's Thesis.** (6) Whan
- *400. **Dissertation.** Whan

ENGINEERING, CHEMICAL

Professor T. T. Castonguay (Chairman); Associate Professor E. D. Oliver; Instructor R. K. Traeger.

CURRICULUM

See p. 156.

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 2L or the equivalent.
52. **Industrial Stoichiometry.** (3)
The application of the fundamental laws of chemistry, physics, and mathematics to industrial chemical calculations. Prerequisites: 51 or the equivalent, Physics 61, Mathematics 51.
- **111. **Unit Operations I.** (3) Castonguay, Oliver, Traeger
The Unit Operations and their applications to the chemical industry; problems in the size reduction of solids and handling, mechanical separation, classification, flotation, sedimentation, transportation of fluids, filtration and related topics. Prerequisite: 52 or the equivalent; pre- or corequisite: Mathematics 52.
- **112. **Unit Operations II.** (3) Castonguay, Oliver, Traeger
A continued lecture and recitation of the Unit Operations and their applications to the chemical industries; problems in heat transfer, evaporation, distillation, extraction and related topics. Prerequisite: 111 or the equivalent.
- **113. **Unit Operations III.** (3) Castonguay, Oliver, Traeger
A continuation of Unit Operations; problems in drying, gas absorption, extraction, crystallization and related topics. Prerequisite: 114L.
- **114L. **Unit Operations Laboratory I.** (2) Castonguay, Oliver, Traeger
Laboratory practice and experimental study of Unit Operations covered in 111 and 112. Corequisite: 112. 6 hrs. lab.
- **115L. **Unit Operations Laboratory II.** (2) Castonguay, Oliver, Traeger
Experimental laboratory study of the Unit Operations covered by 112 and 113. Prerequisite: 114L; corequisite: 113. 6 hrs. lab.
117. **Process Engineering Calculations.** (3)
Problems in translating the findings of the laboratory, through pilot plant development into a basic commercial plant design. Prerequisite: 52.
- 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.
153. **Advanced Chemical Engineering Calculations.** (2)
Prerequisite: 112. (To be taught as a technical elective in the senior year.)
160. **Natural Gas Production and Transmission.** (3)
Prerequisite: 111 or ME 101.
- **162. **Inorganic Unit Processes.** (2) Castonguay, Oliver, Traeger
The processes and manufacturing methods used in more important industries based on inorganic chemistry. Prerequisites: Chemistry 111, 113; corequisite: ChE 112.
- **164. **Organic Unit Processes.** (3) Castonguay, Oliver, Traeger
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: 112, Chemistry 101, 102, 103L, 104L.

** Available for graduate credit except for graduate majors in chemical engineering.

- *168L. Lubricants, Fuels, and Combustion.** (3) Castonguay, Oliver, Traeger
Laboratory examinations, analysis and testing of water, fuels, and lubricants, and the evaluation of their properties as applied in the chemical industry. Prerequisites: 52, Chemistry 53L. 2 lectures, 3 hrs. lab.
- 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: 113, Economics 51 or the equivalent.
- 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 111, 113L; corequisite: ChE 162 or 164. 6 hrs. lab.
- 182L. Chemical Engineering Process Laboratory II.** (2)
Continuation of 181L, but may be taken as an independent unit. Prerequisites: Chemistry 111, 113L; corequisite: ChE 162 or 164. 6 hrs. lab.
- **191. Principles of Chemical Processes and Thermodynamics I.** (3) Castonguay, Oliver, Traeger
The energy relations in chemical processes; application of thermodynamics, chemical kinetics to operations involved in the chemical industry. Prerequisites: 112, Chemistry 111, 113L.
- **192. Principles of Chemical Processes and Thermodynamics II.** (3), Castonguay, Oliver, Traeger
Continuation of 191. Prerequisite: 191.
- **194L. Chemical Engineering Design.** (2) Castonguay, Oliver, Traeger
Selection and design of process equipment; layout of building and cost estimates. Prerequisites: 112, 191. 1 lecture, 3 hrs. lab.
- 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.
- *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.
- *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.
- *222. Advanced Chemical Engineering II.** (3) Castonguay, Oliver
Continuation of 221, but may be taken as an independent unit. Problems of distillation, absorption, and extraction.
- *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.
- *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.
- *241. Catalysis and High Pressure.** (3) Castonguay, Oliver
Principles involved in the use of catalysis and high pressure in the chemical industry.
- *242. Advanced Chemical Engineering Thermodynamics.** (3) Castonguay, Oliver
Advanced thermodynamics with reference to its application in chemical engineering.
- *251-252. Problems.** (1-3 each semester) Castonguay, Oliver
Advanced reading, design, or research.
- *261. Chemical Engineering Calculation and Kinetics.** (3) Castonguay, Oliver
Applications of kinetics to industrial problems in Chemical Engineering.
- *300. Master's Thesis.** (6) Castonguay, Oliver
- *400. Dissertation.** Castonguay, Oliver

** Available for graduate credit except for graduate majors in chemical engineering.

ENGINEERING, CIVIL

Professors J. R. Barton (Chairman), W. C. Wagner§, R. H. Clough, R. G. Huzarski, M. C. May; Associate Professors W. R. Gafford, J. E. Martinez, E. M. Zwoyer (Part-time); Assistant Professors M. M. Cottrell, K. G. Medearis§; Instructors D. E. Calhoun, R. L. Finley, R. G. Vaughan.

CURRICULUM

See p. 158.

- 1L. Engineering Graphics I. (2)**
Principles, symbols, and standards of graphic science applied to engineering problems. 2 lectures, 2 hrs. lab.
- 2L. Engineering Graphics II. (2)**
Application of graphic science to analysis and solution of problems involved in engineering design, production, and communication. Prerequisite: 1L. 2 lectures, 2 hrs. lab.
- 3L. Engineering Lectures. (2)**
The engineering profession: engineering problem analysis and work organization. 1 lecture, 2 hrs. lab.
- 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.
- †**11L. Drafting I. (3)**
Essentials of drafting, including the use of instruments, lettering, orthographic projections, dimensioning, auxiliary views, pictorials, sections, graphic symbols. 2 lectures, 3 hrs. lab.
- †**12L. Drafting II. [Machine Drawing]. (3)**
A continuation of 11L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 11L. 9 hrs. lab.
- 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 50. 1 lecture, 6 hrs. lab.
- 52L. Engineering Surveys. (3)**
Engineering applications of theories and principles developed in 51L; horizontal and vertical control surveys, topography, alignment curve geometrics, modern survey systems, and instruments; introduction to photogrammetry and geodasy. Prerequisite: 51L. 2 lectures, 3 hrs. lab.
- 60. 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 61, 63L, Mathematics 51.
- †**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: 11L. 2 lectures, 3 hrs. lab.
- †**62L. Drafting IV. [Construction Drawing] (3)**
Residential working drawings, with emphasis on construction details. Selected field trips. Prerequisite: 11L. 1 lecture, 5 hrs. lab.
- 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: 60.

§ On leave.

† No credit allowed in College of Engineering.

- 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 102; mechanical, electrical, photo-elastic, and stresscoat equipment usage. Corequisite: 102. 3 hrs. lab.
- 105. Cartography. (3)**
Map projection and use of maps to show areal distribution and graphic representation of statistical data. Prerequisite: 1L and permission of instructor.
- **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, skin friction, boundary layer, lift, form drag; flow through pipes, pipe systems, and open channels. Prerequisite: 60; corequisite: ME 106.
- **108L. Fluid Mechanics Laboratory. (1)** Barton, Martinez
Laboratory work and field trips to illustrate the basic principles of fluid mechanics as developed in 107; emphasis on planning of laboratory exercise, calibration of instruments, systematic observation and recording of data. Corequisite: 107. 3 hrs. lab.
- 117L. Construction Materials. (3)**
A comprehensive study of the physical, mechanical, and chemical properties of portland cements, concrete aggregates, concrete mixes, and structural units. Prerequisite: junior standing in engineering. 2 lectures, 3 hrs. lab.
- 118. Transportation Engineering. (2)**
The planning, economics, finance, location, geometric design, and administration of transportation systems. Prerequisite: junior standing in civil engineering.
- **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: 107.
- **121. Structural Analysis I. (3)** Clough, Cottrell, Medearis, Zwoyer
Calculation of reactions, shears, and moments in structures due to fixed loads; stresses in statically determinate trusses and frames; criteria for and calculation of maximum reactions, shears, moments, and stresses in structures due to moving loads. Prerequisite: 60; corequisite: 102.
- **124. Structural Design. (2)** Clough, Cottrell, Medearis, Zwoyer
The methods of design of tension, compression, and flexure members of metals and wood; riveted and welded connections; current design specifications. For students not majoring in Civil Engineering. Prerequisite: 102.
- **140. Structural Analysis II. (3)** Clough, Cottrell, Medearis, Zwoyer
Statically indeterminate structures; use of slope-deflection and moment-distribution methods; the deformation of trussed structures by angle changes and virtual work. Prerequisite: 121.
- 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.
- 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: 102.
- **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: 120. 2 lectures, 3 hrs. lab.
- 165L. [112L]. 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: 60, Mathematics 50. 2 lectures, 3 hrs. lab.

** Available for graduate credit except for graduate majors in civil engineering.

166L. Structural Design in Metals. (4)

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. Prerequisites: 102, 140. 2 lectures, 6 hrs. lab.

168L. Civil Engineering Projects. (3)

Introduction to the civil engineering profession: the *general features of planning, design, and construction of civil engineering projects*; programming and use of digital computer for civil engineering applications. Prerequisite: senior standing in civil engineering. 2 lectures, 3 hrs. lab.

***171L. Building Construction. (3) Gafford, Wagner**

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.

***173. Advanced Mechanics of Materials I. (3) Clough, Cottrell, Medearis, Zwoyer**

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: 102, Mathematics 52.

***174. Advanced Mechanics of Materials II. (3) Clough, Cottrell, Medearis, Zwoyer**

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, introduction to the theories of plates and shells, stability. Prerequisites: 102, Mathematics 52.

***176. Engineering Foundations. (3) Clough, Zwoyer**

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: 157, 165L.

***178L. Structural Design of Civil Engineering Structures. (3) Medearis, Zwoyer**

Structural design of concrete and timber structures in conformance with modern practice and codes; concrete beam bridge, flat slab, and rigid frame; timber beam, truss, and laminated frame. Prerequisites: 140, 157. 2 lectures, 3 hrs. lab.

***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.

***183. Intermediate Fluid Mechanics. (3) Barton, Martinez**

Principles of dimensional analysis, dynamic similarity, flow nets, irrotational flow, gravity flow, unsteady flow, boundary layer theory, separation, cavitation, drag; pumps and turbines. Prerequisite: 107.

***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: 161L.

***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.

***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.

***195L. Plain Concrete Technology. (3) Wagner**

Theories of concrete-mix proportioning; properties and usage of air-entraining agents, plasticizers, dispersing agents, and other concrete additives; special cements; review of current research in the field. Prerequisite: 117L. 2 lectures, 3 hrs. lab.

- *196L. Highway and Airport Pavements.** (3) Martinez, Wagner
Soil exploration; base courses; thickness design for flexible and rigid pavements; design and control of asphaltic concrete mixtures; airport paving requirements; a review of current research in the field. Prerequisites: 117L, 118. 2 lectures, 3 hrs. lab.
- *209. Advanced Indeterminate Structures.** (3) Clough, Zwoyer
A comprehensive study of energy methods of indeterminate analysis including the methods of consistent deformation, unit load method, Castigliano's theorem, and joint displacement method; advanced topics in moment area, slope-deflection, and moment distribution. Prerequisite: 140.
- *210. Advanced Structural Design in Metals.** (3) Zwoyer
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: 166L.
- *212. Advanced Structural Mechanics.** (3) Medearis, Zwoyer
The theory and application of the column analogy method of analysis for indeterminate structures; the shearing stiffness and flexibility methods for analyzing single and multi-story structures; the analysis of multi-gable bents. Prerequisites: 140 and 209 or permission of instructor.
- *215. Advanced Reinforced Concrete Design.** (3) Zwoyer
Ultimate strength design; design of prestressed concrete, folded plates, shell roof structures; theory of failure of reinforced concrete members; review of current research. Prerequisites: 140, 157.
- *217. Design of Structures for Dynamic Loads.** (3) Zwoyer
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: 157, 166L, ME 106.
- *218. Elastic Stability.** (3) Cottrell, Zwoyer
Elastic and inelastic bending and buckling of prismatic bars, beams, curved bars, thin shells, and thin plates under axial and lateral loads. Prerequisites: 173, Mathematics 143 or 147.
- *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 216 and permission of instructor.
- *230. Advanced Soil Mechanics.** (3) Clough, Cottrell, Zwoyer
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: 165L.
- *233. Foundations and Earth Structures.** (3) Clough, Cottrell, Zwoyer
Theoretical and practical aspects of various foundation engineering subjects including settlement problems and remedial procedures; bearing capacity of footings, piles, and other foundation types; retaining structures; design and construction of embankments, natural slopes, earth dams. Prerequisite: 230.
- *240. Open Channel Hydraulics.** (3) Barton, Clough, 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: 107.
- *248. Sanitary Engineering Design.** (3) Barton, Martinez
Application of the theories of water and waste treatment to the functional design of treatment works; screening; sedimentation basins; flocculators; filters; chemical application; activated sludge processes; trickling filters; sludge digestion and disposal; oxidation ponds. Prerequisite: 161L.

- *251-252. **Problems.** (1-3 each semester) Barton, Clough, Cottrell, Martinez, May, Wagner, Zwoyer
Advanced reading, analysis, design, or research.
- *300. **Master's Thesis.** (6) Barton, Clough, Cottrell, Martinez, May, Wagner, Zwoyer
- *400. **Dissertation.** Barton, Clough, Zwoyer

ENGINEERING, ELECTRICAL

Professors R. K. Moore (Chairman), R. W. Tapy†, H. E. Tompkins; Associate Professors A. Erteza, W. W. Grannemann, W. W. Koepsel, A. H. Koschmann; Assistant Professors R. D. Kelly, D. C. Thorn; Lecturers W. L. Anderson, E. L. Jordan; Instructors S. H. Durrani, A. LeBlanc, L. C. Meyer.

CURRICULUM

See p. 159.

- 55L. **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 60; co-requisite: Mathematics 51. 2 lectures, 3 hrs. lab.
- 56L. **Circuit Bases of Electrical Engineering.** (4)
Review of pertinent field concepts, Ohm's and Kirchhoff's laws, complex algebra, power in electric circuits, resonance, network equations, coupled circuits, polyphase circuits. Prerequisites: Physics 60, Mathematics 51. 3 lectures, 3 hrs. lab.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- 111. **Electromagnetic Fields.** (3)
Static electric and magnetic fields, vector calculus, Maxwell's equations, plane waves. Prerequisite: 55L; corequisite: Mathematics 147.
- **112L. **Traveling Waves.** (3) Anderson, Erteza, Jordan, Kelly, Koepsel, Koschmann, Moore, Tompkins, Thorn
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: 111, 113. 2 lectures, 3 hrs. lab.
- 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: 56L; corequisite: Mathematics 147.
- 117L. **Fields and Circuits Laboratory.** (1)
Corequisites: 111, 113. 3 hrs. lab.
- **131. **Electronics I.** (3) Durrani, Erteza, Grannemann, Jordan, Kelly, Koepsel, Koschmann, LeBlanc, Moore, Thorn, Tompkins
Electron tubes and semiconductor devices as circuit elements; graphical and linear analysis of untuned amplifiers; compensation; rectifiers, rectifier filters and regulators; phototube circuits. Prerequisites: 55L, 113 or permission of instructor.
- **131L. **Electronics Laboratory I.** (1) Erteza, Grannemann, Jordan, Kelly, Koepsel, Koschmann, Moore, Thorn, Tompkins
Corequisite: 131, 3 hrs. lab.
- **132. **Electronics II.** (3) Erteza, Grannemann, Jordan, Kelly, Koepsel, Koschmann, Moore, Thorn, Tompkins
Tuned amplifiers; push-pull; feedback; oscillators; AM and FM modulation and demodulation. Prerequisites: 113, 131.

† On leave.

** Available for graduate credit except for graduate majors in electrical engineering.

- **132L. Electronics Laboratory II.** (1) Erteza, Grannemann, Jordan, Kelly, Koepsel, Koschmann, Moore, Thorn, Tompkins
3 hrs. lab.
- *151L.** [151L-152L]. **Electromechanical Energy Conversion Principles.** [Electrical Machinery I, II.] (3) Erteza
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 a-c and d-c machines and transformers. Prerequisites: 111, 113. 2 lectures, 3 hrs. lab.
- *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: 55L, Physics 110. 2 lectures, 3 hrs. lab.
- 171-172. Seminar.** (1-3 each semester)
Prerequisite: permission of instructor.
- *182. Applied Electromagnetic Waves.** (3) Erteza, Grannemann, Kelly, Koepsel, Moore, Thorn
Application of electromagnetic waves to communication and measurements, with primary stress on higher frequency (including microwave) considerations, including high-frequency amplifiers and oscillators. Graduate credit is not allowed for both 182 and 205. Prerequisite: 112L. Intended for those not planning to pursue electromagnetic theory further.
- *182L. Applied Electromagnetic Waves Laboratory.** (1) Erteza, Grannemann, Kelly, Koepsel, Moore, Thorn
Corequisite: 182.
- *183. Instrumentation and Transducers.** (3) Erteza, Grannemann, Kelly, Koepsel, Moore, Thorn, Tompkins
Coupling between electrical and nonelectrical systems, with emphasis on instrumentation. Measurement of thermal, mechanical, optical, and other physical quantities. Prerequisite: 131, or permission of instructor.
- *183L. Instrumentation and Transducers Laboratory.** (1) Kelly, Koepsel, Tompkins
Corequisite: 183.
- *186. Economics of System Engineering.** (3) Tapy
- *188. Servomechanisms.** (3) Erteza, Koepsel, Koschmann, Mohler, Tantzén, Tompkins
Theory and applications of servomechanisms to control problems. Prerequisite: 114.
- *188L. Servomechanisms Laboratory.** (1) Erteza, Koepsel, Koschmann, Tompkins.
Corequisite: 188.
- *190. Solid State Engineering.** (3) Anderson, Grannemann, Tompkins
Elastic, thermal, electric and magnetic properties of crystals and metals. Magnetostrictive and piezoelectric effects. Conduction in metals and semiconductors with applications. Prerequisite: Physics 110 or equivalent.
- *191. Bases of Communication Theory.** (3) Demuth, Grannemann, Koepsel, Koschmann, Moore, Tompkins
Frequency analysis; sampling theorem; probability and statistics applied to signals and noise; correlation analysis; measure of information. Prerequisites: 114, Mathematics 141, 143, or 147.
- *191L. Communication Laboratory I.** (1) Grannemann, Kelly, Koepsel, Koschmann, Moore, Tompkins
Corequisites: 191 and permission of instructor
- *192. Computer and Waveforming Circuits.** (3) Erteza, Grannemann, Kelly, Koepsel, Koschmann, Moore, Tompkins, Williams
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: 131 and senior standing or permission of instructor.
- *192L. Electronics Laboratory III.** (1) Erteza, Grannemann, Kelly, Koepsel, Koschmann, Moore, Tompkins
Corequisites: 192 and permission of instructor

** Available for graduate credit except for graduate majors in electrical engineering.

- *194. **Introduction to Digital Computers.** (3) Erteza, Grannemann, Gschwind, Kelly, Koepsel, Koschmann, Moore, Tompkins
Computer logic; coding; binary and decimal arithmetic units; computer organization; basic programming. Prerequisites: Mathematics 52 and permission of instructor.
- *195. **Industrial Electronics.** (3) Kelly
Electronics as applied to industrial problems; rectifiers, speed and voltage regulators, automatic synchronizers, industrial X-ray, high frequency heating, etc. Corequisite: 151L.
- *195L. **Industrial Electronics Laboratory.** (1) Kelly
Corequisite: 195.
- *196. **Power Transmission and Distribution.** (3) Tapy
Electrical and mechanical characteristics; economics of transmission and distribution systems. Prerequisite: 113.
- *196L. **Power Transmission and Distribution Laboratory.** (1) Tapy
Corequisite: 196.
- **198. **Electrical Engineering Principles for Advanced Students.** (3) Koepsel, Tompkins
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.
- *203. **Transients in Linear Systems.** (3) Erteza, Grannemann, Kelly, Koepsel, Koschmann, Melloh, Moore, Thorn, Tompkins
The methods for treating transient phenomena in linear electrical, mechanical, and electro-mechanical systems. Development and use of Laplace transforms and superposition integrals are stressed. Prerequisite: Mathematics 141, 143, or 147.
- *204. **Communication Theory.** (3) Grannemann, Koepsel, Koschmann, Moore, Tompkins
Information in discrete and continuous systems; channel capacity; signals in noise; signal space; modulation and noise reduction; optimum filters. Prerequisites: 191, Mathematics 141, 143, or 147.
- *205. **Electromagnetic Waves.** (3) Anderson, Byatt, Erteza, Grannemann, Gschwind, Kelly, Koepsel, Koschmann, Moore, Tesche, Thorn
The derivation and application of the basic ideas and laws relating to electromagnetic waves; plane wave refraction and reflection; wave interpretation of circuit concepts. Graduate credit is not allowed for both 205 and 182. Prerequisites: 112L, Mathematics 141, 143, or 147.
- *213. **Nonlinear Analysis.** (3) Koepsel, Koschmann, Tompkins
Numerical and graphical methods, singular points, analytical methods, free and forced oscillating systems, time-varying parameters, stability considerations. Prerequisite: permission of instructor.
- *214-216. **Advanced Linear Network Analysis and Synthesis.** [Analysis and Synthesis of Linear Networks.] (3, 3) Demuth, Jordan, Koepsel, Koschmann, Tompkins
Properties of general linear networks in the frequency and time domains; selected topics from network topology; realizability; the approximation problem; synthesis of one- and two-port networks. Prerequisite: 203.
- *217. **Linear Active Network Theory.** (3) Koepsel, Koschmann, Tompkins
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: 190, 203, or equivalents.
- *223. **Principles of Communication Systems.** (3) Basore, Grannemann, Koschmann, Moore
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: 204.
- *226. **Electronic Instrumentation for Nuclear Engineering.** (3) Erteza, Grannemann, Moore, Tompkins
Clipping, clamping and gating circuits, trigger circuits, saw-tooth generators and fast-sweep circuits, special problems of pulse and d-c amplifiers, count-down circuits, level sorters, radiation detectors. Prerequisite: 132.

