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 Law credits), CALENDAR, REGISTRATION, ACADEMIC MATTERS

Director of Admissions

ADMISSIONS (other than Graduate School and Law School) Director of Admissions

GRADUATE SCHOOL (Admission and General Information) Dean of the Graduate School

SCHOOL OF LAW (Admission and General Information) Dean of the School of Law

SCHOOL OF MEDICINE Dean of the School of Medicine

SUMMER SESSION Director of the Summer Session

ANTHROPOLOGY FIELD SESSION Chairman of the Department of Anthropology

APPLICATIONS FOR FIELD SESSIONS Director of Admissions

EVENING CREDIT COURSES Director of the Community College

HOUSING INFORMATION—DORMITORIES AND MARRIED HOUSING Housing Director

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

PEACE CORPS INFORMATION Peace Corps Training Center

EXPENSES Comptroller

CORRESPONDENCE AND EXTENSION COURSES Extension Division

STUDENT AFFAIRS Director of Student Affairs

PERSONAL WELFARE Dean of Women or Dean of Men

VOCATIONAL ADVISEMENT, COUNSELING, TESTING Counseling and Testing Services

GIFTS, GRANTS AND BEQUESTS Director of Development

University office hours are, in general, 8:00 to 12:00 and 1:00 to 5:00 Monday through Friday. The Information desk of the Office of Admissions and Records, Room 102, Administration Building is also open 8:00 to 12:00 Saturday. Office hours of the University Cashier are 9:00 to 12:00 and 1:00 to 3:30 Monday through Friday. Administrative offices are open during most of the days of the official student Recess periods.
CALENDAR
1964-65 Academic Year

1964 SUMMER SESSION

New Student Tests and Instructions ....................... June 18, Thu.-June 19, Fri.
Registration ............................................. June 20, Sat.
Instruction begins; late registration fee applies .... June 22, Mon.
Registration closes; last day for additions to programs; change of program fee applies ............. June 26, Fri., 5 p. m.
End of Second Week; last day for withdrawal from course without grade ......................... July 3, Fri., 5 p. m.
Session ends ............................................. Aug. 14, Fri., 10 p. m.

SEMESTER I, 1964-65

New Student Testing and Orientation Period .......... Sept. 6, Sun.-Sept. 9, Wed.
Assembly for New University College Students ........ Sept. 6, Sun., 7:30 p. m.
Tests for New University College Students ............ Sept. 7, Mon., 8 a. m.
Tests for All Other New Undergraduates ............... Sept. 8, Tues., 8 a.m.
Orientation for New University College Students ..... Sept. 8, Tues.-Sept. 9, Wed.
Orientation for All Other New Undergraduates ......... Sept. 9, Wed.
Advisement and Registration for All Students ........ Sept. 10, Thu.-Sept. 12, Sat.
Instruction begins; late registration fee applies ..... Sept. 14, Mon.
Registration closes; last day for additions to programs; change of program fee applies .......... Sept. 26, Sat. noon
End of fourth week; last day for withdrawal from course without grade ..................... Oct. 9, Fri., 5 p. m.
NMEA Convention, recess begins ....................... Oct. 21, Wed., 10 p. m.
Classes resume ........................................... Oct. 26, Mon., 7:30 a.m.
Midsemester; deadline for faculty grade reports for first half of Fall semester ............... Nov. 7, Sat. noon
Homecoming, holiday .................................... Nov. 14, Sat.
Thanksgiving recess begins ............................. Nov. 25, Wed., 10 p. m.
1964-65 Calendar (Cont.)

1964

Classes resume ........................................... Nov. 30, Mon., 7:30 a. m.

End of twelfth week; last day for removal
of Incomplete grade; last day for withdrawal
from course without College approval .......... Dec. 12, Sat. noon

Christmas recess begins .................................. Dec. 19, Sat., 10 p. m.

1965

Classes resume ............................................. Jan. 4, Mon., 7:30 a. m.

*Closed Period ............................................ Jan. 11, Mon.-Jan. 23, Sat.

*Pre-Examination Week ................................... Jan. 11, Mon.-Jan. 17, Sun.