** Available for graduate credit except for graduate majors in electrical engineering.

- *226L. **Laboratory in Electronic Instrumentation for Nuclear Engineering.** (1) Erteza, Grannemann, Moore
Corequisite: 226.
- *234. **Antennas.** (3) Erteza, Grannemann, Moore, Thorn
Elements of antenna theory, including dipole radiation, arrays, reflectors, horns, and lenses. Prerequisite: 112L.
- *235. **Radio Wave Propagation.** (3) Moore, Thorn
Theories explaining the anomalies observed in radio-wave propagation, with emphasis on microwave propagation phenomena. The turbulent as well as the stratified character of the troposphere and ionosphere is considered. Prerequisite: 112L.
- *236. **Microwave Techniques.** (3) Erteza, Grannemann, Moore, 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: 205.
- *238. **Magnetohydrodynamics.** (3) Erteza, Grannemann, Moore
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: 205.
- *245. **Design of Digital Systems [Digital Computers]** (3) Erteza, Gschwind, Koschmann, Tompkins
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: 194.
- *246L. [246] **Analog Computers.** (3) Erteza, Grannemann, Kelly, Koschmann, Koepsel, Tompkins
Mechanical, electromechanical, electrical, and electronic computing elements; systems for solutions of algebraic equations, ordinary and partial differential equations; and systems of equations. Occasional laboratory problems will be assigned. Prerequisites: 132, Mathematics 143 or 147.
- *248. **Switching Theory.** [Advanced Digital Computers.] (3) Gschwind, Kelly, Tompkins
Review of the propositional calculus and Boolean-algebra representations for switching networks, applications to classical relay-contact networks; combinational nets and their simplification; majority nets and linear-input logic, introduction to analysis of sequential nets and automata. Prerequisite: 194.
- *251-252. **Problems.** (1-3 each semester) Anderson, Erteza, Grannemann, Jordan, Kelly, Koepsel, Koschmann, Moore, Tapy, Thorn, Tompkins
- *253. **Theory of Solid State Electronic and Magnetic Devices.** (3) Grannemann
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: 190.
- *259. **Seminar in Systems Engineering.** (3) Grannemann, Koschmann, Moore
Case history approach to choice from alternative systems. Cases may be chosen from communications, computer, automation, or power systems.
- *261. **Advanced Control Systems.** (3) Koepsel, Koschmann
Logarithmic plots of transfer functions; multiple-loop and multiple-input systems; root loci; sampling servos; statistical properties of noise and servo-inputs. Prerequisites: 203, 188.
- *263. **Control of Nuclear Reactors and Power Plants.** (3) Demuth, Erteza, Koschmann, Mohler
Solution of reactor kinetic equations for various inputs; reactor control systems including special problems related to nuclear and thermodynamic effects; use of simulators. Prerequisites: ME 101, Mathematics 141, 143, or 147.
- *263L. **Laboratory in Control of Nuclear Reactors.** (1) Erteza
Corequisite: 263.
- *271. **Power System Analysis.** (3) Tapy
Theory of symmetrical components with applications to the operation of electric power systems under unbalanced steady state conditions; components of instantaneous currents and voltages and their use in transient problems, characteristics of synchronous plants. Corequisite: 196.

- *272. **Power System Stability.** (3) Tapy
The ability of various synchronous machines to maintain stability under disturbances caused by faults; methods of analysis; use of swing curves; influence of stability on fault type and location, speed of clearing, system layout, system grounding, excitation systems, damper windings. Prerequisite: 196; corequisite: 271.
- *274. **Distribution of Electric Power.** (3) Tapy
The distribution system; sub-transmission circuits and distribution substation; primary distribution circuits; transformers and secondaries; economics of distribution voltage selection and conductor size; voltage regulation; mechanics of distribution; line design; lightning protection; sectionalizing the distribution system; rural distribution; rates, diversity, load factor; the integrated power system.
- *281. **Advanced Power Conversion.** (3) Tapy
Advanced topics in transformers, synchronous and induction machinery including a study of synchronous reaction, transients and harmonics; power rectifier and inverter systems. Prerequisite: 151L.
- *291-292. **Seminar.** (3, 3)
- *293-294. **Seminar.** (3, 3)
- *300. **Master's Thesis.** (6) Anderson, Erteza, Grannemann, Gschwind, Jordan, Kelly, Koepsel, Koschmann, Moore, Tapy, Tesche, Thorn, Tompkins
- *400. **Dissertation.** Erteza, Grannemann, Kelly, Koepsel, Koschmann, Moore, Thorn, Tompkins

ENGINEERING, MECHANICAL

Professors C. T. Grace (Chairman), A. P. Bailey, R. C. Dove, V. J. Skoglund, H. J. Stoevert†; Associate Professors A. V. Houghton; Assistant Professor F. D. Ju; Instructors W. E. Baker, K. R. Johnson, C. H. Treat.

CURRICULUM

See p. 161.

- 63L. **Manufacturing Processes.** (4)
The theories and techniques of manufacturing articles of metal; pattern making, foundry practice, machining, welding, and the relation of design to production. 2 lectures, 6 hrs. lab.
- 73L. **Kinematics.** (3)
Displacement and velocity study of machine elements such as linkages, cams, gears, and flexible connectors. Prerequisites: CE 2L, Mathematics 50, Physics 60.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
101. **Thermodynamics.** (3) Skoglund, Stoevert
Principles and applications of thermodynamics. Prerequisites: Chemistry 2L, Physics 61, 63L; corequisites: Mathematics 52 and junior standing.
- *102. **Thermodynamics.** (3) Houghton, Johnson, Skoglund, Stoevert
Principles and applications of thermodynamics. Prerequisite: 101.
106. **Dynamics.** (3)
Principles and applications of dynamics. Prerequisites: CE 60, Mathematics 52, and junior standing.
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.
- *114L. **Dynamics of Machinery.** (3) Dove, Grace, Ju
Velocity, acceleration, and force analysis of machines with special emphasis on high-speed machinery, balancing of rotating and reciprocating machine elements. Prerequisites: 73L, 106. 2 lectures, 4 hrs. lab.

† On leave.

** Available for graduate credit except for graduate majors in mechanical engineering.

- *117. **Fluid Mechanics.** (3) Houghton, Johnson, Skoglund, Whan
Kinematics of fluid motion; elements of hydrodynamics; effects of viscosity, compressibility, and drag. Prerequisites: 106, 101; corequisite: 102.
- *118L. **Mechanical Engineering Laboratory I.** (2) Dove, Houghton, Johnson, Skoglund, Stoever
Tests of instruments, fluid meters, a centrifugal pump and a steam engine; plus a study of fluid properties, pipe friction and dynamic strain. Prerequisite: 101; corequisite: 117. 6 hrs. lab.
- *120. **Heat Transfer.** (3) Houghton, Johnson, Skoglund, Stoever
Principles and engineering applications of heat transfer by conduction, radiation, and free and forced convection. Corequisites: 102, 117, or permission of instructor.
- **151L. **Mechanical Engineering Laboratory II.** (2) Dove, Houghton, Johnson, Skoglund, Stoever
Tests of a steam boiler, a turbine, an axial flow fan and an air compressor; metallography and heat treatment of metals. Prerequisites: 102, 117; corequisite: 161. 6 hrs. lab.
- **152L. **Mechanical Engineering Laboratory III.** (2) Dove, Houghton, Johnson, Skoglund, Stoever
Tests of an internal combustion engine, a gas turbine, a heat exchanger, an air-conditioning system and a forced vibration setup. Prerequisites: 102, 117, 120. 6 hrs. lab.
- *155. **Power Plant Design.** [Power Plants] (3) Houghton, Stoever
Design of stationary or mobile power plants which utilize fossil or nuclear fuels. Prerequisite: 163.
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.
- *157. **Design Analysis I.** (3) Dove, Grace
Application of the principles of the physical sciences, engineering sciences, and technology to the analysis of and proportioning of machine elements, with consideration given to fatigue life and wear life, as well as to the economics of production. Prerequisites: 114L, CE 102.
- *158L. **Design Analysis Laboratory.** (1) Dove, Grace
Corequisite: 157. 3 hrs. lab.
- *159L. **Mechanical Engineering Design.** (3) Dove, Grace
Analysis and design of some piece of equipment selected from the field of mechanical, aeronautical, or petroleum engineering. Prerequisites: 157, 158L.
- *160. **Internal Combustion Engines.** (3) Houghton, Johnson Stoever
Theories of Otto and Diesel type engines. Prerequisite: 102
161. **Engineering Metallurgy.** (3)
Principles of physical metallurgy and their application to common alloys, including the effect of composition, heat treatment and mechanical treatment on physical properties. Corequisite: 151L.
- *163. **Analysis of Fluid Systems.** (3) Houghton, Johnson
Engineering analysis of fluid systems based on the principles of fluid mechanics, heat transfer, and thermodynamics. Prerequisites: 102, 117, 120.
- *165. **Refrigeration and Air Conditioning Design.** [Refrigeration and Air Conditioning] (3)
Houghton, Johnson, Stoever
Application of engineering principles to the design of refrigeration and air conditioning systems. Prerequisite: 163.
- *167. **Aero-Space Engineering I.** [Aerodynamics]. (3) Skoglund
Application of the principles of dynamics and aerodynamics to the analysis of airplane and rocket systems. Prerequisites: 102, 117, 120, and Mathematics 147.
- *168. **Aero-Space Engineering II.** [Aerodynamics]. (3) Skoglund
Design of an airplane or a rocket by application of engineering principles. Prerequisite: 167.
- 172-173. **Seminar.** (1, 1)
Preparation, presentation, and discussion of papers and reports from current technical magazines and journals. Prerequisite: senior standing, or permission of instructor.

** Available for graduate credit except for graduate majors in mechanical engineering.

***177. Physical Metallurgy. (3)**

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. This course is more general in its coverage than 161, which is primarily concerned with the ferrous alloys. Prerequisites: Chemistry 2L and a course in engineering materials. (Offered at the Los Alamos Scientific Laboratory only.)

***181-182. Petroleum Production. (3, 3) Huzarski**

Oil field development, methods of drilling and oil recovery; preliminary refining, storage, and transportation. Prerequisite: senior standing.

***187-188. Principles of Missile Guidance. (3, 3) Braun**

Equations of motion, theory of orbits, control theory, types of guidance, theory of inertial guidance. Prerequisites: Mathematics 143 or equivalent, mechanics, aerodynamics. (Offered at Holloman Graduate Center only.)

***192. Design Analysis II. (3) Dove, Grace, Ju**

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. Prerequisites: 157, 158L, or permission of instructor.

***194. Mechanical Vibration. (3) Dove, Grace, Ju, Skoglund**

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: senior standing in Engineering.

****198. Mechanical Engineering Principles for Advanced Students. (3) Houghton, Skoglund, Stoever**

Integration of the principles of mechanical engineering. For students not majoring in Mechanical Engineering. Prerequisites: 101, 106, Mathematics 147, or their equivalents.

***201. Advanced Heat Transfer. (3) Houghton, Skoglund, Stoever**

Advanced principles and applications of heat transfer by conduction, convection, and radiation. Prerequisites: 120 or equivalent, Mathematics 147.

***203. Fluid Dynamics I. (3) Skoglund**

Advanced principles and applications of fluid mechanics with emphasis on compressible flow. Prerequisites: 101, 102, and 117 or equivalents, Mathematics 147.

***206. Advanced Thermodynamics I. (3) Houghton, Skoglund, Stoever**

Precise development of thermodynamic definitions, principles, and analytical methods. Prerequisites: 101, 102, or equivalents, Mathematics 147.

***207. Similitude in Engineering. (3) Dove, Houghton, Skoglund**

Dimensional analysis and the theory of models applied to common engineering problems. The principles of design models are developed using dimensional analysis. Both scale and distorted models are considered. Prerequisite: 157.

***209. Gas Dynamics. (3) Skoglund**

One and two dimensional flow of gases including friction, shock waves, heat transfer, and chemical reactions. Prerequisites: 203, 206.

***210. Contemporary Problems of Aerodynamics. (3)**

Modern aerodynamic problems of missile and airplane trajectories and stability; aeroelasticity; aerodynamic interference; and propulsion. Prerequisites: 167, 203, and either 206 or 209.

***215L. Experimental Stress Analysis. (3) Dove**

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. Prerequisite: 192 or equivalent.

***216. Applied Elasticity I. (3) Ju**

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 102 or equivalent, Mathematics 147; corequisite: Mathematics 148.

** Available for graduate credit except for graduate majors in mechanical engineering.

- *218. **Advanced Applied Dynamics.** (3) Ju
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: 106 or equivalent, Mathematics 147; corequisite: Mathematics 148.
- *219. **Applied Elasticity II.** (3) Ju
Application of complex variables in plane elasticity and torsion problems, energy principles and variational methods in elasticity, and an introduction to the theories of plates and shells. Prerequisite: 216.
- *220. **Analysis of Thermal Stresses.** (3) Ju
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: 216.
- *223. **Fluid Dynamics II.** (3) Skoglund
Analysis of fluid processes, including potential theory; sources; steady, laminar and turbulent flow; jets; and unsteady flow. Prerequisite: 203 or equivalent.
- *224L. **Experimental Methods in Mechanics.** (3) Dove
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: 215L.
- *225. **Experimental Aerodynamics.** (3)
Modern techniques of measurement, and their application. Comparison of theory and measurements for aerodynamic systems. Prerequisites: 201, 203, or their equivalents.
- *227-228. **Mechanics of a Continuum.** (3, 3) Cottrell, Ju, Skoglund
(Same as CE 227-228.)
- *251-252. **Problems.** (3, 3) Dove, Grace, Ju, Skoglund, Stoever
Advanced reading, design or research.
- *300. **Master's Thesis.** (6) Dove, Grace, Ju, Skoglund, Stoever
- *400. **Dissertation.** Dove, Ju, Skoglund, Stoever

ENGLISH

Professors H. Trowbridge (Chairman), G. W. Arms, N. B. Crowell, W. D. Jacobs, T. M. Pearce, E. W. Tedlock, Jr., D. Wynn; Associate Professors E. W. Baughman, F. M. Dickey, M. Freedman, D. J. Greene, K. G. Simons; Assistant Professors E. Buchanan, J. M. Kuntz, J. B. Zavadil; Visiting Lecturers (Part-time) W. F. Carstens, J. L. Fife; Instructors P. B. Davis, M. L. Haley, B. Schafer, J. R. Thygerson; Part-time Instructors A. B. Howard, M. H. Raymond.

MAJOR STUDY

Basically the major in English comprises 27 to 30 hours in English courses numbered above 50, at least 15 of these hours to be in courses numbered above 100. Certain required courses, both in English and in other fields, will vary with the option which the student chooses. Although each option is recommended for its special objective, it does not limit the student to that particular objective. For example, a student choosing Option I would still be preparing for secondary school teaching.

- I. GENERAL CULTURAL OPTION: 53 and 54; 21 additional hours in literature including 9 in courses before 1800; 6 hours among courses in history, philosophy, art history, music history, and comparative literature.

- II. OPTION FOR SECONDARY SCHOOL TEACHING: 53, 54, and 6 additional hours in British literature; 55 or 91; 3 hours in creative or informative writing; 6 hours in American literature; 3 hours in world or contemporary literature; and Secondary Education 155c.
- III. WRITING OPTION: 6 hours from 61, 62, 64; 9 hours from 121, Dramatic Art 155, 156, Journalism 102, 132, and Speech 166; and 15 hours from appropriate literature courses, including 6 hours in courses before 1800. Students electing this option are urged to combine it with an additional major or minor in a field in which writing opportunities are likely to exist.
- IV. OPTION FOR THOSE PLANNING GRADUATE STUDY: 53 and 54; 91; 3 hours selected from 75, 76, 139, 140; 3 hours selected from 82, 167, 168, 169; 141 or 142; 146 or 151; 6 additional hours chronologically distributed in courses after 1700; 6 hours among courses in history, philosophy, art history, music history, and comparative literature; 2 years, or the equivalent, of a foreign language. Further language study is strongly recommended.

MINOR STUDY

College of Arts and Sciences: English 1 (unless exempted), 2, and 15 hours in courses numbered above 50. A maximum of 6 hours in courses numbered above 50 may be selected from the Department of Speech or from the Department of Journalism.

College of Education and College of Fine Arts: English 1 (unless exempted), 2, and 18 hours in courses numbered above 50.

GROUP REQUIREMENTS

English 1 is a required course for all students except those who are exempted upon the basis of a placement test. English 2 is required of all students, except transfers who may offer an equivalent course toward the satisfaction of the group requirements. Students in the low percentiles of the Placement Test will take English Workshop in addition to English 1. Additional group requirements are as follows:

College of Arts and Sciences: 3 credit hours in a course in literature numbered above 50. 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 50, and Speech 55. 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

There are two curricula in the departmental offerings: one for the major, the other for the student of general literary interests. Neither excludes necessarily the offerings of the other, but each serves to indicate the general channel of study. The following courses in the lower division are recommended for students selecting hours for the group requirements or for general reading: 40, 56, 57, 75, 76, 77, 82, 85; not accepted as literature are 55, 91.

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. 222.

I. WRITING

1. **Writing with Readings in Exposition.** (3) Baughman, Buchanan, Staff
Expository writing, paragraph methods, and readings.
2. **Writing with Readings in Literature.** (3) Baughman, Buchanan, Staff
The types of literature with readings and reports.
3. **English for Foreign Students.** (3) Staff
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 3 may be substituted for English 1. 5 hours of classroom work.
English Workshop. (0) Staff
Two hours of tutoring for students needing special instruction in the essentials of composition.
61. **Creative Writing: The Essay.** (3) Freedman
An intermediate course with emphasis on the types, structure, and style of expository writing.
62. **Creative Writing: Description and Narration.** (3) Freedman, Thygerson
The types, materials, and techniques of descriptive and narrative writing.
64. **Informative Writing.** (3) Staff
Professional expository composition and the preparation of elementary reports.
120. **Advanced Technical Writing.** (3) Staff
Practice in the writing and editing of technical, engineering, and scientific reports and articles. Prerequisite: 61, 62, or 64, or permission of instructor.
- *121. **Advanced Creative Writing.** (3) Freedman, Thygerson
An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: 61, 62 or permission of instructor.
- 155c. **The Teaching of English in Secondary Schools.** (3) Kuntz
(Same as Secondary Education 155c.)