*Semester Final Examinations .......................... Jan. 18, Mon.-Jan. 23, Sat.

Semester ends ............................................ Jan. 23, Sat., 10 p. m.

SEASONAL II, 1964-65

1965

New Student Testing and Orientation Period:

Assembly for All New Undergraduates ............... Jan. 26, Tues., 7:30 p. m.

Tests for All New Undergraduates ..................... Jan. 27, Wed., 8 a. m.

Orientation for All New Undergraduates .............. Jan. 28, Thu.-Jan. 29, Fri.

Advisement and Registration for All Students .... Feb. 1, Mon.-Feb. 2, Tues.

Instruction begins; late registration fee applies .... Feb. 3, Wed.

Registration closes; last day for additions
to programs; change of program fee applies ........ Feb. 16, Tues., 5 p. m.

End of fourth week; last day for withdrawal
from course without grade ......................... Mar. 2, Tues., 5 p. m.

Midsemester; deadline for faculty grade
reports for first half of Spring semester .......... Mar. 30, Tues., 5 p. m.

Spring recess begins ................................. Mar. 30, Tues., 10 p. m.

Classes resume .................................. Apr. 7, Wed., 7:30 a. m.

Honors Assembly ..................................... To be arranged

End of twelfth week; last day for removal of
Incomplete grade; last day for withdrawal
from course without College approval .......... May 4, Tues., 5 p. m.
1964-65 Calendar (Cont.)

Fiesta Day, holiday ........................................... To be arranged

*Closed Period .............................................. May 19, Wed.-June 1, Tues.

*Pre-Examination Week ................................. May 19, Wed.-May 25, Tues.

*Semester Final Examinations .................. May 26, Wed.-June 1, Tues.

Deadline for Faculty Grade Reports for
   Graduating Seniors ................................. May 26, Wed., 9 a. m.

Semester ends ............................................. June 1, Tues., 10 p. m.

Commencement ............................................ June 4, Fri., 7:30 p. m.

*Pre-Examination Week and Semester Final Examination Week are closed to extra-
curricular and social campus activities.
Whole Number 522, Catalog Series
Volume 76, No. 6
May, 1963

Published by The University of New Mexico, Albuquerque, New Mexico, six times a year—one in January, once in March, twice in May, once in September and once in December—with two additional issues in June and one in November during the even years and one in August during the odd years. Entered as second-class matter, May 1, 1906, at the Post Office at Albuquerque, New Mexico under the act of Congress of July 16, 1894.
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ACADEMIC CALENDAR

1963 SUMMER SESSION 1963

New Student Tests and Instructions ........................................ June 20, Thu.-June 21, Fri., 8 a.m.
Room 101, Anthropology Bldg.

Registration ................................................................. June 22, Sat.

Instruction begins; late registration fee applies ......................... June 24, Mon.

Registration closes; last day for additions to programs; change of program fee applies ................. June 28, Fri., 5 p.m.

Independence Day, holiday ............................................... July 4, Thu.

End of second week; last day for withdrawal from course without grade ........................................ July 5, Fri., 5 p.m.

End of sixth week ...................................................... Aug. 2, Fri., 5 p.m.

Session ends .............................................................. Aug. 16, Fri., 10 p.m.

1963 ANTHROPOLOGY-FIELD SESSION

Registration ................................................................. June 22, Sat.

Move to El Rito headquarters .......................................... June 23, Sun.

Field Session ends ...................................................... Aug. 3, Sat.

DEADLINE FOR FILING OF ADMISSION APPLICATIONS
AND CREDENTIALS FOR FALL SEMESTER .............................. Aug. 15, Thu.

SEMESTER 1, 1963-64

New Student Tests—for students in the
Albuquerque area ............................................................... Aug. 28, Wed., or Aug. 31, Sat., or
Sept. 3, Tues., 8 a.m., Room 101, Anthropology Building

New Student Testing and Orientation Period:
Assembly for New University College Students ......................... Sept. 8, Sun., 7:30 p.m.,
Johnson Gymnasium

Tests for New University College Students .......................... Sept. 9, Mon., 8:00 a.m.
Tests for All Other New Undergraduates .............................. Sept. 10, Tues., 8:00 a.m.
Orientation for New University College Students .................. Sept. 10, Tues.-Sept. 11, Wed.
Orientation for All Other New Undergraduates ..................... Sept. 11, Wed.

Preregistration processing (supplies and records)
for all AFROTC students, both old and new, ......................... Sept. 10, Tues.-Sept. 11, Wed.
Building Y-1

Preregistration processing for new NROTC students, Stadium Building ........................................ Sept. 9, Mon.-Sept. 11, Wed.

Advisement and Registration for all students ............. Sept. 12, Thu.-Sept. 14, Sat.

Instruction begins; late registration fee applies .................. Sept. 16, Mon.

Registration closes; last day for additions to programs; change of program fee applies ................ Sept. 23, Sat. noon

End of fourth week; last day for withdrawal from course without grade .................................. Oct. 11, Fri., 5 p.m.

NMEA Convention, recess begins .................................. Oct. 23, Wed., 10 p.m.
Classes resume ............................................................. Oct. 28, Mon., 8 a.m.

Midsemester; deadline for faculty grade reports for first half of Fall semester ...................... Nov. 9, Sat. noon

Homecoming, holiday ................................................... Nov. 16, Sat.

Thanksgiving recess begins ............................................ Nov. 27, Wed., 10 p.m.
Classes resume ............................................................. Dec. 2, Mon., 8 a.m.

End of twelfth week; last day for removal of incomplete grade ........................................... Dec. 14, Sat. noon

Christmas recess begins ................................................ Dec. 21, Sat., 10 p.m.
ACADEMIC CALENDAR

Classes resume .................................................. Jan. 6, Mon., 8 a.m.
*Closed Period ..................................................... Jan. 13, Mon.-Jan. 25, Sat.
Semester ends ..................................................... Jan. 25, Sat., 10 p.m.

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

SEMESTER II, 1963-64

New Student Tests—for students in the
Albuquerque area ............................................. Jan. 25, Sat., 8 a.m. Room 101, Anthropology Building

New Student Testing and Orientation Period:
Assembly for All New Undergraduates ........................ Jan. 28, Tues., 7:30 p.m.
Tests for All New Undergraduates .............................. Jan. 29, Wed.
Advisement and Registration for all students ............... Feb. 3, Mon.-Feb. 4, Tues.
Instruction begins; late registration fee applies .......... Feb. 5, Wed.
Registration closes; last day for additions
and changes of programs; change of program fee applies Feb. 13, Tues., 5 p.m.
End of fourth week; last day for withdrawal
from course without grade ................................... Mar. 3, Tues., 5 p.m.
Midsemester, deadline for faculty grade
reports for first half of Spring semester ...................... Mar. 31, Tues., 5 p.m.
Spring recess begins ........................................... Mar. 31, Tues., 10 p.m.
Classes resume .................................................. Apr. 8, Wed., 8 a.m.
Honors Assembly .................................................. Apr. 22, Wed., 10-12 a.m.
End of twelfth week; last day for removal
of Incomplete grade ........................................... May 5, Tues., 5 p.m.
Fiesta Day, holiday ............................................. May 16, Sat.
*Closed Period ..................................................... May 20, Wed.-June 2, Tues.
*Pre-Examination Week ......................................... May 20, Wed., May 26, Tues.
*Semester Final Examinations ................................. May 27, Wed.-June 2, Tues.
Semester ends ..................................................... June 2, Tues., 10 p.m.
Commencement ..................................................... June 5, Fri., 7:30 p.m.

1964 SUMMER SESSION

Registration (probable date) ................................. June 20, Sat.
Instruction begins (probable date) ......................... June 22, Mon.

*Pre-Examination Week and Semester Final Examination Week 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 freshmen programs but is not a degree-granting college. The degree colleges to which students may transfer, if eligible, after completion of the freshman year are: Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Nursing, and Pharmacy. The Graduate School 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 may or may not be required for his particular degree.