II. LITERATURE **

1. British

- 53-54. **Survey of English Literature, Early and Later.** (3, 3) Crowell, Staff
53: From the Old English writings through Neo-classicism. 54: From Pre-romanticism to the contemporary period.
- *141. **Shakespeare: Histories and Comedies.** (3) Dickey, Pearce, Simons
A detailed study of the comedies and historical plays.
- *142. **Shakespeare: Tragedies.** (3) Dickey, Pearce, Simons
A detailed study of the problem plays and tragedies.
- *143. **Drama of the Restoration and 18th Century.** (3)
The best plays from D'Avenant to Sheridan.
- *146. **Age of Milton.** (3) Buchanan, Freedman
The major works of John Milton, and other masterpieces of prose and poetry from 1600-1660.
- *148. **Elizabethan Drama Exclusive of Shakespeare.** (3) Dickey, Pearce, Simons
Special attention to the plays of Marlowe and Jonson.
- *151. **Chaucer.** (3) Dickey, Pearce
A detailed study of the *Canterbury Tales* with some attention to Chaucer's other works.

** With the exception of English 120, 121, and 166, for which specific prerequisites are listed, all courses in English numbered between 100 and 199 have the same prerequisite: 3 hrs. in literature.

- *154. **Middle-English Literature.** (3) Pearce
A general survey of the types of 13th- and 14th-century literature.
- *157. **Elizabethan Non-Dramatic Literature.** (3) Dickey, Pearce, Simons
Development of humanism, new poetry, literature of courtesy.
- *177. **The Eighteenth Century.** (3) Greene
The chief writers in England from 1700 to Johnson.
- *178. **The Romantic Period.** (3) Crowell
The 18th-century background of Romanticism and the major poets, Blake to Keats.
- *181. **Victorian Poets.** (3) Crowell, Jacobs
The representative poets from 1830 to 1890.
- *182. **Nineteenth-Century Prose.** (3) Crowell
Representative prose writers from 1800 to 1890.
- *185. **Early English Novel.** (3) Greene
From the beginnings through Jane Austen.
- *186. **Later English Novel.** (3) Crowell, Greene
From Scott to 1910.
- *219. **Studies in Middle-English Literature (1100-1500).** (3) Pearce
The drama, romances, ballads, religious works, or other subjects.
- *223. **Studies in the English Renaissance (1500-1616).** (3) Dickey, Pearce, Trowbridge
Marlowe, Spenser, Shakespeare, Johnson, or others.
- *225. **Studies in the 17th Century.** (3) Crowell, Freedman
Prose writers, metaphysical poets, or Milton.
- *233. **Studies in the 18th Century.** (3) Greene, Trowbridge
The novel, drama, poetry, biography, or criticism; Swift, Pope, Johnson, Fielding, or Burke; or other subjects.
- *243. **Studies in the Romantic Period.** (3)
Keats, Byron, Wordsworth, or other poets; Coleridge, Hazlitt, or other prose writers.
- *253. **Studies in the Victorian Period.** (3) Crowell, Jacobs
Arnold, Browning, Tennyson, or other poets; Dickens, Carlyle, or other prose writers.

2. American

- 77. **Southwestern Literature.** (3) Hill, Pearce
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.
- 82. **American Literature.** (3) Arms, Baughman, Hill, Tedlock
A general survey to 1900, with more extensive study of the great writers of the 19th century.
- 85. **American Life and Thought.** (3) Baughman
Important themes and issues of our society (1607 to the present), as reflected in American literature. Prerequisite: 82, or History 51 or 52.
- *167. **Colonial and Revolutionary Period in American Literature.** (3) Tedlock
Leading writers from 1600 to 1800.
- *168. **The Romantic Period in American Literature.** (3) Arms, Baughman
Major writers from Irving to Melville.
- *169. **The Period of Realism in American Literature.** (3) Arms, Tedlock
Major writers from Whitman to Henry Adams.
- *American Studies 201. **Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Dabney, McMurray, Reeve, G. W. Smith, Tedlock, Walter
(Same as American Studies 201.)
- *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.

- *206. **Studies in Early 19th Century American Literature (1800-1855).** (3) Arms
Emerson and Thoreau; Hawthorne, Melville, and Poe; or others.
- *209. **Studies in Late 19th Century American Literature (1855-1912).** (3) Arms
Whitman, Lanier, and Dickinson; Howells, James, and Clemens; or others.

3. General and Comparative

- 40. **Literary Forms and Figures.** (3) Staff
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 I or exemption.
- 56-57. **Masterworks of Literature, Early and Later.** (3, 3) Simons, Staff
56: Selected American and European drama, poetry, fiction, and non-fictional prose from the Greeks to the 19th century. 57: Selected masterworks of the 19th and 20th centuries.
- 75. **World Literature from Homer to Dante.** (3) Jacobs, Kuntz
Masterpieces of European and Asiatic literature, including the Bible.
- 76. **World Literature from Rabelais to Mann.** (3) Jacobs
Masterpieces of European literature, including the great Russian writers.
- *132. **Contemporary Poetry.** (3) Arms, Jacobs, Tedlock
The leading figures in contemporary poetry with analysis of style and critical theory.
- *135. **Contemporary Fiction.** (3) Jacobs, Tedlock
British, American, and European novelists since 1912.
- *137. **Contemporary Drama.** (3) Freedman, Jacobs
European and American playwrights from Ibsen to the present.
- *138. **Literary Movements since 1940.** (3) Freedman, Jacobs, Tedlock
Significant writers and schools of the post-war period. Specific subject to be designated by the instructor.
- *139. **Greek Drama in Translation.** (3) Graham
(Same as Greek 139.)
- *140. **Latin Literature in Translation.** (3) Staff
(Same as Latin 140.)
- *161. **The Folktale in English.** (3) Baughman
The tradition of folk motifs and themes in the development of the tale as a form of storytelling in English and American literature.
- *165. **Tragedy.** (3) Dickey, MacCurdy, Trowbridge
(Same as Comparative Literature 165.)
- *166. **Literary Criticism.** (3) Arms, Trowbridge
(Same as Comparative Literature 166.)
- *180. **Philosophy and Literature.** (3) Alexander, Tedlock
(Same as English-Philosophy 180.)
- *190. **Individual Authors.** (3) Crowell, Dickey, Tedlock
Intensive study of one or more writers, to be designated by the instructor. (May be repeated for credit.)
- *228. **Studies in Literature for Secondary Teachers.** (3) SS Buchanan, Trowbridge
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.
- *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.
- *275. **Types, Backgrounds, and Forces.** (3) Arms, Freedman, Trowbridge
Drama, religious perspectives, archetypal patterns, and other subjects not contained within a chronological period. (May be repeated for credit.)
- *298. **Methods of Literary Study.** (3) Arms, Trowbridge
An introduction to scholarly bibliography and basic approaches to the study of literature. Required of doctoral candidates.

III. LINGUISTICS

- A. English Review. (0)** Howard, Staff
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.
- 55. Vocabulary Building. (3)** Pearce, Staff
Latin and Greek word roots; introduction to etymology and semantics.
- 91. History of the English Language. (3)** Kuntz, Pearce
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.
- *101. Phonetics. (3)** Christ, St. Onge
(Same as Speech 101.)
- *215. Old English. (3)** Pearce
Elementary grammar; translation of prose and poetry, exclusive of *Beowulf*.
- *216. Beowulf. (3)** Pearce
Reading of the text and examination of problems connected with the poem. Prerequisite: 215 or consent of instructor.
- *273. Language Seminar. (3)** Pearce
Phonology of English speech; linguistic structure; American dialect and regional vocabulary; or other subjects.

IV. INDIVIDUAL STUDIES

- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *251. Problems for the Master's Degree. (1-2 each semester)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Greene, Jacobs, Pearce, Tedlock, Trowbridge
Studies in literature and philology.
- *300. Master's Thesis. (6)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Greene, Jacobs, Pearce, Tedlock, Trowbridge
- *351. Problems for the Doctor's Degree. (1-2 each semester)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Greene, Jacobs, Pearce, Tedlock, Trowbridge
- *400. Dissertation.** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Greene, Jacobs, Pearce, Tedlock, Trowbridge

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 75 and either 53, 54, or 76; Philosophy 45 or 55, and 51 or 53; English 166 and Philosophy 102, 141, and 142; English 141 or 142 or 146; 6 additional hours of literature above 100

and 3 additional hours of Philosophy; an additional 6 hours above 100 in English or in Philosophy; and English-Philosophy 180. Advisers may recommend as much as 6 additional hours in related fields.

MINOR STUDY

Not offered.

- *180. Philosophy and Literature. (3)** Alexander, Tedlock
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.

FOLKLORE

See Modern and Classical Languages, and English 161.

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. 105 of this Catalog.

Specific information about General Studies and the General Honors program can be obtained from the office of the Director of General Studies.

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.

- 1-2. Freshman Reading Seminar. (3, 3)** Wynn, Staff
Rapid, broad general reading for first- and second-semester freshmen.
- 51-52. Sophomore Seminars. (3, 3)**
Selected seminar topics by staff of various departments. Instructors and topics to be announced semester by semester.
- 101-102. Major Traditions in Western Culture. (3, 3)** Longhurst, Staff
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.
- 151-152. Great Issues (Senior Honors Colloquium). (1, 1)** Freedman, Staff
Discussion of current and timeless issues based on close reading of relevant texts.

GEOGRAPHY

Associate Professor B. L. Gordon (Chairman); Assistant Professor Y. F. Tuan.

MAJOR STUDY

Geography 1, 2, 51; Anthropology 1; Geology 1; 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 1, 2, 51, and 12 additional hours.

GROUP REQUIREMENTS

Geography 179 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.

1. **General Geography.** (3)
Introduction to world geography; physical elements.
2. **General Geography.** (3)
Introduction to world geography; natural and cultural regions.
51. **Physical Geography.** (3)
A systematic study of the physical and biotic environment; world climate and land forms; natural vegetation and animal life. Prerequisite: Geography 1, or permission of the instructor.
63. **Economic Resources.** (3)
Survey of the basic economic resources of the world; industrial regions; trade routes.
- *101. **South America.** (3) Gordon
Regional geography of South America.
- *102. **Middle America.** (3) Gordon
Regional geography of Mexico, Central America, and the West Indies.
- *103. **North America.** (3) Gordon
Regional geography of Canada and the United States.
- *111. **Land Utilization.** (3) Gordon
Analysis of land use in selected areas; problems of land planning; field mapping in the middle Rio Grande area.
- *131. **Eastern Asia.** (3) Tuan
Regional geography of China, Korea, and Japan.
- *132. **Western Europe.** (3) Gordon, Tuan
Regional geography of Europe, excluding the U.S.S.R.
- *133. **The Soviet Union and Eastern Europe.** (3) Gordon, Tuan
- 151-152. **Problems.** (1-3 each semester) Gordon, Tuan
Supervised individual study and field work.
- *179. **Conservation.** (3) Dittmer
(Same as Biology 179.)
- *251-252. **Problems.** (2-3 each semester) Gordon, Tuan
Supervised individual study for graduate students.

GEOLOGY

Professors S. A. Northrop (Chairman), V. C. Kelley, S. A. Wengerd; Associate Professors J. P. Fitzsimmons¹, A. Rosenzweig; Assistant Professors R. Y. Anderson, W. E. Elston.

MAJOR STUDY

For the degree of Bachelor of Arts: Geology 1, 2, 5L, 6L, 73L, 74L, 103L, and 13 additional upper-division hours. Chemistry 1L and 2L and Mathematics 15 and 16 are required.

¹ On leave 1961-62.

For the degree of Bachelor of Science: Geology 1, 2, 5L, 6L, 73L, 74L, 103L, 107L, 108L, 119L; either 109L and 110L or 111L and 112L; and 2 additional upper-division hours. Chemistry 1L, 2L, Civil Engineering 1L, 4L, Mathematics 15, 16; and either Biology 1L and 2L or Physics 11L and 12L are required. The candidate must either minor in biology, chemistry, engineering, mathematics, or physics, or take a distributed minor. The distributed minor shall consist of 36 semester hours, as follows: Chemistry 1L, 2L, Civil Engineering 1L, 4L, Mathematics 15, 16, either Biology 1L and 2L or Physics 11L and 12L, and 11 additional hours as approved by the Geology Department. Civil Engineering 51L may be taken instead of 4L.

COMBINED PROGRAM IN GEOLOGY AND ENGINEERING. Students interested in petroleum exploration and production, mining geology, and geological engineering, or other specialized fields requiring a geological and engineering background are advised to supplement their programs with the Engineering minor.

A minor in Engineering may be obtained by selecting 20 hours, as approved by the Geology Department, from among the following: Civil Engineering 1L, 2L, 4L or 51L, 52L, 60, 102, 103L, 105, 107, 108L, 117L, 120, 165L; Mechanical Engineering 101, 106, 156, 161, 181, 182. Observe prerequisites, especially Calculus, for several of these courses.

MINOR STUDY

Geology 1, 2, 5L, 6L, and 12 additional hours.

1. **Physical Geology.** (3)
Materials composing the earth, and work of agencies, both external and internal, modifying its surface.
2. **Historical Geology.** (3) Anderson, Northrop, Wengerd
History of the earth; rise and succession of the various forms of life. Prerequisite: 1.
4. **Engineering Geology.** (3) Fitzsimmons, Kelley
Introductory geology with emphasis on engineering aspects. (Open to engineers only.)
- 5L. **Physical Geology Laboratory.** (1)
Minerals, rocks, and topographic maps. Credit suspended when credit in Geology 1 is not earned. Corequisite: 1. 3 hrs. lab.
- 6L. **Historical Geology Laboratory.** (1)
Fossils and paleogeographic maps; emphasis on the historical geology of New Mexico. Credit suspended when credit in 2 is not earned. Corequisite: 2. 2 hrs. lab.
- 73L-74L. **Mineralogy.** (4, 4) Rosenzweig
Elementary geometrical and chemical crystallography; descriptive mineralogy; geologic occurrences, associations, and uses; physical and chemical methods of mineral identification. Prerequisite: 5L; pre- or corequisites: Chemistry 1L, 2L. Course 73L may be taken separately, but 73L is prerequisite to 74L. 2 lectures, 6 hrs. lab.
- 103L. **Petrology.** (3) Elston, Fitzsimmons
Classification, occurrence, origin, and hand-specimen recognition of common rocks. Prerequisites: 6L, 73L. 2 lectures, 3 hrs. lab.
- 107L-108L. **Structural Geology.** (3, 3) Kelley
Character, classification, and origin of rock structures; map, graphic, and stereographic problems. Prerequisite: 6L; Mathematics 16 and Civil Engineering 1L are strongly recommended. Course 107L may be taken separately, but 107L is prerequisite to 108L. 2 lectures, 3 hrs. lab.
- *109L-110L. **Stratigraphy.** (4, 4) Northrop
Principles, followed by a survey of the stratified rocks of North America, their correlation, stratigraphic relations, and guide fossils. Prerequisite: 6L; some biology is strongly recommended. Course 109L may be taken separately, but 109L is prerequisite to 110L. 2 lectures, 6 hrs. lab.

- *111L-112L. Paleontology. (4, 4) Northrop**
Fossil plants, invertebrates, and vertebrates, with emphasis on the invertebrates; structure, classification, life habits, evolution, and geologic history. Prerequisite: 6L; some biology is strongly recommended. Course 111L may be taken separately, but 111L is prerequisite to 112L. 2 lectures, 6 hrs. lab.
- *114L. Micropaleontology. (3) Anderson**
Larger and smaller Foraminifera, pollen and spores, ostracods, and a survey of most other microfossils. Petroleum application, laboratory techniques, and paleoecology. Prerequisite: 6L; some biology is strongly recommended. 2 lectures, 3 hrs. lab.
- 115L. Air Photogrammetry. (2) Wengerd**
Photogrammetric computations and stereoscopy. Preparation of planimetric and contour maps. Prerequisites: 6L, Mathematics 16, Civil Engineering 4L. 1 lecture, 3 hrs. lab.
- *116L. Geologic Interpretation of Air Photographs. (2) Wengerd**
Interpretation of geology on air photographs and the construction of photogeologic maps. Prerequisites: 107L, 115L; 181 is strongly recommended. 1 lecture, 3 hrs. lab.
- 119L. Field Geology and Reports. (4) Anderson, Elston, Kelley**
Principles and techniques of field mapping; content and arrangement of reports; layout and preparation of illustrations. Prerequisites: 103L and 107L. 1 lecture and 1 full day in field each week.
- *120L. Advanced Field Geology. (3) Elston, Fitzsimmons, Kelley**
Geological mapping with plane table; mine mapping; special field problems. Prerequisites: 119L, Civil Engineering 4L. 1 full day in field each week.
- *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. Prerequisite: 74L. Course 121L may be taken separately, but 121L is prerequisite to 122L. 2 lectures, 6 hrs. lab.
- *126. Fundamentals of Geophysics. (3) Fitzsimmons**
Physical properties of rocks and their application to instrumental methods of determining subsurface geology. Prerequisites: 103L, 107L, 108L, Mathematics 15, 16, Physics 11L, 12L (or equivalent).
- *141L. Sedimentology. (4) Wengerd**
The sedimentary cycle and its products; rock-weathering and soils; transport; depositional environments; elementary sedimentary petrology. Prerequisites: 103L and senior standing. 2 lectures, 6 hrs. lab.
- *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: 141L and senior standing.
- 151-152. Problems. (2, 2)**
- *161. Ground Water. (2) Wengerd**
Occurrence and development of ground water with special emphasis on Southwestern conditions. Prerequisite: 141L.
- *171-172. Mineral Deposits. (3, 3) Kelley**
Metalliferous and nonmetalliferous deposits; their occurrence, classification, properties, origin, exploration, mining, beneficiation, and utilization. Prerequisite: 103L. Course 171 may be taken separately, but 171 is prerequisite to 172.
- *181. Geomorphology. (3) Wengerd**
Origin, development, and classification of land forms, with detailed consideration of gradation processes. Prerequisite: 107L.
- *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: 181. 2 lectures, 3 hrs. lab.
- *191L. Morphological Crystallography. (3) Rosenzweig**
The 32 point groups; crystal form and habit; crystal projections; crystal measurement and drawing. Prerequisite: Mathematics 16; Civil Engineering 1L is strongly recommended. 2 lectures, 3 hrs. lab.

- *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-contour, isopach, and isopleth maps, and of detailed cross-sections. Pre- or corequisite: 142. 1 lecture, 6 hrs. lab.
- *203. **Advanced Mineralogy.** (3) Rosenzweig
Geochemical principles; chemical and structural mineralogy; recent developments in mineral study methods. Prerequisites: 74L, 103L.
- *206L. **X-ray Crystallography.** (4) Rosenzweig
(Same as Chemistry 206L.) Theory and practical application of X-ray crystallography. Prerequisite: 191L or permission of instructor. 2 lectures, 6 hrs. lab.
- *208. **Regional Tectonics.** (2) Kelley
Principles of origin of regional structures as illustrated by Cordilleran examples.
- *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: 121L, 141L. 2 lectures, 3 hrs. lab.
- *212L. **Petrography of Opaque Ores.** (2) Kelley
Determination and paragenesis of minerals in polished sections. Prerequisites: 121L, 171. 6 hrs. lab.
- *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: 109L, 141L. 2 lectures, 3 hrs. lab.
- *231L. **Metamorphic Petrology.** (3) Fitzsimmons
Recrystallization and metasomatism in the transformation of solid rock masses and the structural modifications attending them. Prerequisites: 103L, 121L. 2 lectures, 3 hrs. lab.
- *241-242. **Seminar.** (2, 2) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *251-52. **Problems.** (2-3 each semester) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *300. **Master's Thesis.** (6) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *400. **Dissertation.** Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors M. Jorin C. B. Judah, H. J. McMurray; Associate Professors E. C. Hoyt (Chairman), D. I. Cline, H. L. Enarson, F. C. Irion, A. R. Richards.

MAJOR STUDY

A total of 36 hours including Government 1, 2, 51, 52, and a minimum of 1 course from each of the following 4 groups:

Group A (International Relations and Comparative Government): 141, 142, 143, 155, 157, 169

Group B (Local Government and Public Administration): 101, 102, 121, 122

Group C (Political Theory): 161, 162, 163, 164

Group D (National Government and Politics): 105, 106, 107, 111, 175

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 51, 52, and 12 hours from Groups A, B, C, D.

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.

1. **Introduction to Social Science.** (3)
(Same as Social Science 1.)
2. **Introduction to Social Science: Government.** (3)
An application to government of the elements of thought and method common to the social sciences. Prerequisite: 1.
51. **American Government.** (3)
Organization and procedure.
52. **American Government.** (3)
Functions.
73. **Introduction to Latin America.** (3) Jorrin
(Same as Economics 73, and Sociology 73.)
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *101. **Municipal Government and Administration.** (3) Cline
The organization, administration, and problems of counties, municipalities, metropolitan areas, and administrative districts. Prerequisite: 51.
- *102. **State Government and Administration.** (3) Cline
State government, administration, and party politics with special emphasis on New Mexico. Prerequisite: 51.
103. **Problems of Democracy.** (3) Irion, Judah
Government problems of special contemporary importance. (Not open to students who have taken 51 or 52.)
- *105. **Public Opinion and Propaganda.** (3) Irion
Governmental processes, studied with relation to current party alignments and governmental programs, the methods used by special interests in influencing public opinion.
- *106. **Political Parties.** (3) Judah, McMurray
The American party system, national, state, and local.
- *107. [62]. **Politics in Action.** (3) Cline
Governmental processes, studied with relation to current party and legislative calendars. Field work, case studies, demonstrations. Prerequisite: 51 or permission of instructor.
- *111. **Legislation.** (3) McMurray
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: 51, 52.
- *121. **Public Administration.** (3) Richards
Introduction to the general problems of public administration in the modern state. Prerequisite: 51.

- *122. **The Administrative Process.** (3) Richards
Policy formulation; problems of decision-making; conflicts of interests in administration; the contribution of administration to social satisfaction. Prerequisite: 121.
- *141-142. **International Politics.** (3, 3) Hoyt, McMurray
141: Basic factors in international politics. 142: Contemporary problems of international politics. Course 141 may be taken separately, but 141 is prerequisite to 142.
- *143. **The United Nations.** [International Law and Organization] (3) Hoyt
The U. N. as a political institution; its background, evolution and relation to other international organizations and to traditional international law. Prerequisite: 141.
- *151. **American Diplomacy.** (3) Smith
(Same as History 151.)
- *152. **Public Finance.** (3) Wollman
(Same as Economics 152.)
- *155. **The Governments of Latin America.** (3) Jorrin
The governments of a number of Latin American states including a study of their domestic problems and diplomatic policies. Prerequisites: 51, 73.
- *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.
- *161. **Political Theory from Plato to Locke.** (3) Jorrin
Knowledge of ancient and medieval history is recommended.
- *162. **Political Theory from the Enlightenment to Today.** (3) Jorrin
Knowledge of modern European history is recommended.
- *163-164. **American Political Theory.** (3, 3) Judah, McMurray
163: [168]: The sources and development of American political thought to 1865. 164: The sources and development of American political thought, 1865 to the present.
- *169. **European Governments.** (3) Judah
A survey and comparison of the leading governments of Europe.
- *175. **Constitutional Law.** (3) Hoyt
The Constitution of the United States as it has been interpreted by the courts. Prerequisite: 51.
- 195. **Review Seminar in Political Science.** (3)
- *201. **Methodology and Bibliography.** (3) Irion, Richards
- *American Studies 201. **Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Dabney, McMurray, Reeve, G. W. Smith, Tedlock, Walter
(Same as American Studies 201.)
- *206. **Seminar in Political Parties.** (3) Judah, McMurray
- *221. **Seminar in Public Administration.** (3) Enarson, McMurray, Richards
- *241. **Seminar in International Law and Organization.** (3) Hoyt, Jorrin
- *242. **Seminar in American Foreign Policy.** (3) McMurray
- *251-52. **Problems.** (1-3 each semester) Cline, Hoyt, Irion, Jorrin, Judah, McMurray, Richards
- *260. **Seminar in Latin American Affairs.** (3) Jorrin
- *298. **Seminar in Political Theory.** (3) Jorrin, Judah, McMurray
- *300. **Master's Thesis.** (6) Cline, Hoyt, Irion, Jorrin, Judah, McMurray, Richards

GREEK

See Modern and Classical Languages.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

See Education, Health, Physical Education, and Recreation.

HISTORY

Professors J. E. Longhurst, F. D. Reeve, J. C. Russell, B. Sacks, F. V. Scholes, G. W. Smith; Associate Professors E. Lieuwen (Chairman), W. M. Dabney; Assistant Professor T. S. Floyd, H. F. Graham, J. B. Russell, H. J. Tobias.

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 1 and 2; and either 11 and 12, or 51 and 52. Eight 100-level courses, including 198, and a minimum of 2 courses each in European History, American History, and Hispanic-American 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 1, 2, 11, 12, 51, 52. The upper-division requirement includes a minimum of 5 semester courses, at least 3 of which must be concentrated in European History, or American History, or Hispanic-American History.

- 1-2. **Western Civilization.** (3, 3) Graham, Longhurst, Russell, Sacks, Tobias
European developments from the decline of Rome to the present, with the first semester covering the period to 1500.
- 11-12. **History of the Americas.** (3, 3) Floyd, Lieuwen
11: European exploration and settlement of the Americas. 12: The Western Hemisphere nations in the 19th and 20th centuries.
- 31. **History of New Mexico.** (2) Reeve
Survey from Cabeza de Vaca to 1912.
- 51-52. **History of the United States.** (3, 3) Dabney, 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 51 covering the period from the beginning to 1865.
- 83. **Greece and Rome in the Ancient World.** (3) Russell
Political experiments and intellectual advances of Greece; development of the Roman Empire, especially in political, legal, social, and economic institutions.
- *115. **Greece.** (3) Graham
A survey of developments in Greek civilization from early times to the reign of Justinian.
- *116. **Rome.** (3) Graham
Survey of the rise, decline, and fall of Roman power from the Italian expansion to the establishment of the successor states.
- *117. **History of Science.** (3) Skabelund
The evolution of scientific ideas and the role of science in the formation of Western civilization from the Greeks to the present.
- *121. **History of the Middle Ages, 300-1050.** (3) Russell
Religious, political, intellectual, and social history.
- *122. **History of the Middle Ages, 1050-1300.** (3) Russell
Religious, political, intellectual, and social history.
- *123. **The Renaissance.** (3) Longhurst
Survey of the major figures and movements of the Italian Renaissance.

- *124. **The Reformation.** (3) Longhurst
The principal figures of the Protestant Reformation and Catholic Counter Reformation.
- *131. **English Constitutional History.** (3) Staff
Rise and development of Parliament, Common Law, and other political institutions from 1066 to 1688 as the background for understanding modern English and American constitutions.
- *133. **History of England to 1603.** (3) Russell
Settlement of peoples; rise and development of Christianity; increase of population and economic activity; and formation of the medieval English constitution.
- *134. **History of England from 1603 to the Present.** (3) Sacks
Survey of constitutional, political, social, and religious developments in the British Isles.
- *135. **The British Empire.** (3) Sacks
British possessions overseas since 1815—Canada, Australia, New Zealand, South Africa, India, Egypt, and the dependencies.
- *137. **History of Spain.** (3) Floyd, Lieuwen
From Roman times to the present.
- *141. **International Politics.** (3) Hoyt, McMurray
(Same as Government 141.)
- *142. **The Enlightenment.** (3) Longhurst
Intellectual history of the Age of Science and the Age of Reason, 17th and 18th centuries.
- *143. **French Revolution and Napoleon.** (2) Sacks
Detailed examination of the period from 1789 to 1815, basic in understanding the story of modern Europe.
- *145. **Modern Europe, 1815-1914.** (3) Sacks
Emphasis upon the ideological struggle between such forces as absolutism, individualism, nationalism, and socialism.
- *146. **Dictatorships and Democracies in Europe since 1914.** (3) Sacks
Emphasis upon the domestic institutional experiments in the major countries—Russia, Germany, Italy, France, and Great Britain.
- *147. **The Slavic World to 1613.** (3) Graham
The development of the Slavic states from Byzantine times to the accession of the Romanov dynasty.
- *148. **Modern Russia, 1613 to 1917.** (3) Tobias
From the beginnings of the Romanoff dynasty to the Communist Revolution.
- *149. **Soviet Russia.** (3) Tobias
Domestic affairs and international relations since 1917.
- *151. **American Diplomacy.** (3) Smith
American diplomatic personalities, problems, and policies from independence to the present day.
- *157. **History of China.** (3) Tobias
Social, political, and economic institutions from historical beginnings to modern times.
- *158. **History of Japan.** (3) Tobias
Social, political, and economic institutions from historical beginnings to modern times.
- *161. **History of Latin America.** (3) Floyd, Scholes
Spanish and Portuguese occupation and colonial control in the Americas.
- *162. **History of Latin America.** (3) Floyd, Lieuwen
Emergence of national states in Latin America.
- *164. **Modern and Contemporary Latin America.** (2) Lieuwen
Social, political, and economic developments in the area since World War II.
- *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.
- *166. **History of Brazil.** (3) Floyd
From 1500 to the present.

- *167. **History and Civilization of Portugal.** (3) Lopes
Emergence of Portugal as a national state; establishment and decline of the Portuguese Empire.
- *168. **History of Mexico.** (3) Floyd, Lieuwen, Scholes
From colonial times to the present.
- *171. **The American Colonies, 1607-1763.** (3) Dabney
The settlement of British America and a study of American institutions in their infancy.
- *172. **The Period of the American Revolution, 1763-1789.** (3) Dabney
The American Revolution as a political, social, economic, cultural, and intellectual movement.
- *173. **The Young Republic.** (2) Dabney
The United States from 1789 to 1820.
- *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.
- *176. **Civil War and Reconstruction.** (3) Smith
Political, social, economic, military, and diplomatic history of the period 1860-1877, with emphasis upon the war years, 1861-1865.
- *178. **Recent History of the United States.** (3) Reeve
The United States since 1900.
- *179. **Constitutional History of the United States.** (3) Dabney, Reeve
From English origins to the present day.
- *181. **History of the American Frontier.** (3) Dabney
The Turner frontier thesis and its critics.
- *183. **Intellectual and Social History of the United States.** (3) Dabney
American society and culture from the planting of the colonies to the beginning of the Civil War.
- *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.
- *185. **Economic History of the United States.** (3) 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.
- *191. **History of the Southwest.** (3) Scholes
Spanish exploration and occupation of the Southwest; colonial government and missions.
- *192. **History of the Southwest.** (3) Reeve
American intrusion, conquest, and development in the region from Texas to California beginning in 1821.
- 193. **Reading and Research in Honors.** (3) Staff
Prerequisites: senior standing and permission of major adviser.
- 194. **Senior Thesis.** (3) Staff
Prerequisite: 193.
- *198. **Historiography.** (3) Graham, Longhurst
Extensive reading and discussion of the great histories and historians.
- ***American Studies 201. Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Dabney, Reeve, McMurray, Tedlock, Walter, Smith
(Same as American Studies 201.)
- ***Ibero-American Studies 204. Interdepartmental Seminar in Ibero-American Studies.** (3) Floyd, Jorrín, Lieuwen, Lopes, Nason, Scholes
(Same as Ibero-American Studies 204.)
- *248. **Seminar in Modern Russian History.** (3) Tobias
Emphasizes the period 1861-1917.
- *251-252. **Problems.** (1-3 each semester) Dabney, Floyd, Lieuwen, Longhurst, Reeve, Russell, Sacks, Scholes, Smith, Tobias

- *255. **Seminar in Early Modern European History.** (3) Longhurst
Studies in Renaissance, Reformation, and Enlightenment history.
- *256. **Seminar in Medieval History.** (3) Russell
Emphasis upon phases of medieval English or Spanish history.
- *258. **Seminar in Modern British History.** (3) Sacks
Emphasis upon the opening decade of the 20th century; primary materials utilized include parliamentary debates, diplomatic correspondence, memoirs, and public opinion.
- *261. **Seminar in Southwest History.** (3) Scholes
Southwestern colonial history.
- *262. **Seminar in Southwest History.** (3) Reeve
Southwestern history since 1821.
- *265. **Seminar in Colonial Latin American History.** (3) Scholes
Emphasis upon the constitutional and cultural history of the Spanish colonies in America.
- *266. **Seminar in Recent Latin American History.** (3) Lieuwen
Seminar in the national period of Latin America.
- *271. **Seminar in Early American History.** (3) Dabney
In odd-numbered years: the period of the American Revolution, 1763-1783; in even-numbered years: the period of the Confederation, 1781-1789.
- *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.
- *273. **Seminar in Recent American History.** (3) Reeve
Topical investigation in American history since 1900.
- *300. **Master's Thesis.** (6) Dabney, Floyd, Lieuwen, Longhurst, Reeve, Russell, Sacks, Scholes, Smith, Tobias
- *400. **Dissertation.** Dabney, Floyd, Lieuwen, Longhurst, Reeve, Russell, Sacks, Scholes, Smith, Tobias

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 Bulletin**.

- *204. **Interdepartmental Seminar.** (3) Jorrín, Lieuwen, Lopes, Nason, Scholes
History, literature, and institutions of Latin America.
- *400. **Dissertation.** Floyd, Lieuwen, Jorrín, Lopes, Nason, Scholes, 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 51, 52, 101, 102, 111, 112, 122, and 175. Six hours may be chosen from the following: English 55, 91, 166; Speech 166; Government 105.

Community Newspaper Sequence—30 hours including Journalism 51, 52, 111, 122, 123, 130, and 190. Six hours may be chosen from the following: English 55, 91, Government 105. (Not offered 1961-62.)

Journalism 1 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 114, Advertising; Economics 141, Labor Problems; Economics 152, Public Finance.

MINOR STUDY

18 hours including Journalism 51 and 52. Six hours may be chosen from the lists given under Major Study.

1. **Introduction to Journalism.** (2) Jermain
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.
51. **News Writing and Reporting.** (3) Jermain
2 lectures, 2 hrs. lab.
52. **News Writing and Reporting.** (3) Jermain, Rafferty.
Prerequisite: 51. 2 lectures, 2 hrs. lab.
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.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
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.
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.
111. **Copy-Editing and Makeup.** (3) Rafferty
Practice in the assembling and editing of news copy, in dummies of newspaper pages, in headline writing, and in page makeup. Prerequisites: 51, 52. 2 lectures, 2 hrs. lab.
112. **Copy-Editing and Makeup.** (3) Rafferty
Continuation of 111, with emphasis on wire copy and problems of typography. Prerequisite: 111. 2 lectures, 2 hrs. lab.
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.
132. **Writing the Magazine Article.** (3) Jermain, Rafferty
Writing the longer factual article for professional publication.

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.

194. **The Press as a Social Force.** (3) Rafferty

COURSES NOT CURRENTLY OFFERED

123. **The Community Newspaper.** (3)
Lectures, studies, and problems relating to operation of the rural newspaper, particularly the country weekly, including general weekly newspaper management as distinguished from problems of the large dailies, and community editorial responsibilities.
130. **Advertising Writing, Copy and Layout.** (4)
The writing and laying-out of display advertisements. 3 lectures, 3 hrs. lab.
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. (2 hrs. credit in Summer Session.)
190. **Problems in Local and National Advertising.** (2)
Lectures in, and discussions of, local retail and national-agency advertising problems and programs.

LATIN

See Modern and Classical Languages.

LAW

Professors V. Countryman (Dean), R. E. Clark, A. Poldervaart (Librarian), V. R. Seed, H. Weihofen; Associate Professor D. H. Vernon; Assistant Professors T. Finman, J. L. Kroner, R. D. Swihart.

Note: Some courses may not be offered in certain years. For information on courses offered, the year in which courses are to be taken, which courses must be taken, etc., see pp. 183-184, *supra*.

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 of law to be selected from the following courses: 101, 103, 104, 107, 110, 123, 128, 135, 139, 141, 158, 165, 183, 191, 196.

100. **The Legal Profession and Ethics.** (0) Staff
Attendance and participation of all first-year students required. No subject credit. "CR" recorded on satisfactory attendance.
101. **Criminal Law.** (3) Weihofen
Criminal law viewed as a means for the prevention of criminal behavior and a general study of criminal procedure and administration.
- 103-104. **Contracts and Contract Remedies.** (3, 3) Vernon
The basic principles of the law of contracts; offer and acceptance, consideration, formalities in contracting, third party beneficiaries, assignment, damages, failure of condition, impossibility, discharge, illegality, damages, specific performance, restitution.

107. [107-108]. **Torts.** (4) Clark
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.
109. **Civil Procedure I.** (3) Finman
An introduction to the procedural law, including the historical development of common law pleading, reception of the common law in New Mexico, and the liberalizations achieved by state and federal codes.
110. **Legal Analysis.** (2) Kroner
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)
112. **Legal Research.** (2) Swihart
Drafting, explaining, and defending legal documents, including law office memoranda, contracts, and statutes. (Required)
118. **Estates.** (3) Seed
The law of estates in real property; common law conveyancing; considerable emphasis upon the law of future interests.
119. **Conveyancing.** (4) Seed
The modern law of conveyancing, the use and development of land; execution and delivery of deeds, subject matter, priorities, covenants for title, estoppel by deed, agreements running with the land, natural rights, servitudes and waste.
123. **Constitutional Law.** (4) Weihofen
Historical development; protection of the commercial interest; civil rights; contemporary problems including the regulation of business, state taxation, Negro problems, and freedom of communication.
- 124-125. [125]. **Business Units.** (2, 4) Countryman
The law of corporations, partnerships, and other forms of business organizations, including consideration of the principles of agency.
127. **Family Law and Community Property.** (3) Clark
Marriage, separation, and divorce; solidarity and economic relations as between husband and wife; parent and child.
128. **Local Government Law.** (2) Clark
Types and objectives of local governmental 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.
- 131-132. **Estate Planning I and II.** (3, 3) Swihart
Analysis of problems of wills, trusts, future interests, insurance, and income, estate and gift taxation in planning property dispositions.
135. **Administrative Law.** (3) Clark
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.
139. **Labor Law.** (3) Kroner
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.
140. **Civil Procedure II.** (4) Finman
Code procedure, including the commencement of an action, parties and joinder of actions; pleading, provisional remedies, discovery, pretrial hearing, trial practice, appellate review, judgments, and extraordinary remedies.
141. **Legal Writing.** (2) Weihofen
Exercises and drills in legal writing and methods to be done independently by each student. (Required.)

- 148-149. [147]. **Commercial Transactions I and II.** (2, 2) Vernon
The distribution of merchandise, payment and financing thereof; particular attention to the Negotiable Instruments Law, the Uniform Sales Act, and the Uniform Commercial Code.
152. **Security.** (3) Seed
Law of mortgages; comparative analysis of vendor-purchaser concept and remedies.
154. **Federal Jurisdiction.** (2) Finman
Jurisdiction and functioning of federal courts; distribution of authority between federal and state courts; the roles of federal and state law in the federal system.
156. **Debtors' Estates.** (3) Countryman
Principal remedies of unsecured creditors including enforcement of judgments, attachment and garnishment, fraudulent conveyances, assignments for benefit of creditors, creditor's agreements and bankruptcy.
158. **Legislation.** (2) Staff
Essential characteristics of the modern legislative process. Problems and methods of legislative interpretation and drafting.
160. **Evidence.** (4) Finman
The nature of the trial of an issue of fact, of evidence, and of legal rules of evidence; a study of the legal rules compared with the Uniform Rules; the study of cases to ascertain the issues of each case under the substantive law and the law of pleading, and to evaluate the evidence offered on such issues.
165. **Trade Regulation.** (2) Finman
Common law principles and Federal and State legislation regulating competition and monopoly.
167. **Federal Income Taxation.** (3) Swihart
Income taxation of individuals, partnerships and corporations. Problem method used.
171. **Law of Oil and Gas.** (2) Seed
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.
173. **Conflict of Laws.** (3) Vernon
The concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and status.
183. **Jurisprudence.** (2) Swihart
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.
190. **Seminar in Water Law.** (2) Clark
191. **Seminar in Civil Liberties.** (2) Vernon
192. **Seminar in Corporate Reorganization.** (2) Countryman
193. **Seminar in Evidence.** (2) Finman
194. **Seminar in Taxation.** (2) Swihart
195. **Seminar in Mining and Public Lands.** (2) Seed
196. **Seminar in Law and Psychiatry.** (2) Weihofen
198. **Legal Aid.** (0) Finman
Service in the office of the Legal Aid Society of Albuquerque 3 hrs. each week during one semester. Required of all senior students. No subject credit. "CR" recorded on satisfactory attendance.

LIBRARY SCIENCE

See Education, Library Science.

MATHEMATICS AND ASTRONOMY

Professors M. S. Hendrickson (Chairman), I. I. Kolodner, L. LaPaz; Associate Professors J. H. Abbott, F. C. Gentry, J. V. Lewis, J.I. Rosenblatt, O. Wyler; Assistant Professors D. W. Dubois, J. W. Mayer-Kalkschmidt, M. Mitchell, H. J. Renggli, A. Steger; Part-time Assistant Professors A. Henriques, H. V. Mathany; Lecturers S. Bell, J. Blum, R. Hildner; Instructors K. Bullock, P. G. Carr, R. C. Entringer, M. V. Fiondella¹, C. R. Rumph, K. Stumpff¹, E. Wagner; Part-time Instructors L. B. Bahm, F. S. Chapman, M. B. Forbes, F. E. Forsythe, G. W. Hudson, T. C. Preston.

MAJOR STUDY

The student has a choice of 3 plans for the major, each requiring 21 hours of courses numbered above 100. A student working for a teaching certificate who plans to do graduate work in mathematics may follow Plan B. **Mathematics 111, 112, 141, and 142, or 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 52, if possible, and in any case before enrolling in any course numbered above 100.

Plan A. For students working for a teaching certificate: 50, 51, 52, 109 or 121 (but not both), 115, 125, 126, and 9 additional hours numbered above 100 and approved by a Mathematics Department adviser.

Plan B. For students who may intend to do graduate work in mathematics: 50, 51, 52, 109, 111, 112, 141, 142, and any 2 of the 3 courses 125, 126, 152.

Plan C. For all other students: 50, 51, 52, 109, 147, 148, at least 1 of the courses 125, 126, 152, at least 1 of 115, 111, 112, 170, and 6 more hours numbered above 100. (121 is not permitted.)

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 55L, 56L, 111, 113, 131, plus 2 courses selected from EE 114, 112L, 132, 188, 191, 192. Observe prerequisites.

Minor in Mechanical Engineering, Mechanisms Option: CE 1L, 60, 102, 103L; ME 73L, 106, 114L, 157, 158L. Observe prerequisites.

Minor in Mechanical Engineering, Fluids Option: CE 60; ME 101, 102, 106, 117. Observe prerequisites.

MINOR STUDY

Mathematics 50, 51, 52, or equivalents, and at least 6 more hours in courses in Mathematics or Astronomy numbered above 50 of which 3 hours must be numbered above 100.

¹ Resignation effective July 1, 1961; new appointment to be made.

NOTE TO BEGINNING STUDENTS

Students electing any freshman mathematics courses will take a placement test in mathematics in order to insure assignment to the proper type of section.

Courses for students who are not planning to take Mathematics 50, 51, 52: Mathematics 1, 15, 16.

Courses for students of Engineering, Physics majors, Chemistry majors (B.S.), Mathematics majors, and other eligible students who plan to take Mathematics 50, 51, 52: the sequence Mathematics 15, 16, or equivalent.

Other courses open to all freshmen: Astronomy 1.

ASTRONOMY

1. **Introduction to Astronomy.** (2) LaPaz
Non-technical introduction to the field of astronomy having no mathematical requirement beyond the University entrance requirements.
- 61-62. **Descriptive Astronomy and Meteoritics I, II.** (3, 3) LaPaz
An introductory course not requiring extensive knowledge of science or mathematics. Prerequisites: high school algebra, 1 unit; plane geometry, 1 unit.
- 123-124. **Spherical Astronomy and Navigation, I, II.** (3, 3) LaPaz
Mathematical foundations and applications of spherical astronomy and celestial navigation and mechanics. Prerequisites: Mathematics 16 and the Calculus, or permission of instructor.

MATHEMATICS

- A. **Intermediate Algebra.** (0)
A non-credit course for students who require additional background before enrollment in College Algebra. Prerequisite: 1 unit of high school algebra. Special fee of \$20.
1. **College Arithmetic.** (2)
The intuitive and the logical background of arithmetic; drill in fundamental operations; critical study of methods of presentation; topics in college arithmetic. (No credit allowed in the Colleges of Engineering and Pharmacy.)
15. **College Algebra.** (3)
Prerequisite: a satisfactory grade on placement test.
16. **Plane Trigonometry.** (2)
- 50-51-52. **Calculus and Analytic Geometry.** (4, 4, 4)
The elements of the Calculus and of plane and solid analytic geometry. Prerequisites: 15 and 16 or equivalents and a grade of C or better in the immediately preceding course of the sequence 50, 51, 52 (or equivalent). A special examination may be used instead of a C grade to demonstrate competence.
60. **Introduction to Applications of Mathematics.** (3)
The applications of elementary mathematics with emphasis on the applications to the various sciences.
61. **Structure of Arithmetic.** (3)
Axiomatic approach to the number system, properties of the natural numbers, review of arithmetic processes with an introduction to the use of bases other than 10, directed numbers and elementary algebraic processes.

The courses which follow, except 101, are open only to students who have the instructor's permission and have completed Mathematics 52 with a grade of C or better. A special examination may be used instead of a C grade to demonstrate competence.

- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)

- 101. Fundamental Concepts of Mathematics.** (3) Lewis
Offered primarily for students outside the fields of mathematics and the physical sciences in order to provide an understanding of the role of mathematics in our civilization and its relation to other branches of human endeavor as part of a liberal education. Not accepted toward a major or minor in mathematics. Prerequisite: junior standing.
- *102. Fundamental Concepts of Analysis.** (5) Gentry, Lewis
Review of algebra; the limit process; derivatives; applications of differentiation; use of derivatives in graphing; power series; Taylor's series; integration; applications of the integral. Enrollment only by permission of instructor.
- 109. Introduction to Foundations of Mathematics.** (3) Dubois, Hendrickson, Lewis, Wyler
Introduction to logic, elementary set theory; nature and properties of an axiom system; the principle of mathematical induction; rigorous development of the real number system; limits and continuity. Required of all mathematics majors.
- **111-112. Introduction to Modern Algebra.** (3, 3) Dubois, Rosenblatt, Steger, Wyler
Groups, rings, fields, polynomials and field extensions; vector spaces, linear forms; linear transformations and matrices; quadratic and Hermitian forms; orthogonal and unitary matrices; eigenvalues and eigenvectors; canonical representations of matrices and forms.
- **115. Fundamentals of Modern Algebra.** [Theory of Equations]. (3) Dubois, Gentry, Mitchell, Steger, Wyler
Systems of linear equations, vector spaces, matrices. Methods of solving algebraic equations of higher order.
- *121. Mathematics for Secondary Teachers.** (3) SS Hendrickson, Lewis
Designed to enable the high school teacher to re-examine the topics of elementary mathematics from an advanced point of view.
- *123-124. Foundations of Secondary Mathematics.** (1-2, 1-2) Hendrickson, Lewis
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; fundamental concepts of calculus. Persons who have had 121 will receive only half credit (1 hr. each semester) for this course.
- *125-126. Introduction to Higher Geometry.** (3, 3) Gentry
Projective axioms; projectivities in the plane and in space; homogeneous point and line coordinates; conic sections; poles and polars; classification of geometries. Axioms of Euclidean geometry in the plane and in space; theorems on triangles, circles, and spheres; non-Euclidean geometries.
- *132. Mathematical Probability.** (3) Abbott, Lewis, Rosenblatt
Mathematical models, probability spaces, random variables, expectation, elementary conditioning, independence, elementary limit laws, Markoff processes, information theory and applications.
- *133-134. Mathematical Statistics.** (3, 3) Abbot, Lewis, Rosenblatt
Elementary probability theory for statistics; central limit theorem, normal law. Elementary decision theory, tests of hypotheses, point and interval estimation and brief discussion of sequential analysis and regression and applications.
- *140. Numerical Mathematical Analysis.** (3) Hendrickson, Rosenblatt
The fundamentals of graphical and numerical calculation including modern machine methods; numerical differentiation and integration; interpolation; numerical solution of algebraic, transcendental, and differential equations; nomography; empirical equations; graduation of data; periodicities.
- **141-142. Advanced Calculus.** (3, 3) Abbott, Dubois, Gentry, Kolodner, Lewis, Renggli, Rosenblatt, Steger, Wyler
Analysis in n -dimensional space, including topology, limits, mappings, differentials (matrix form), implicit functions, integration, Green's theorems, sequences, and uniform convergence. Prerequisite: 109 or permission of instructor.
- **143. Ordinary Differential Equations.** (3) Gentry, Hendrickson, Kolodner, Lewis, Steger
Methods of finding solutions of first order equations; singular solutions; solutions of n th order linear equations with constant coefficients; operational methods; second order linear equations with variable coefficients; series solutions; the fundamental existence theorem for the equation $y' = f(x,y)$; applications to physical, chemical, mechanical, and electrical problems.

** Available for graduate credit except for graduate majors in mathematics.

- *146. **Operational Methods.** (3) Hendrickson, Mayer-Kalkschmidt, Wyler
Theory and application of integral transforms with particular emphasis on the Laplace and Fourier transforms. Applications to various ordinary and partial differential equations which arise in engineering and physics.
- **147. **Engineering Mathematics.** (3) Abbott, Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Rosenblatt, Wyler
Review of fundamentals of calculus. Vector algebra. Derivatives in space. Integration in space. Vector calculus. Ordinary differential equations.
- **148. **Advanced Engineering Mathematics I.** (3) Abbott, Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Renggli, Rosenblatt, Wyler
Change of variable and limits for multiple integrals; differentiation of integrals. Series: Taylor's series in one or more variables, power series, Fourier series and orthogonal functions, series solutions of ordinary differential equations, special functions. Partial differential equations: review of partial differentiation and directional derivatives, separation of variables, boundary value problems, applications. Prerequisite: 147.
- **149. **Advanced Engineering Mathematics II.** (3) Abbott, Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Renggli, Rosenblatt, Wyler
Complex variables: fundamentals, analytic functions, series expansions, contour integration and residue theory, conformal mapping. Introduction to integral equations, calculus of variations, and finite differences. Approximate methods. Prerequisite: 147.
- *150. **Differential Geometry.** (3) LaPaz
The classical theory of the metric differential geometry of curves and surfaces in three-space; introductory treatment of the theory of n -dimensional metrics by use of the tensor calculus. Prerequisite: 142 or 147.
- *152. **Point Set Topology.** (3) Abbott, Dubois, Mayer-Kalkschmidt, Wyler
Arithmetic of infinite numbers; axioms for topological spaces; n -dimensional Euclidean space as a topological space; properties of continuous functions; fundamental notions of dimension theory; mapping theorems, metrization theorems, Brouwer fixed-point theorem. Prerequisite: 109.
161. **History of Mathematics.** (3)
The historical development of mathematics; analysis of the content and interrelation of selected topics in elementary and intermediate mathematics. (Recommended for those who plan to teach mathematics in secondary schools.)
- *170. **Theory of Numbers.** (3) LaPaz, Steger
Elementary properties of integers; Euclid's algorithm; prime numbers; theory and application of congruences; the theorems of Wilson, Euler and Fermat and their consequences; quadratic reciprocity law; primitive roots; universal quadratic forms; Waring's theorem.
- *182. **Theory of Functions of a Complex Variable.** (3) LaPaz, Mayer-Kalkschmidt, Renggli, Steger
Complex algebra and calculus of analytic functions; singularities and power series expansions; geometric theory and conformal mapping; contour integration and residues; harmonic and subharmonic functions; applications in physics and engineering.
- *184. **Special Functions.** (3) Mayer-Kalkschmidt
Basic topics in the theory of series representations of functions of a complex variable, integral representations, Fuchsian theory of differential equations; development of the theory of gamma functions, beta functions, Legendre functions, Bessel functions, Mathieu functions, hypergeometric functions. Prerequisite: 182.
- *191-192. **Principles of Applied Mathematics.** (3,3) Kolodner, Lewis
Applications of vector analysis; elementary theory of ordinary and partial differential equations; eigenfunction expansions and boundary value problems. Matrices, quadratic forms, and applications; linear integral equations; elements of the calculus of variations; numerical methods. Prerequisites: 141-142 or 147-148. Recommended: 111-112.

The seminars and courses which follow are open only to qualified students and permission to register requires the prior consent of the instructor.

- *194. **Proseminar.** (2-3) Dubois, Hendrickson, LaPaz, Wyler
Advanced study and independent reading.

** Available for graduate credit except for graduate majors in mathematics.

- *201. **Seminar.** (3) Gentry, Hendrickson, Kolodner, LaPaz, Mayer-Kalkschmidt
Advanced reading and research. Required of all students electing to take a Master's degree under Plan II.
- *209. **Measure and Integration Theory.** (3) Abbott, Rosenblatt, Wyler
Classes of sets, set functions, measures, outer measures, extension theorems, measures on product spaces, measurable functions, abstract integrals, types of convergence, integral convergence theorems, decomposition theorems, Radon-Nikodym theorem. Prerequisites: 141, 142, or permission of instructor.
- *211-212. **Linear Algebra and Galois Theory.** (3, 3) Dubois, Steger, Wyler
Vector spaces and abelian groups; modules over principal ideal domains. Field extensions and Galois theory of equations. Prerequisites: 111-112.
- *221-222. **Advanced Topics in Geometry.** (3, 3) Gentry
- *231-232. **Probability Theory and Stochastic Processes.** (3, 3) Abbott, Rosenblatt
Probability spaces, random variables, expectations, characteristic functions, limit and consistency theorems, conditional expectation. Stochastic processes, spectral analysis, and ergodic theory. Prerequisite: 209 or permission of instructor. 231 is prerequisite to 232.
- *233-234. **Theory of Mathematical Statistics.** (3, 3) Abbott, Rosenblatt
Decision theory, tests of hypotheses, point and interval estimation; advanced sequential analysis, advanced regression theory, non-parametric theory. Prerequisites: 134, 141, or permission of instructor.
- *241-242. **Advanced Topics in Analysis.** (3, 3) Hendrickson, Kolodner, LaPaz, Lewis, Mayer-Kalkschmidt
- *243-244. **Advanced Ordinary Differential Equations.** (3, 3) Kolodner, Wyler
Lie's theory. Existence and uniqueness theorems. Topology of integral curves. Periodic solutions of nonlinear equations; stability theory; linear equations in the complex domain; asymptotic integration of differential equations. Prerequisites: 112, 182 or permission of instructor.
- *245-246. **Partial Differential Equations.** (3, 3) Kolodner
Equations of first order; classification of partial differential equations; elliptic differential equations and introduction to potential theory. Hyperbolic differential equations and hyperbolic systems; parabolic equations; free boundary problems. Prerequisites: 191-192 or permission of instructor.
- *251-252. **Problems.** (1-4 each semester) Abbott, Dubois, Gentry, Hendrickson, Kolodner, Lewis, Mayer-Kalkschmidt, Renggli, Rosenblatt, Steger, Wyler
- *261-262. **Topology.** (3, 3) Abbott, Kolodner, Mayer-Kalkschmidt, Wyler
Axiomatic point set topology; introduction to algebraic topology; mapping theorems and applications to analysis. Prerequisite: permission of instructor.
- *271. **Advanced Topics in Algebra.** (3) Dubois, Steger, Wyler
- *281-282. **Theory of Functions of a Real Variable.** (3, 3) Hendrickson, Wyler
Review of set theory and of fundamental properties of real functions; differentiation; modern theories of integration; measure theory; L_p spaces. Prerequisites: 109, 141-142 or permission of instructor.
- *283. **Advanced Theory of Functions of a Complex Variable.** (3) Mayer-Kalkschmidt, Renggli, Wyler
Analytic continuation; Riemann surfaces; representation of functions by infinite series and products; special functions; behavior at the boundary; conformal mapping; uniformization. Prerequisite: 182.
- *284. **Calculus of Variations.** (3) LaPaz, Lewis, Mayer-Kalkschmidt
Formulation of variation problems; derivation of necessary conditions and of sets of sufficient conditions; development of the Hamilton-Jacobi Theory; applications of the calculus of variations in dynamics, physics, and celestial mechanics.
- *285-286. **Functional Analysis.** (3, 3) Kolodner, Mayer-Kalkschmidt, Wicke
Linear transformations on Banach and Hilbert spaces; integral equations; spectral theory; semi-groups; Banach algebras. Prerequisite: 281.
- *291. **Seminar in Analysis.** (2-3) Kolodner, Mayer-Kalkschmidt

- *292. **Seminar in Algebra.** (2-3) Dubois, Steger, Wyler
- *293. **Seminar in Geometry and Topology.** (2-3) Gentry, Mayer-Kalkschmidt, Wyler
- *294. **Seminar in Applied Mathematics.** (2-3) Kolodner, Lewis
- *300. **Master's Thesis.** (6) Abbott, Dubois, Gentry, Hendrickson, Kolodner, LaPaz, Lewis, Mayer-Kalkschmidt, Renggli, Rosenblatt, Steger, Wyler
- *400. **Dissertation.** Abbott, Dubois, Gentry, Hendrickson, Kolodner, LaPaz, Lewis, Mayer-Kalkschmidt, Renggli, Rosenblatt, Steger, Wyler

MECHANICAL ENGINEERING

See Engineering, Mechanical.

MODERN AND CLASSICAL LANGUAGES

Professors R. M. Duncan (Chairman), W. F. J. DeJongh, M. Jorrín, F. M. Kercheville, A. R. Lopes, R. R. MacCurdy, D. A. McKenzie, R. J. Sender; Associate Professor M. R. Nason; Visiting Associate Professor J. H. Matluck; Assistant Professors E. T. Book, R. Cobos, H. F. Graham, S. R. Ulibarri; Part-time Assistant Professor F. H. Sender; Instructor R. Welsh; Part-time Instructors C. M. Book, A. H. Luft.

GROUP REQUIREMENTS

Basic Language 1, Portuguese 167, Spanish 145, 146, 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 55.

BASIC LANGUAGE

No major or minor study offered.

1. **Basic Language.** (2) Duncan

A comparative treatment of the grammatical structure of languages, primarily for students who have experienced difficulty with foreign language study. Class does not begin until the fifth week of the semester. (Credit towards certificate of University College and towards general 26-hour requirement for admission to degree-granting colleges; no credit towards degree from Colleges of A.&S., B.A., Engr., F.A., Nurs., Pharm.)

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 50, including 51, 52, or 91, 92; 9 hours of Greek numbered above 50; History 115, 116; and Philosophy 141.

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. 222.

FOLKLORE

No major or minor study offered.

97. **Southwestern Hispanic Folklore.** (2) Cobos

*161. **Hispanic Folktales.** (2)

*162. **Hispanic Folk Ballads and Songs.** (2)

FRENCH

MAJOR STUDY

24 hours in French in courses numbered above 50; 2 years of college work in another foreign language (or reading knowledge).

MINOR STUDY

15 hours in French in courses numbered above 50 including French 101 or 102.

1-2. **Elementary French.** (3, 3) Yr. Book and Staff
Credit for 1 suspended until 2 (or more advanced course) is completed.

51-52. **Intermediate French.** (3, 3) Book and Staff
Grammar, reading, and translation. Prerequisites: 1, 2 or equivalent.

General prerequisites for the following courses: French 51, 52, or the equivalent.

HA. **Reading in Honors.** (1-3 each semester)

HB. **Research in Honors.** (1-3 each semester)

*101-102. **Advanced Composition and Conversation.** (3, 3) Book, DeJongh
Composition based on a thorough review of French grammar, and conversation based on modern French plays.

*105-106. **Modern French Literature.** (3, 3) Book, DeJongh
Representative works in poetry, drama and fiction for 19th and 20th centuries.

*121-122. **French Classical Theatre.** (2, 2) Book, DeJongh

*151-152. **Survey of French Literature from the 11th Century to the Revolution.** (3, 3) Book, DeJongh

*251-252. **Problems in French Literature.** (1-3 each semester) Book, DeJongh

GERMAN

MAJOR STUDY

Not offered.

MINOR STUDY

15 hours in German in courses numbered above 50, including German 53 and 54.

- 1-2. Elementary German. (3, 3)** Yr. McKenzie, Welsh
Credit for 1 suspended until 2 (or more advanced course) is completed.
- 51-52. Intermediate German. (3, 3)** McKenzie, Welsh
Prerequisites: 1, 2, or the equivalent.
- 53-54. German Conversation and Composition. (2, 2)** McKenzie, Welsh
Designed to give students of 51, 52 extra practice in the writing and speaking of German. May be taken concurrently with 51 or 52.
- 62. Scientific German. (3)** Luft, McKenzie
Readings in psychology, chemistry, mathematics, biology, and anthropology. Prerequisite: 51 or equivalent.

General prerequisites for the following courses: German 51, 52, or the equivalent.

- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *105-106. Modern German Literature. (3, 3)** McKenzie
- *151-152. Survey of German Literature. (3, 3)** McKenzie
- *251-252. Problems. (1-3 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 1 and 2 in the junior year and Greek 101 and 102 in the senior year.

- 1-2. Elementary Greek. (3, 3)** Yr. Staff
Preparation for work in Classical Greek or in New Testament Greek. Credit suspended for 1 until 2 (or more advanced course) is completed. Alternates annually with Greek 101-102.
- HA. Reading in Honors. (1-3 each semester)** Staff
- HB. Research in Honors. (1-3 each semester)** Staff
- 101-102. The Greek New Testament. (3, 3)** Staff
Close scrutiny of meanings of words. (Alternates annually with Greek 1-2.)
- *139. Greek Drama in Translation. (3)** Graham
- *251-252. Problems. (1-3 each semester)** Staff

ITALIAN

No major or minor study offered.

- 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 50.

- 1-2. Elementary Latin.** (3, 3) Yr. DeJongh
Credit suspended for 1 until 2 (or more advanced course) is completed.

- 51-52. Intermediate Latin.** (3, 3) DeJongh
Prerequisites: 1, 2 or the equivalent.

- 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 51-52. The readings assigned may vary to fit the needs and interests of the student. Regular consultations with the instructor are scheduled. May be repeated with different authors by approval of the instructor and the Chairman of the Department.

- HA. Reading in Honors.** (1-3 each semester) DeJongh

- HB. Research in Honors.** (1-3 each semester) DeJongh

- *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.

- *140. Latin Literature in Translation.** (3) Staff

- *251-252. Problems.** (1-3 each semester) Staff

PORTUGUESE

MAJOR STUDY

Not offered.

MINOR STUDY

12 hours in Portuguese in courses numbered above 50.

- 75-76. Beginning Portuguese (Accelerated).** (3, 3) Lopes
Prerequisite: 6 hours (or equivalent) of another Romance language or Latin.

- 75L-76L. Portuguese Drill.** (2, 2)
Corequisite: 75-76.

General prerequisites for the following courses: Portuguese 75, 76, or the equivalent.

- HA. Reading in Honors.** (1-3 each semester)

- HB. Research in Honors.** (1-3 each semester)

- *101-102. Advanced Composition and Conversation.** (3, 3) Lopes

- *101L-102L. Portuguese Drill.** (2, 2) Lopes
Corequisite: 101-102.

- *151. **Survey of Portuguese Literature.** (3) Lopes
- *157. **Survey of Brazilian Literature.** (3) Lopes
- *158. **Contemporary Brazilian Literature.** (3) Lopes
- *165. **Camões and Gil Vicente.** (3) Lopes
- *167. **History and Civilization of Portugal.** (3) Lieuwen, Lopes
(Same as History 167.)
- *251-252. **Problems.** (1-3 each semester) Lopes
For M.A. candidates.
- *351-352. **Problems.** (1-3 each semester) Lopes
For Ph.D. candidates.

RUSSIAN

No major or minor study offered.

- 1-2. **Elementary Russian.** (3, 3) Yr. McKenzie
Credit suspended for 1 until 2 (or more advanced course) is completed.
- 51-52. **Intermediate Russian.** (3, 3) Graham, McKenzie
- 91. **Readings in Russian Literature.** (3) McKenzie
Prerequisite: 52 or equivalent.
- 92. **Readings in Non-Literary Russian.** (3) McKenzie
Periodical, historical, political, cultural, and technical materials. Prerequisite: 52 or equivalent.
- *138. **Russian Literature in Translation.** (3) Graham

SPANISH

MAJOR STUDY

30 hours in Spanish courses numbered above 50, including 101-102, 151, 152, and 153; 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 54 concurrently with 51 or 52.)

MINOR STUDY

18 hours in Spanish in courses numbered above 50.

- 1-2. **Elementary Spanish.** (3, 3) Yr. Staff
Credit suspended for 1 until 2 (or more advanced course) is completed. Students are required to prepare a weekly assignment in the Language Laboratory.
- 51-52. **Intermediate Spanish.** (3, 3) Duncan, MacCurdy, Staff
51 and 52 offered every semester.
- 54. **Elementary Spanish Conversation.** (3) Kercheville, Staff
Designed primarily to give qualified students of 51-52 extra practice in the oral use of the language; therefore it is recommended that it be taken concurrently with 51 or 52. Enrollment limited to 15 students.
- 55-56. **Primer Curso Para Estudiantes de Habla Española.** (3, 3) Cobos
All 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.
- 92. **Introduction to Spanish Literature.** (3) Ulibarri, Staff
Assignments of advanced reading material and discussion of principal Spanish literary figures and movements. Prerequisites: 51, 52 or the equivalent.
- 95. **Spanish Business Letter Writing.** (2) Cobos
Prerequisite: 2 years of college Spanish or equivalent.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

- *101-102. **Advanced Composition and Conversation. (3, 3)** Cobos, Nason, Ulibarri
Prerequisite: 54 or 56 or the equivalent.
- *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 92 or the equivalent is prerequisite for all literature courses listed below.

- *105. **Contemporary Spanish Literature. (3)** Sender
- *107. **The Spanish Novel. (3)** Kercheville, Sender
A survey of the novel with chief emphasis on the 19th century.
- *121. **Modern Spanish Drama. (3)** Kercheville, Sender
- *145. **Hispanic Civilization. (2)** Sender
- *146. **Ibero-American Civilization. (2)** Jorrin
- *151-152. **Survey of Spanish Literature. (3, 3)** MacCurdy
Required of Spanish majors.
- *153. **Phonetics. (2)** Duncan, Nason
Required of all majors. Prerequisites: three years of college Spanish or equivalent.
- *157-158. **Survey of Spanish-American Literature. (3, 3)** Nason, Ulibarri
Required of candidates for a graduate degree.
- *163. **Mexican Literature. (2)** Ulibarri
- *164. **The Literature of Argentina, Uruguay, and Chile. (2)** Nason
- *166. **Spanish Drama from the Beginning through the 17th Century. (3)** MacCurdy
- *175. **Cervantes: The Quijote. (3)** MacCurdy
A detailed analysis of the *Quijote* and treatment of its place in world literature.
- *176. **Cervantes: Other Works. (3)** MacCurdy
Works other than the *Quijote* with emphasis on the *Nóvelas Ejemplares* and the theatre.
- *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.
- *203. **Seminar: Medieval Spanish Literature. (2)** Duncan
Works in all the different genres from the earliest monuments of Spanish literature to the Renaissance.
- *Ibero-American Studies 204. **Interdepartmental Seminar. (3)** Jorrin, Lieuwen, Lopes, Nason, Scholes
(Same as Ibero-American Studies 204.)
- *205. **Introduction to Research Methods. (1)** Duncan, MacCurdy
Required of all candidates for a graduate degree.
- *206. **Spanish Bibliography. (1)** Duncan, MacCurdy
Required of candidates for the Ph.D. degree.
- *207-208. **Seminar: Spanish Novel to 1868. (2, 2)** Kercheville
- *241. **Seminar: American Spanish. (2)** Duncan
Diffusion of the Spanish language in the Americas, with emphasis on phonological, lexical, and other dialectal peculiarities.
- *251-252. **Problems. (1-3 each semester)** Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
For M.A. candidates.
- *253. **Linguistic Theory for Language Instruction. (1)**
Pre- or corequisite: Spanish 153.

- *254. **Application of Linguistics to Language Instruction in the Secondary School.** (2)
Prerequisite: Spanish 253.
- *255. **Techniques of the Language Laboratory.** (3) Nason
Pre- or corequisite: Spanish 153.
- *256. **Proseminar in Problems of Secondary Language Instruction.** (3)
Pre- or corequisite: Spanish 153 and either Spanish 253-254 or 255.
- *257. **Application of Linguistics to Language Instruction in the Elementary School.** (3) Ulibarri
- *258. **Preparation of Language Materials for the Elementary School.** (4) Ulibarri
- *259. **Proseminar in Problems of Language Instruction in the Elementary School.** (4) Ulibarri
- *263-264. **Seminar: Spanish-American Literature.** (2, 2) Lopes, Nason, Ulibarri
Prerequisites: 157, 158 or the equivalent.
- *266. **Seminar: Golden Age Drama.** (2) MacCurdy
- *267-268. **Seminar: Spanish Literature.** (2, 2) Sender
Special periods and genres in Spanish Literature.
- *271-272. **Spanish Poetry.** (2, 2) Sender
- *278. **Seminar: The Spanish Picaresque Novel.** (2) MacCurdy
- *291-292. **Seminar: Pérez Galdós and the Modern Spanish Novel.** (2, 2) Kercheville
- *300. **Master's Thesis.** (6) Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
- *351-352. **Problems.** (1-3 each semester) Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
For Ph.D. candidates.
- *400. **Dissertation.** Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri

MUSIC

Professors J. Blankenship (Chairman), K. Frederick, W. B. Keller, H. M. Miller, E. E. Stein†; Associate Professors J. M. Batcheller, W. E. Rhoads, G. Robert, M. G. Schoenfeld, J. Snow, J. Stephenson; Assistant Professors C. W. Davis, D. C. McRae, J. I. Thornton, J. L. Whitlow; Instructor E. Waters.

Applied Music faculty:

Piano	W. Keller, G. Robert, M. Schoenfeld
Organ	Staff
Violin and Viola	K. Frederick
Cello and String Bass	J. Stephenson
Wind Instruments and Percussion	J. Blankenship, W. Rhoads, J. Thornton, J. Whitlow
Voice	C. Davis, D. McRae, J. Snow

MAJOR STUDY

For curricula leading to the B.F.A. in Music, see p. 172.

For purposes of Combined Curriculum in Fine Arts (see p. 165): 45 hours including 5, 6, 39, 40, 65, 66; 16 hours of applied music and 4 hours of ensemble music.

MINOR STUDY

College of Arts and Sciences: 20 hours including Music 5, 6, 39, 40, and 4 hours of applied music. Combined Curriculum in Fine Arts: 25 hours including 39, 40, 5, 6; 4 hours of applied music and 2 hours of ensemble music.

† Resignation effective July 1, 1961; new appointment to be made.

ENSEMBLE

One credit hour represents from 2 to 4 hours a week of rehearsal.

Course numbers for ensemble are: (vocal) 43, 143; (instrumental) 127, 131, 133, 137, 141, 195.

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 137, 1 semester of 195 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 137, 1 semester of 195, 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 137, 1 semester of Music 195, and 5 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": HA, HB, 71, 72, 73, 74, 111, 112, 175, 177, 178, 179.

APPLIED MUSIC (PRIVATE INSTRUCTION)

Applied music is offered in the following areas: piano, voice, string instruments, wind instruments, percussion, and organ.

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 1-2, 51-52, 101-102, 151-152, 201-202 (graduate course); 291-292 (graduate recital). Degree courses carry 4 hours credit each for 2 half-hour lessons per week. The secondary courses are 19-20, 69-70, 119-120,

[‡] Voice performance majors, every semester of residence after freshman year.

169-170, 219-220 and 269-270 (graduate courses), and carry 1 hour credit each for 1 half-hour lesson a week.

REQUIREMENTS IN THE FIELDS OF APPLIED MUSIC

Piano. Entrance requirements for Piano majors: an ability to play major and minor scales correctly in moderately rapid tempo, also broken chords in octave position in all keys; studies such as Czerny's **School of Velocity**; Bach, **Little Preludes**; a few Bach Two-Part Inventions; and compositions corresponding in difficulty to Mozart, **Sonata C Major** (K.545), Beethoven, **Sonata Op. 49, No. 2**, Schubert, **Impromptu, Op. 142, No. 2**, **Scherzo in B Flat**.

At the end of the second year (Music 1, 2 and 51, 52), the student should have acquired a technique sufficient to play scales in parallel and contrary motion and in thirds, sixths, and tenths, and arpeggi and octaves in rapid tempo. He should have studied compositions of at least the following grades of difficulty: Bach, at least one complete French Suite; Beethoven, sonatas or movements from sonatas such as Op. 2, No. 1, Op. 10, No. 1, Op. 10, No. 2, Op. 14, No. 2; Haydn, **Sonata E Flat**, No. 3; Mozart, **Sonata F. Major** (K.332), **Fantasia in D Minor**; Mendelssohn, **Song Without Words**; Chopin, **Polonaise C Sharp Minor**, **Valse in A Minor**; Schumann, **Novelette, Op. 21 No. 1**; and some compositions by standard modern composers. The student should demonstrate his ability to read at sight accompaniments and compositions of moderate difficulty.

During his junior year the piano major is required to present a junior recital. During his fourth year the piano major is required to present a senior recital.

Violin. Entrance requirements for Violin students: an ability to play etudes of the difficulty of the Kreutzer Etudes, up to No. 32, and the Spohr concerti. An elementary knowledge of the piano is desirable.

By the end of the second year the student should be able to play at least works corresponding in difficulty to the Bruch **Concerto in G Minor** and the Mozart concerti.

By the end of the fourth year the student should be able to perform works such as the Mendelssohn **E Minor Concerto**, the Wieniawski **Concerto in D Minor**, or the Beethoven **Concerto**.

Voice. To enter the 4-year degree course in voice a student must demonstrate his ability to sing standard songs in English. He must possess a voice of pleasing timbre which promises to develop into a voice capable of public performance on a high level.

1-2.

- 8 Early Italian songs.
- 4 Art songs in original language if qualified to do so.
- 4 Old English songs.
- 2 contemporary English songs.
- 2 Sacred songs.
- Total—20 songs.

51-52.

- 4 Early Italian songs.
- 1 Operatic aria
- 1 Recitative and aria from an Oratorio.
- 8 Songs by German or French composers in the original language.
- 4 Contemporary English songs.
- 2 Sacred songs.
- Total—20 songs.

101-102.

Junior recital.

151-152.

Senior recital.

Each student concentrating in voice is required to appear before a faculty committee at the end of each semester during his freshman and sophomore years to show completion of requirements.

Trumpet: (All other brasses, similar requirements.)

1-2. Methods:

Bousquet: 36 Etudes
 Getchell: 1st and 2nd Books of Practical Studies
 Hering: 40 Progressive Etudes, 32 Etudes
 Kopprasch: Book 1, 60 Selected Studies
 Schlossberg: Daily Drills
 Selected Solo Literature

51-52. Methods:

Balay: 15 Etudes
 Johanson: Instructive Etudes
 Kopprasch: Book II, 60 Selected Studies
 Sachse: 100 Etudes
 Selected Solo Literature

101-102. Methods:

Fontana: Studies for Cornet
 Laurent: **Etudes Pratiques Vol. 1**
 Paudert: 24 Virtuoso Studies
 Pietzsche: 32 Studies
 Selected Solo Literature: Transposition

151-152. Methods:

Brandt: Etudes
 Charlier: **Etudes Transcendantes**
 Chavanne: Etudes
 Petit: **Grandes Etudes**
 Wurm: 20 Difficult Etudes
 Laurent: **Etudes Pratiques, Vols. 2 and 3**
 Selected Solo Literature, Transposition

Other Fields of Applied Music. Instruction in Applied Music is offered also in the following fields of instruments: Bassoon, Cello, String Bass, Flute, Horn, Oboe, Organ, Percussion, Trombone, and Tuba. For requirements in these fields, see the instructor.

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.

1-2. Applied Music. Freshman Course. (2 or 4 hours each semester) Staff

5. Harmony. (3) McRae, Schoenfeld

Fundamentals of music; notation, scales, key signatures, intervals, triads, sight-singing, elementary dictation, keyboard harmony.

6. Harmony. (3) McRae, Schoenfeld

Diatonic harmony; part writing, simple triads, first inversions, cadential six-four chord, dominant seventh and its inversions. Simple modulation. Sight-singing, dictation (harmonic, melodic, rhythmic), keyboard harmony.

11-12. Group Instruction in Piano. (1, 1) Staff

Open to all beginners in piano exclusive of piano majors. Normally no class larger than four.

- 11-12. Group Instruction in Voice.** (1, 1) Staff
Open to all beginners in voice exclusive of voice majors.
- 19-20. Applied Music. Freshman Course.** (1 or 2 hours each semester) Staff
- 39-40. Music Appreciation.** (3, 3) McRae, Miller, Whitlow
Designed for the general student who wishes to supplement his academic training with an introduction to music literature. Listening periods are required.
- 43. University Chorus.** (1) Davis
Open to all University students. May be repeated for credit.
- 51-52. Applied Music. Sophomore Course.** (2 or 4 hours each semester) Staff
- 59. [P. E. 95] Modern Dance, Intermediate Technique.** (1-2) Waters
Explorations in movement leading into choreography. Open to all University students with permission of instructor. May be repeated for credit.
- 63. Conducting.** (1) Blankenship, Davis, Frederick, Thornton
Basic technique and theory of conducting.
- 64. Choral Conducting and Organization.** (1) Davis
Execution of choral techniques, score reading, choral interpretation, actual experience in choral conducting with major organization. Study of senior high school choral materials. Prerequisite: 63.
- 65. Harmony.** (3) McRae, Miller, Robert
Extended diatonic harmony; non-dominant seventh chords, change of mode. Simple alterations; secondary dominants. Chorale harmonization. Basic two-part counterpoint. Sight-singing, dictation (harmonic, melodic, rhythmic), keyboard harmony.
- 66. Harmony.** (3) McRae, Miller, Robert
Chromatic harmony: extended alterations, remote modulation. Modern trends. Sight singing, dictation (harmonic, melodic, rhythmic). Keyboard harmony.
- 69-70. Applied Music. Sophomore Course.** (1 or 2 hours each semester) Staff
- 71. The Classical Period.** (2) McRae, Miller
A survey of music from 1750 to 1820.
- 72. The Romantic Period.** (2) McRae, Miller
Form, style, and principal composers in the period 1800-1900.
- 73. Opera.** (2) Davis, McRae
The history of opera and its principal composers.
- 74. Concerto.** (2) McRae
The form and its principal composers from Bach to the present.
- 95. Music in Recreational Leadership.** (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.
- 96. Music in Recreational Leadership.** (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.
- HA. Reading in Honors** (1-3 each semester) Staff
- HB. Research in Honors.** (1-3 each semester) Staff
May include projects in composition, upon the recommendation of the Chairman of the Department.
- 101-102. Applied Music. Junior Course.** (2 or 4 hours each semester) Staff
- *105. Counterpoint.** (3) Frederick, McRae, Robert
Analysis and techniques of writing in the contrapuntal forms and styles of the 16th century.
- *106. Counterpoint.** (3) Frederick, McRae, Robert
Analysis and techniques of writing in the contrapuntal forms and styles of the period of Bach.

- 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: 66.
- ***111. The Contemporary Period.** (2) McRae, Miller
Stylistic tendencies of the 20th century and the study of representative works of the most important composers.
- ***112. The 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.
- 113. Band Organization and Conducting.** (1) Rhoads
Band organization, materials; rehearsal techniques; marching band techniques; and laboratory experience in band conducting.
- 114. Orchestral Conducting and Organization.** (1) Frederick
Orchestral organization, materials; string techniques; and laboratory experience in orchestral conducting.
- ***119-120. Applied Music. Junior Course.** (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, 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.
- ††**127. Symphonic Wind Ensemble.** (1) Rhoads, Thornton, Whitlow
Large ensembles of wind instruments. Admission by audition.
- 129d.** [P. E. 96]. **Dance Workshop.** [Advanced Contemporary Dance] (1-2) Waters
Rehearsal and production experiences. Open to all University students with permission of instructor. May be repeated for credit.
- ††**129o. Opera Workshop.** (2) Davis, Frederick, Snow
Designed to give singers the fundamentals in practical operatic experience.
- ††**131. Chamber Music.** (1) Frederick, Stephenson, Thornton, Whitlow
The practice, performance, and study of chamber music in various ensemble groups.
- ††**133. Symphony Orchestra.** (1) Frederick
Study and public performance of symphonic literature.
- ††**137. Piano Ensemble.** (1) Keller, Robert, Schoenfeld
Study and performance of literature for two pianos selected from all periods including the contemporary. Open to qualified students with permission of instructor.
- ††**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.
- 143. A Cappella Choir.** (1) Davis
Auditions required. Open to all University students with permission of instructor. May be repeated for credit.
- 147. Vocal Repertory.** (2) Snow
A survey of important and representative literature for solo voice.
- 149. Piano Repertory.** (2) Schoenfeld
A survey of important and representative literature for piano.
- 151-152. Applied Music. Senior Course.** (2 or 4 hours each semester) Staff
- 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: 66.
- †**155. Orchestral Instruments.** (1) Frederick, Rhoads, Stephenson, Thornton, Whitlow
Group instruction in the playing of woodwind, brass, percussion, and string instruments.
- ***157. Advanced Choral Conducting.** (2) Davis, Frederick
Historical background and advanced techniques of choral organization and conducting. Prerequisites: 63, 110, and piano proficiency to be determined by the instructor.

†† May be repeated to the limit of 8 hours' credit for students of the College of Fine Arts or College of Education, 4 hours for others.

† May be repeated to the limit of 4 hours' credit.

- *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.
- *163. **Advanced Instrumentation.** (2) Rhoads
The scoring of larger works for the major ensembles carrying through to actual performance. Prerequisite: 153.
165. **Modern Arranging.** (2) Rhoads
Dance band instruments and special effects obtainable on each. Projects consisting of scoring for the modern dance orchestra. Prerequisite: 66.
- *167. **Choral Arranging.** (2) Davis, Frederick, McRae
Techniques and practice in arranging for mixed chorus, men's and women's glee clubs, trios and quartets.
- *169-170. **Applied Music. Senior Course.** (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, 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.
- *175. **Symphonic Literature.** (2) McRae, Miller
A survey of the developments in orchestral music from Bach to the present.
- *177. **The 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.
- *178. **History of Chamber Music.** (2) Miller
A survey of chamber music literature from the Baroque to the present.
- *179. **Choral Literature.** (2) McRae
The principal developments in choral music from Palestrina to the present.
- †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.
- 191-192. **Undergraduate Problems.** (1-3 each semester) Staff
- *193. **Composers of the United States.** (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.
- ††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.
- *201-202. **Applied Music. Graduate Course.** (2 or 4 hours each semester) Blankenship, Frederick, Keller, Robert, Schoenfeld, Snow, Thornton, Whitlow
- *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.
- *219-220. **Applied Music.** (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
- *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.
- *233. **Seminar in Music.** (3) Blankenship, Miller, Stephenson
Explorations in various areas of musical research. Prerequisite: permission of instructor. May be repeated for credit.
- *251-252. **Problems.** (1-3 each semester) Blankenship, Frederick, Keller, Miller, Rhoads

† May be repeated to the limit of 4 hours' credit.

†† May be repeated to the limit of 8 hours' credit for students of the College of Fine Arts or College of Education, 4 hours for others.

- *269-270. **Applied Music.** (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
- *291-292. **Graduate Recital.** (2, 2) Blankenship, Davis, Frederick, Keller, 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 291, 292 is to be in addition to that done in 201, 202 (performance majors) or in 219-220, 269-270 (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.
- *300. **Master's Thesis.** (6) Blankenship, Keller, Miller, Rhoads

MUSIC EDUCATION

See Education, Music.

NAVAL SCIENCE

Captain E. T. B. Sullivan, USN (Chairman), Professor; Commander K. T. Sanders, USN, Assistant Professor; Major Donald C. Stanton, USMC, Assistant Professor; Lieutenant R. H. Smith, USN, Assistant Professor; Lieutenant W. N. Elder, USN, Assistant Professor; Lieutenant (junior grade) Robert L. Johns, USN, Assistant Professor.

CURRICULUM

See p. 199.

- 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.
- 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.
- 52. **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 applications of these principles in weapons systems. (Confidential security clearance required.)
- 101. **Naval Engineering.** (3)
 Naval engineering plants, machinery and systems, including nuclear propulsion, to provide a basic understanding necessary for all naval officers.
- 102. **Navigation.** (3)
 The theory and application of terrestrial and celestial navigation to enable prospective officers to become proficient naval navigators aboard ships and aircraft.
- 101M. **Evolution of the Art of War.** (3)
 To show the Marine Corps Officer candidate how warfare has evolved from the earliest recorded times up to the present.
- 102M. **Modern Basic Strategy and Tactics.** (3)
 To provide the student with a broad knowledge of the history of warfare, including a consideration of U. S. military and foreign policy, and to give an understanding of theoretical principles behind modern strategy and tactics.

- 151. 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 counter measures.
- 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.
- 151M. Amphibious Warfare, Part I. (3)**
Current amphibious warfare doctrine.
- 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

Professor V. P. Crenshaw (Dean); Assistant Professors V. M. Dean, V. S. Jackson, F. E. Jensen, A. Moloney¹, G. E. Noble, M. P. Simmons; Instructor E. Pew; Part-time Instructor, J. A. May.

CURRICULUM

See p. 188.

With the exception of Nursing 1, Nursing courses are open only to students majoring in Nursing.

- 1. Introduction to Nursing. (2)** Crenshaw and Staff
An orientation to the principles and functions of nursing and its relationship to other health professions; survey of needs for nursing from selected histories of patients, families, and communities; introduction to personal and professional adjustments.
- 51L. Fundamentals of Nursing. (3)** Pew and Staff
Principles and practice of nursing; beginning correlation of scientific and social knowledge and skills needed to plan and give nursing care adapted to each patient. 2 lectures, 4 hrs. lab.
- 52L. Fundamentals of Nursing. (3)** Staff
A continuation of 51L. 2 lectures, 4 hrs. lab.
- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- 101L. Medical Nursing. (5)** Jackson
Principles and practice of nursing care required by patients with medical diseases; biological, emotional, cultural factors involved in nursing care and in the prevention and treatment of these diseases; experience in hospital and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 102L. Surgical Nursing. (5)** Dean
Principles and practice of nursing care of patients with surgical conditions; biological, emotional, cultural components of nursing care and of the prevention and treatment of these conditions; experience on hospital wards and in operating room, recovery room, and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 121L. Pediatric Nursing. (5)** Moloney
Principles and practice of nursing care of children based on developmental patterns from birth through adolescence; biological, psychological, cultural elements influencing child-parent-nurse relationships in nursing care and prevention and control of diseases of childhood; experience in hospital and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.

¹ Effective July 1, 1961.

- 122L. Obstetric Nursing. (5) Simmons**
Principles and practice of nursing care in all phases of the maternity cycle, including care of normal and premature infants; physiological, psychological, cultural factors affecting maternal and infant health and nurse-mother-family relationships; care of gynecological conditions; experience on hospital wards and in delivery room, nursery, and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 135. Cancer Nursing. (3)**
Principles of nursing care of cancer patients in hospitals and at home; current knowledge of causes and effect of cancer, prevention, and treatment; psycho-physiological aspects of nursing care in preventive-medical-surgical-rehabilitative phases; community programs for the prevention and control of cancer. Prerequisite: open only to registered nurses (R.N.'s). Offered occasionally.
- 151L. Psychiatric Nursing. (9) Noble**
Principles and practice of nursing care of patients with psychiatric disorders; physiological, emotional, cultural factors involved in nursing care and in the prevention and treatment of mental illness; experience in hospital and community agencies. 4 lectures, 16 hrs: lab.
- 152L. Public Health Nursing. (9) Jensen**
Principles and practice of nursing in community programs for prevention and control of disease and promotion of health; epidemiological, cultural, economic factors influencing community health organization and nurse-family-group relationships in nursing care and health education; experience in health department, homes, clinics, schools. 4 lectures, 16 hrs. lab.
- 161L. Medical-Surgical Nursing Processes. (5) Dean, Jackson**
Synthesis of interdisciplinary knowledges applicable to needs of medical and surgical patients; organization of nursing services on medical-surgical wards; experience in hospital and out-patient department. Prerequisites: 101L, 102L. 8 wks.: 5 lectures, 20 hrs. lab.
- 162L. Advanced Obstetric-Pediatric Nursing. (5) Moloney, Simmons**
Correlations of knowledges from biological and behavioral sciences in the care of mothers and children with health problems; organization of nursing services on obstetric and pediatric wards; experience in hospital and community agencies. Prerequisites: 121L, 122L. 8 wks.: 5 lectures, 20 hrs. lab.
- 182. Seminar: Problems and Trends in Nursing. (2) Crenshaw and Staff**
Historical and contemporary issues in the evolution of nursing education and practice.

PHARMACEUTICAL CHEMISTRY

PHARMACOGNOSY

PHARMACOLOGY

See Pharmacy.

PHARMACY

Professor E. L. Cataline (Dean); Associate Professors G. L. Baker, W. C. Fiedler; Assistant Professors V. H. Duke, K. H. Stahl.

CURRICULUM

See p. 194.

- 41-42. Orientation I, II. (1, 1) Cataline**
A survey of the profession of pharmacy.
- 121. [155] Pharmacy Management. [Drug Store Management]. (2) Staff**
Principles of management of retail pharmacies. Prerequisites: Business Adm. 5, Economics 51, fourth-year standing.

- 122. Pharmaceutical Law. (3) Staff**
The laws and regulations relating to the practice of pharmacy. Prerequisite: fourth-year standing.
- 141L. Introductory Pharmacy. (5) Fiedler**
The fundamental principles and processes of pharmacy, including metrology and pharmaceutical calculations. Prerequisite: third-year standing. 2 lectures, 2 recitations, 3 hrs. lab.
- 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 141L; Chemistry 53L, 102, 104L; Physics 12L; Pharmacognosy 72L; Pharmacology 191 (or concurrent registration). 3 lectures, 6 hrs. lab. each semester.
- 158. Veterinary Pharmacy. (2) Staff**
Medicinal substances used in the treatment of diseases in animals. Prerequisite: Pharmacology 191 (or concurrent registration).
- 161. [61] History of Pharmacy. (2) Fiedler**
The historical development of pharmacy with emphasis on its history in North America. Prerequisite: fifth-year standing.
- 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.
- 182L. Dispensing Pharmacy II. (5) Baker**
A continuation of 181L. The compounding and dispensing of prescriptions including incompatibilities. 3 lectures, 6 hrs. lab.
- 193. Inspection Trip. (0) Staff**
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.
- 197-198. Problems in Pharmacy. (1-3 hours each semester) Staff**
Experimental and library problems in some phases of pharmacy. Prerequisites: permission of instructor and of the Dean.

PHARMACEUTICAL CHEMISTRY

- 163L. Medicinal Chemistry I. [Organic Medicinals 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.
- 164L. Medicinal Chemistry II. [Organic Medicinals II]. (4) Stahl**
A continuation of 163L. 2 lectures, 6 hrs. lab.
- 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

- 72L. General Pharmacognosy. (4) Stahl**
A study of drugs of plant and animal origin. Prerequisites: Chemistry 102, 104L; Biology 2L. 3 lectures, 3 hrs. lab.
- 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

- 66L. Principles of Pharmacology. (4) Duke**
The effects produced by drugs and the mechanisms whereby these effects are produced. Includes the subdivisions of pharmacology, therapy, posology, toxicology, and pharmaceutical calculations. The actions of the more important drugs are demonstrated upon living animals. Prerequisites: Biology 33L, 36, 39L; Chemistry 42L. (Primarily for students in the College of Nursing. Not open to students in the College of Pharmacy.) 3 lectures, 3 hrs. lab.
- 191. Biologic Medicinals. (3) Duke**
Medicinal substances, the manufacture of which depends upon the use of microorganisms and their products; history, screening, production, assay, and chemical, pharmaceutical, and therapeutic properties. Prerequisites: Chemistry 102, 104L, or permission of instructor; corequisite: Biology 93L.
- *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 72L; Pharmacology 191; Biology 123L, 130L; or permission of the instructor. 3 lectures, 3 hrs. lab.
- *196L. Pharmacology II. (5) Duke**
A continuation of 195L. 4 lectures, 3 hrs. lab.
- 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; Instructor Z. T. Faruki.

MAJOR STUDY

Philosophy 45 or 55, 51, 53, 56, 141-142, and additional hours to a total of 30 including a total of 10 numbered above 100.

MINOR STUDY

Philosophy 51 or 53; 45, 55, or 56; 141-142, and additional hours to a total of 18.

- 1-2. Humanities. (3, 3) Alexander, Bahm**
Perspectives of world cultures with particular reference to their religious, intellectual, ethical, and artistic developments.
- 45. Thought and Expression. (3) Alexander**
The processes of communicating, symbolizing, thinking abstractly, imagining, generalizing, defining, and inferring.
- 51. Introduction to Philosophy. (3) Bahm, Evans**
Main philosophical problems and major types of solutions.
- 53. Ethics. (3) Bahm, Evans**
Philosophical study of the principles of morality.
- 55. Inductive Logic and Scientific Method. (3) Evans**
The nature of empirical evidence, principles of induction, probability, and the problem of truth.
- 56. Formal Logic. (3) Alexander, Evans**
Structures of thought and their analysis with respect to validity, including an introduction to modern symbolic notation.

- 63-64. Comparative Religions. (3, 3) Bahm**
Introduction to the world's religions. 63: Meaning of religion and Eastern religions; 64: Western religions with emphasis upon the Judeo-Christian tradition.
- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *102. Aesthetics. (3) Alexander**
An introduction to the philosophy of art and beauty.
- *115. Philosophy of Science. (3) Evans**
Critical examination of the concepts, presuppositions, and methods of mathematics and the physical sciences.
- *123. Hispanic Thought. (3) Alexander**
Major philosophies and philosophers in Spain and Hispanic America.
- *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, June 12-16, 1961. Carries graduate credit when specifically approved by the Graduate Committee.
- *132. American Philosophy. (3) Bahm, Evans**
The development of philosophical ideas in America.
- *141-142. History of Western Philosophy. (3, 3) Alexander, Bahm (142), Evans, Faruki (142)**
141: Ancient and medieval philosophy; 142: Renaissance and modern philosophy.
- *156. Logical Theory. (3) Evans**
Historical and critical study of the principles and methods of logic. Prerequisite: 56, or permission of instructor.
- *161. Political Theory from Plato to Locke. (3) Jorrín**
(Same as Government 161.)
- *162. Political Theory from the Enlightenment to Today. (3) Jorrín**
(Same as Government 162.)
- *171. Plato. (3) Alexander, Evans**
Selected readings in the philosophy of Plato. Prerequisite: 3 hours of philosophy or permission of instructor.
- *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.
- *176. Contemporary Philosophy. (3) Alexander, Bahm, Evans**
Prerequisite: 3 hours of philosophy or permission of instructor.
- *180. Philosophy and Literature. (3) Alexander, Tedlock**
(Same as English-Philosophy 180.)
- *185. Oriental Philosophy. (3) Bahm**
Introduction to major philosophical concepts and movements in Oriental cultures.
- *187. Epistemology and Metaphysics. (3) Bahm**
Basic categories of knowledge and existence. Prerequisite: 3 hours of philosophy or permission of instructor.
- *191. Philosophy of Language. (3) Alexander**
Philosophies of meaning with special attention to the relations between language and thought.
- *241. Seminar: Philosophical Movements. (3) Alexander, Bahm, Evans**
- *242. Seminar: Individual Philosophers. (3) Alexander, Bahm, Evans**
- *251-252. Problems. (1-3 each semester) Alexander, Bahm, Evans, Faruki**
- *300. Master's Thesis. (6) Alexander, Bahm, Evans**

PHYSICAL EDUCATION

See Education, Health, Physical Education and Recreation.

PHYSICS

Professors W. M. Elsasser (Chairman), R. Thomas; Research Professor V. H. Regener; Consulting Professor D. K. Froman; Associate Professors J. G. Breiland, J. R. Green, J. Katzenstein; Assistant Professors H. C. Bryant, C. P. Leavitt, D. E. Skabelund.

MAJOR STUDY

Required courses: Physics 60, 61, 62, 63L, 64L, 101, 102, 103, 104, 105, 106, 101L, 102L, 106L, 107L, 166; Mathematics 50, 51, 52, and 141-142 or 147-148; Chemistry 1L and 2L; Drawing and shop experience approved by the Department Chairman. It is recommended that at least 6 additional hours be taken from the following list of courses: Physics 110, 111L, 131, 161, 163, 191, 192, 193L, 194L, 199; Mathematics 111, 112, 191, 192; Chemistry 53L, 101, 102, 103L, 111, 112, 171; Astronomy 123, 124.

MINOR STUDY

Physics 60, 61, 62, 63L, 64L, 101, 102, 103, 105, and one of the laboratory courses numbered above 100; Mathematics 50, 51, 52, and 141 or 147.

GRADUATE STUDY

Physics 101 through 115 do not carry graduate credit for students working toward an M.S. or Ph.D. degree in Physics. Prerequisite for all courses numbered 200 and above: an undergraduate major in Physics equivalent to that outlined above.

1. **Introduction to Physics.** (2) Skabelund
A non-technical introduction, including demonstrations. (Offered occasionally.)
3. **Meteorology.** (3) Breiland
Introduction to the physics of the atmosphere. Weather analysis and forecasting.
- 7L. **Elementary Electronics.** (2) SS
Introduction to the concepts of electrical and electronic theory; experimental study of basic electronic components and circuit. Prerequisites: Mathematics 15, 16. (Offered in the summer session.)
- 11L. **General Physics.** (4) Breiland, Green
Mechanics, heat, sound. Required of premedical, pre dental and preoptometry students, also of ROTC students in A. & S., and of Pharmacy students. Prerequisites: Mathematics 15, 16. 3 lectures, 3 hrs. lab.
- 12L. **General Physics.** (4) Breiland, Green
Electricity and magnetism, optics. Required of premedical, pre dental and preoptometry students, also of ROTC students in A. & S., and of Pharmacy students. Prerequisites: 11L, Mathematics 15, 16. 3 lectures, 3 hrs. lab.
60. **General Physics.** (3) Breiland, Regener
Mechanics, sound. The sequence Physics 60, 61, 62, 63L, 64L is required of students planning to major in certain sciences and in engineering. Pre- or corequisite: Mathematics 50.
61. **General Physics.** (3) Breiland, Regener
Heat, electricity, magnetism. Prerequisite: 60, pre- or corequisite: Mathematics 51.
62. **General Physics.** (3) Leavitt, Regener
Optics, modern physics. Prerequisite: 61; pre- or corequisite: Mathematics 52.
- 63L. **General Physics Laboratory.** (1)
Mechanics, sound, heat. Pre- or corequisite: 61. 3 hrs. lab.
- 64L. **General Physics Laboratory.** (1)
Electricity, magnetism, optics. Pre- or corequisite: 62. 3 hrs. lab.

- **101. Heat and Thermodynamics.** (3) Green, Katzenstein, Thomas
Kinetic theory; specific heats; conduction, convection, radiation; change of state; classical thermodynamics. Pre- or corequisite: Mathematics 141 or 147. (Offered 1961-62 (I) and alternate years.)
- **101L. Heat Laboratory.** (2) Bryant, Green, Katzenstein, 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 141 or 147. (Offered in Semester II every year.)
- **102. Physical Optics.** (3) Green, Katzenstein, Leavitt, Thomas
Wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion, absorption and scattering; black-body radiation. Pre- or corequisite: Mathematics 141 or 147. (Offered 1962-63 (I) and alternate years.)
- **102L. Optics Laboratory and Geometrical Optics.** (2) Green, Katzenstein, Leavitt
Interference and diffraction phenomena; spectroscopic and spectrographic methods with visible and ultra-violet light. Pre- or co-requisite: Mathematics 141 or 147. 1 lecture, 3 hrs. lab. (Offered in Semester I every year.)
- **103-104. Analytical Mechanics.** (3, 3) Green, Katzenstein, Leavitt, Thomas
Statics and dynamics of particles and rigid bodies; introduction to Lagrange's method; hydrodynamics. Pre- or corequisites: Mathematics 141, 142 or 147, 148. (Offered 1962-63 and alternate years.)
- **105-106. Electricity and Magnetism.** (3, 3) Green, Katzenstein, Regener, Skabelund, Thomas
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 141, 142 or 147, 148. (Offered 1961-62 and alternate years.)
- **106L. Electricity Laboratory.** (2) Green, Katzenstein, Leavitt
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. Pre- or corequisite: Mathematics 141 or 147. 1 lecture, 3 hrs. lab. (Offered in Semester I every year.)
- **107L. Electronics Laboratory and Electron Physics.** (3) Green, Katzenstein, Leavitt
Characteristics of vacuum tubes; amplifiers; oscillators; oscilloscopes; rectifiers, photoelectric cells; pulsing and scaling circuits. Pre- or corequisite: Mathematics 141 or 147. 2 lectures, 3 hrs. lab. (Offered in Semester II every year.)
- **110. Atomic and Nuclear Physics.** (3) Leavitt, Skabelund
An introduction to experiment and theory in atomic and nuclear structure: fundamental particles, the vector model of the atom, elementary relativity and wave mechanics, collision processes, energy levels and radiation. Prerequisites: 1 year of calculus, 1 year of college physics. (Offered every year.)
- **111L. Atomic and Nuclear Physics.** (3) Bryant, Katzenstein, Leavitt
Experiment and theory in atomic and nuclear structure (continued from 110): radiation, radioactivity, nuclear cross sections and reactions, fission, reactors and high-energy accelerators. Prerequisites: 1 year of calculus, 1 year of college physics. 2 lectures, 3 hrs. lab. (Offered every year.)
- **112. Physics of Matter.** (3) Green, Leavitt, Skabelund
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: Physics 110. (Offered every year.)
- **115. 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.)
- *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 141 or 147. (Offered occasionally.)
- **153-154-155. Physics for Secondary School Teachers.** (4, 4, 4) Green, Skabelund,
The fundamental concepts and principles of physics presented in qualitative and semiquantitative fashion from a mature point of view. Topics covered will include mechanics, heat and sound, thermodynamics, optics, electricity and magnetism, and selected topics in contemporary physics. Prerequisite: permission of instructor.

** Available for graduate credit except for graduate majors in physics.

- *161-162. **Experimental Research Methods.** (1, 1) Green, Katzenstein, Leavitt, Regener, Skabelund
Advanced laboratory work. Prerequisite: permission of instructor.
- *163-164. **Experimental Research Methods.** (2, 2) Green, Katzenstein, Leavitt, Regener
Advanced laboratory work. Prerequisite: permission of instructor.
- *166. **Methods of Theoretical Physics.** (3) Skabelund, Thomas
Problems of diffusion, heat conduction, wave motion and potential theory. Prerequisite: permission of instructor. (Offered in Semester II every year.)
- *191. **Contemporary Physics.** (3) Green, Leavitt, Regener, Skabelund, Thomas
The theory of special relativity; early quantum theory with applications to specific heats and to atomic and molecular spectra. (Offered every year.)
- *192. **Contemporary Physics.** (3) Green, Leavitt, Regener, Skabelund, Thomas
An introduction to wave mechanics, to nuclear physics and to cosmic radiation. (Offered every year.)
- *193L-194L. **Contemporary Physics Laboratory.** (2, 2) Bryant, Green, Katzenstein, 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. Prerequisite: permission of instructor.
- *199. **Seminar.** (1 hr. each semester) Froman, Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *203. **Classical Mechanics.** [Advanced Mechanics.] (3) Elsasser, Green, Katzenstein
Lagrangian dynamics; theory of oscillations; Hamiltonian theory. (Offered in Semester I every year.)
- *205. [201] **Statistical Mechanics and Thermodynamics.** (3) Elsasser, Katzenstein, Thomas
Classical and quantum statistics with applications to molecules and elementary particles. Pre- or corequisite: 203. (Offered 1961-62 (II) and alternate years.)
- *211. **Electrodynamics.** (3) Green, Katzenstein, Thomas
Maxwellian theory of fields; electromagnetic radiation. (Offered 1962-63 (I) and alternate years.)
- *212. **Advanced Electrodynamics.** [Electrodynamics]. (3) Green, Katzenstein, Thomas
Covariant form of field equations; classical theory of electrons. Prerequisite: 211. (Offered occasionally.)
- *221. **Quantum Mechanics.** (3) Elsasser, Katzenstein, Thomas
Uncertainty relations; potential wells and barriers; hydrogen atom; matrix mechanics; perturbation theory. Prerequisite: 203. (Offered in Semester II every year.)
- *222. **Advanced Quantum Mechanics.** [Quantum Mechanics]. (3) Elsasser, Katzenstein, Thomas
Relativistic wave equation; quantization of the radiation field; selected topics in corpuscular interactions. Prerequisite: 221. (Offered 1961-62 (I) and alternate years.)
- *223. **Topics of Quantum Field Theory.** (3) Thomas
Boson and Fermion fields; covariant commutation laws, the S-matrix and Feynman graphs. Prerequisite: 222. (Offered occasionally.)
- *231. **Atomic Structure.** (3) Green, Katzenstein, Skabelund, Thomas
Quantum theory of one-electron and multi-electron systems; resonance interactions. Prerequisite: 221. (Offered occasionally.)
- *233. **Solid State Physics.** (3) Elsasser
Structure and properties of crystal lattices; insulators and electronic conductors; semiconductors. Prerequisite: 221 or permission of instructor. (Offered 1962-53 (II) and alternate years.)
- *240. **Nuclear Physics.** (3) Green, Leavitt
Nuclear transmutations; fission; neutron physics; high-energy interactions and elementary particles; cosmic rays; modern experimental techniques. Prerequisite: permission of instructor. (Offered 1961-62 (II) and alternate years.)
- *241. **Theoretical Nuclear Physics.** (3) Green, Leavitt, Thomas
Binding energies; scattering; photo-disintegration; compound nuclei; theory of alpha and beta decay; nuclear forces. Prerequisite: 221. (Offered 1962-63 (I) and alternate years.)

- *251-252. **Problems.** (2-4 each semester) Green, Katzenstein, Leavitt, Regener, Thomas
- *266. [206] **Advanced Methods of Theoretical Physics.** (3) Skabelund, Thomas
Prerequisite: permission of instructor. (Offered occasionally.)
- *299. **Advanced Seminar.** (1-3 each semester) Elsasser, Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *300. **Master's Thesis.** (6) Froman, Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *350. **Research.** (6-12) Elsasser, Green, Leavitt, Regener, Thomas
- *400. **Dissertation.** Elsasser, Froman, Green, Leavitt, Regener, Thomas

PORTUGUESE

See Modern and Classical Languages.

PSYCHOLOGY

Professors G. M. Peterson (Chairman), R. D. Norman; Associate Professor D. T. Benedetti¹; Assistant Professors H. C. Ellis, R. M. Morgan, E. G. Nolan, G. D. Jensen.

MAJOR STUDY

For the degree of Bachelor of Arts: 30 hours in Psychology, including 80 and 170. The program will include at least 1 upper division laboratory course.

For the degree of Bachelor of Science: 30 hours in psychology, including 80 and 196. Of these 30 hours, 4 hours must be taken from among the following courses: 121L, 122L, 125L, 193L, and 196L. The minor must be selected from one of the following departments: Biology, Chemistry, Mathematics, or Physics.

MINOR STUDY

18 hours in Psychology, of which at least 6 hours must be in courses numbered above 100.

- 1L-2L. **General Psychology.** (3, 3) Yr.
Credit suspended for 1L until 2L is completed. 1L is prerequisite to 2L. 2 lectures, 2 hrs. lab.
- 51. **General Psychology.** (3)
An introductory course. Not open to those who have credit for 2L.
- 52. **Fields and Methods.** (3) Morgan
Prerequisite: 2L or 51.
- 60. **The Psychology of Adjustment.** (3) Benedetti
The principles of adjustment and mental hygiene will be stressed. Prerequisite: 2L or 51.
- 80. **Statistical Methods in Psychology.** (3) Morgan
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *101. **Social Psychology.** (3) Nolan
The behavior of individuals as influenced by other human beings. Prerequisite: 2L or 51.
- *102. **Psychology of Personality.** (3) Benedetti, Ellis, Norman
An advanced course in theories, genetic development, and measurement of personality. Prerequisite: 2L or 51.
- *103. **Abnormal Psychology.** (3) Benedetti, Norman
Prerequisite: 60 or permission of instructor.

¹ On sabbatical leave Sem. II, 1961-62.

- *110. **Educational Psychology.** (3) Ellis, Jensen, Morgan
Prerequisite: 2L or 51.
- *111. **Child Psychology.** (3) Jensen, Nolan
The principles of human behavior in infancy and childhood. Prerequisite: 2L or 51.
- *112. **Adolescent Psychology.** (3) Jensen, Nolan
Development and problems during the adolescent period. Prerequisite: 2L or 51.
- *113. **The Psychology of Exceptional Children.** (3) Jensen, Nolan, Norman
Prerequisite: 2L or 51.
- *114. **Mental Deficiency and Retardation.** (3) Nolan, Norman
The biological, psychological, and cultural factors relating to mental subnormality. Prerequisites: 2L or 51, 113.
- *121L. **Experimental Psychology.** (3) Ellis
Sensory and perceptual processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- *122L. **Experimental Psychology.** (3) Ellis
Learning processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- *125L. **Experimental Social Psychology.** (3) Nolan
Laboratory study of the role of social factors in influencing psychological processes. Prerequisites: 80, 101. 2 lectures, 4 hrs. lab.
- *131. **Psychological and Educational Tests.** (3) Jensen, Nolan, Norman
Problems related to mental measurement; review of various types of tests and their practical applications. Prerequisites: 2L or 51, 80.
- *151. **Engineering Psychology.** (3) Morgan
Problems arising from man-machine relationships. Prerequisite: 2L or 51.
- *158. **Industrial Psychology.** (3) Morgan
Prerequisite: 2L or 51.
- *170. **History of Psychology.** (3) Benedetti, Peterson
Prerequisite: 2L or 51.
- *180. **Advanced Statistics.** (3) Jensen, Morgan
Multiple and partial correlation, multivariate analysis, non-parametric methods, factor analysis. Prerequisite: 80 or equivalent.
- *193. **Animal Psychology.** (3) Peterson
A comparative study of heredity, maturation, learning, and the higher mental processes as revealed in various animals. Prerequisite: 2L or 51.
- *193L. **Animal Psychology Laboratory.** (2) Peterson
6 hrs. lab.
- *196. **Physiological Psychology.** (3) Peterson
Correlation of behavior and structure, with emphasis on the nervous system. Prerequisite: 2L or 51.
- *196L. **Physiological Psychology Laboratory.** (2) Peterson
6 hrs. lab.
- 197. **Readings in Psychology.** (1-2 hours per semester to a maximum of 6.)
Independent reading in a particular field of psychology, accompanied by conference and followed by an integrated report covering material read. Prerequisite: 2L or 51.
- 199. **Undergraduate Problems.** (1-3)
Prerequisite: 2L or 51.
- *201. **Advanced Social Psychology.** (3) Nolan
Prerequisites: 80, 101.
- *221. **Experimental Design.** (3) Ellis, Peterson
- *230. **Introduction to Projective Techniques.** (3) Norman
Prerequisite: 103.
- *232L. **Individual Mental Testing.** (3) Nolan, Norman
Practical laboratory study and discussion of Binet and Wechsler tests. Prerequisite: 80, 131.

- *251-252. **Problems.** (2-3 each semester) Benedetti, Ellis, Morgan, Nolan, Norman, Peterson
- *258. **Advanced Industrial Psychology.** (3) Morgan
Prerequisites: 80, 158, or permission of instructor.
- *270. **Psychology of Thinking.** (3) Benedetti
- *272. **Theories of Learning and Psychological Systems.** (3) Ellis, Jensen
- *275. **Psychoanalytic Theory.** (3) Benedetti, Norman
Prerequisite: 103.
- *296. **Advanced Physiological Psychology.** (3) Peterson
Prerequisite: 196.
- *300. **Master's Thesis.** (6) Benedetti, Ellis, Jensen, Morgan, Nolan, Norman, Peterson
- *400. **Dissertation.** Benedetti, Ellis, Jensen, Morgan, Nolan, Norman, Peterson

RECREATION

See Education, Health, Physical Education and Recreation.

RUSSIAN

See Modern and Classical Languages.

SECONDARY EDUCATION

See Education, Secondary.

SOCIAL SCIENCE

1. **Introduction to Social Science.** (3)
An introduction to those elements of thought and method common to all of the social sciences.
2. **Introduction to Social Science: Economics or Government or Sociology.** (3)
(Same as Economics 2, Government 2, Sociology 2.)

SOCIOLOGY

Professor P. A. F. Walter, Jr.; Associate Professor D. W. Varley (Chairman); Assistant Professors T. T. Sasaki, C. E. Woodhouse.

MAJOR STUDY

30 hours in Sociology courses, 18 hours of which must be above 100, and including courses 55, 56, 102 and 190.

MINOR STUDY

18 hours in Sociology courses of which 12 must be above 100.

1. **Introduction to Social Science.** (3) Walter, Woodhouse
(Same as Social Science 1.) No credit toward Sociology major or minor.
2. **Introduction to Social Science: Sociology.** (3) Walter, Woodhouse
An application to sociology of the elements of thought and method common to the social sciences. No credit toward Sociology major or minor. Prerequisite: 1.
55. **Principles of Sociology.** (3) Sasaki, Varley, Walter, Woodhouse
Prerequisite to most other courses in the Department.

56. **Social Problems.** (3) Varley, Walter
Prerequisite: 55 or equivalent.
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: 55 or equivalent.
73. **Introduction to Latin America.** (3) Jorrín
(Same as Economics 73, and Government 73.) Does not give credit toward a Sociology major or minor.
75. **The Family.** (3) Woodhouse
Prerequisite: 55 or equivalent.
82. **Urban and Rural Sociology.** (3) Sasaki
Prerequisite: 55 or equivalent.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *102. **Collective Behavior.** (3) Sasaki, Walter
Prerequisite: 55 or equivalent.
- *109. **Criminology.** (3) Walter
Crime as a social phenomenon. Prerequisite: 55 or equivalent.
- *110. **Juvenile Delinquency.** (2) Walter
Prerequisite: 55 or equivalent.
111. **Social Problems of Latin America.** (3) Jorrín
Does not give credit toward a Sociology major or minor. Prerequisite: 73 or equivalent.
- *115. **Probation and Parole.** (2) Walter
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: 109 or 110.
- *117. **Social Problems of New Mexico.** (3) Walter
- *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: 55 or equivalent.
- *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, technological innovation, and cultural diffusion. Theories of social change will be critically analyzed. Prerequisite: 55 or equivalent.
- *150. **Industry and Society.** (3) Sasaki, Walter
Prerequisite: 55 or equivalent.
- *154. **Race and Cultural Relations.** (3) Sasaki, Walter
Prerequisite: 55 or equivalent.
- *160. **Sociology of Industrial Relations.** (3) Sasaki, Walter
The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 55 or equivalent.
- *163. **History of Social Thought.** (3) Walter, Woodhouse
Prerequisite: 55 or equivalent.
- *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: 55 or equivalent.
- *181. **Society and Personality Development.** (3) Sasaki
The interaction of personality, the social structure and ideologies; the integration of contributions from various behavior sciences based primarily on contemporary psychiatric theory. Prerequisite: 55 or equivalent.

- *190. **Current Theory and Methods in Sociology.** (2) Sasaki, Varley, Walter
Prerequisite: 55 or equivalent.
- *195. **Population Problems.** (3) Varley, Walter
Prerequisite: 55 or equivalent.
- ***American Studies 201. Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Bunting, Dabney, McMurray, G. Smith, Tedlock, Walter
(Same as American Studies 201.)
- *241. **Seminar: Social Organization.** (3) Walter
- *242. **Seminar: Social Processes.** (3) Sasaki, Walter
- *243. **Seminar: Social Control.** (3) Woodhouse
- *244. **Seminar: Human Ecology.** (3) Varley
- *300. **Master's Thesis.** (6) Sasaki, Varley, Walter, Woodhouse

SPANISH

See Modern and Classical Languages.

SPEECH

Professor W. C. Eubank (Chairman); Associate Professors E. W. Bundy, F. M. Christ, C. B. Owens, K. R. St. Onge.

MAJOR STUDY

36 hours in Speech including 1 and 2 (or equivalent), 51, 60, 80, 91 or 154, 101, 170, 195 and 198.

All students majoring or minoring in Speech must take a Speech Placement Test and must make a speech and voice recording.

SPEECH MAJOR WITH EMPHASIS IN TELEVISION-RADIO. 42 hours completed in the Departments of Speech and Dramatic Art. Required Speech courses: 1, 2, 51, 60, 65, 80, 101, 170, 198 and 6 hours selected from 165, 166, and 180. Required Dramatic Art courses: 52 and 6 hours selected from 89, 152, and 161.

SPEECH MAJOR WITH EMPHASIS IN SPEECH CORRECTION. 42 hours in the Department of Speech: 1, 2, 51, 60, 80, 85, 91 or 154, 101, 121, 130, 135, 136, 170, 195 or 198. Additionally recommended: Psychology 1 and 2 (or 51), 60, and 111. 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 1, 2, 60, 80 and 170.

1-2. **Fundamentals of Speech.** (3, 3)

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.

3. **Speech Improvement.** (3) Christ, St. Onge

Articulation, voice and language problems in formal and informal speech situations. 2 lectures, 2 hrs. lab.

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.
50. **Parliamentary Procedure.** (1) Eubank, Owens
Study and practice of the rules governing the proceedings of groups and deliberating assemblies.
51. **Introduction to Radio and Television.** (3) Bundy
Lecture-laboratory course in the history and development of radio and television emphasizing the responsibility of broadcast in a free society; practice in the use of broadcast equipment and techniques necessary to prepare the student for further study in the field of radio and television. Prerequisite: permission of instructor.
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 1 and 2, and not 55. Credit will not be allowed for both 1 and 55. Students having completed 55 may take 105.
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: 1 or 55.
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: 60.
65. **Production Procedures in Radio and Television.** (3) Bundy
Lecture-laboratory course in the production of less complex types of programs (excluding radio and television drama). Theory, methods, and tools of production will be studied. Prerequisite: 51 or permission of instructor.
- 77-78. **Discussion and Debate.** (3, 3) Eubank, Owens
Prerequisite: for 77: permission of instructor; for 78: 77 or permission of instructor.
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.
85. **Introduction to Speech Correction.** (3) Chreist, St. Onge
Nature, diagnosis, and treatment of speech disorders. Prerequisite: 80 or permission of instructor.
91. **History of the English Language.** (3) Kuntz, Pearce
(Same as English 91.)
- *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.
- *105. **Advanced Public Speaking.** (3) Eubank, Owens
Rhetorical principles combined with construction and delivery of various forms of public address. Prerequisites: 1 and 2 or 55 or permission of instructor.
- *121. **Pathologies of Hearing.** (3) Chreist
Principles of diagnosis of hearing problems and of teaching the acoustically handicapped to speak. Prerequisite: 85 or permission of instructor.
- *130. **Speech Correction in the Schools.** (3) Chreist, St. Onge
An introduction to types of speech and hearing problems found in the schools. Recognition of the problem is emphasized. Sources of remedial assistance for those students needing help are discussed. Methods of therapy and sources of information available to teachers in the elementary and secondary schools are stressed. Prerequisite: permission of instructor.
- *135. **Pathological Problems in Speech Correction.** (3) Chreist, St. Onge
Problems of speech including those of articulation and voice; survey of recent research and rehabilitation work in conditions of cleft palate, cerebral palsy, and aphasia. Laboratory work required. Prerequisite: 85 or permission of instructor.
- *136. **Stuttering Problems in Speech Correction.** (3) Chreist, St. Onge
The various theories of stuttering and other rhythmic disorders as well as corrective therapies will be studied. Prerequisite: 85 or permission of instructor.

- *154. **The Nature of Language.** (3) Newman
(Same as Anthropology 154.)
- *165. **Broadcast Programming and Policy.** (3) Bundy
Principles of television and radio programming; analysis of programming practices; regulations governing broadcasting; responsibilities of broadcasters. Prerequisites: 51 and permission of instructor.
- *166. **Television and Radio Writing.** (3) Bundy
Semi-documentary and documentary techniques emphasizing educational objectives. Prerequisites: 65 (or equivalent) and permission of instructor.
- *170. **Speech Activities in the Schools.** (3) Eubank
For teachers in the elementary and secondary schools. Prerequisite: permission of instructor.
- *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.
- *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: 1, 2, 77, or permission of instructor.
- *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: 1, 2, 77, or permission of instructor.
- *198. **Persuasion.** (3) Eubank, Owens
An advanced course open to students with senior classification or graduate standing. Consideration will be given such topics as arresting and holding attention, audience and crowd behavior, leadership, propaganda devices, barriers to motivation, social consciousness, suggestion, primary drives and motivation. Prerequisite: permission of instructor.
- *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.
- *220. **Seminar in Television and Radio.** (3) Bundy
- *230. **Advanced Speech Pathology.** (3) Christ, St. Onge
The less common types of speech and hearing problems which require clinical treatment. Aphasia, esophageal speech problems, speech for the hard of hearing and deaf, and lip reading are discussed. The work of the speech pathologist in the clinic is emphasized.
- *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).
- *251-252. **Problems.** (2-3 each semester) Bundy, Christ, Eubank, Owens, St. Onge
- *300. **Master's Thesis.** (6) Bundy, Christ, Eubank, Owens, St. Onge

STATISTICS

*ENROLLMENT FOR 1960-61

	Men	Women	Total
Semester I, 1960-61	5264	2331	7595
Semester II, 1960-61	4662	2143	6805
Summer Session, 1960 (including workshops)	1391	1169	2560

SUMMARY OF DEGREES CONFERRED 1901-1960

Bachelor's	Earned Degrees			Total Earned Degrees	Honorary Degrees
	Master's	Law	Doctor's		
10,867	2,242	214	123	13,446	76

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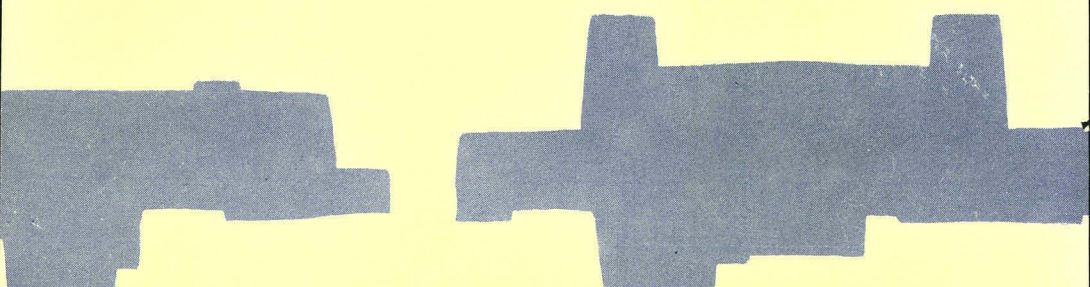
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