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

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

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

NEW STUDENT . . . one who is registering for the first time in The University of New Mexico or for the first time in its Graduate School or its 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.
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Retired effective October 1, 1962.
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1 On sabbatical leave for the year.

Second semester only.

First semester only.

On leave for the year.
HARRY WETHERALD BASEHART, M.A., Ph.D., Harvard University. Professor of Anthropology. Co-editor of the Southwestern Journal of Anthropology.

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HOWARD J. DITTMER, B.A., M.A., University of New Mexico; Ph.D., State University of Iowa. Professor of Biology, Administrative Assistant to the Dean of the College of Arts and Sciences.

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ROGER CHARLES ENTRINGER, B.S., State University of Iowa; M.S., University of New Mexico. Instructor in Mathematics.

AHMED ERTEZA, B.S., M.S., Calcutta University; M.S.E.E., E.E., Stanford University; Ph.D., Carnegie Institute of Technology. Associate Professor of Electrical Engineering.

WAYNE C. EUBANK, B.S., West Texas State College; M.A., Northwestern University; Ph.D., Louisiana State University. Professor of Speech, Chairman of the Department of Speech.

MELBOURNE GRIFFITH EVANS, B.A., Reed College; M.A., Ph.D., University of California. Associate Professor of Philosophy.

ZUHDI TAJI FARUKI, B.A., American University, Beirut, Lebanon; M.A., Ph.D., Indiana University. Instructor in Philosophy.

JACK DEAN FERGUSON, B.A., Long Beach State College; M.A., University of New Mexico. Instructor in Speech (Part-time).

WILLIAM CARL FIEDLER, B.S., M.S., Ph.D., Purdue University. Associate Professor of Pharmacy.

JIM LAWRENCE FIFE, B.A., Westminster College; M.A., State University of Iowa. Instructor in English (Part-time).

JAMES SMITH FINDLEY, B.A., Western Reserve University; Ph.D., University of Kansas. Associate Professor of Biology.

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. Dean of the College of Business Administration, Associate Professor of Business Administration.

REGINALD HEBER FITZ, B.A., M.D., Harvard University. Dean of the School of Medicine, Professor of Medicine.

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

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

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

WALLACE EDMUNDT FRANCK, JR., B.S., Louisiana State University; M.S., University of New Mexico. Instructor in Mathematics (Part-time).

JAMES TROY FRANKLIN, B.S., M.S., University of Texas. Instructor in Health, Physical Education, and Recreation (Part-time).

HARVEY FRAUNGLASS, B.A., University of Chicago; M.F.A., University of Iowa. Instructor in English (Part-time).

KURT FREDERICK, Graduate of the State Academy of Music and State College of Music in Vienna; B.S., University of New Mexico; M.Mus., Ph.D., University of Rochester. Professor of Music.

MORRIS FREEDMAN, B.A., City College of the City of New York; M.A., Ph.D., Columbia University. Associate Professor of English.

WILLIAM ROGERS GAFFORD, B.S., University of New Mexico; M.S., University of Texas. Associate Professor of Civil Engineering. Special Adviser in the University College.

WALTER ALVIN GATHMAN, B. Arch., Yale University. Lecturer in Architecture (Part-time).

BRUNO GEBA, Diploma, National Institute for Physical Education (Vienna); Absolutorium, University of Vienna. Assistant Professor of Health, Physical Education, and Recreation. Director of Student-Faculty Recreation and Intramurals.

FRANK C. GENTRY, B.A., M.A., University of Oklahoma; Ph.D., University of Illinois. Professor of Mathematics.

First semester only.

On leave for the year.
FITZGERALD ADOLPHUS GERARD, B.A., M.A., Ph.D., University of London. Professor of Mechanical Engineering.


EVA ISRAEL GLAESE, B.A., University of New Mexico; M.A., Syracuse University. Assistant Professor of Business Administration.

HERBERT JULIUS GOLDMAN, B.F.A., University of New Mexico. Visiting Artist (Part-time).

RUDYARD BYRON GOODE, B.A., Davis-Elkins College; M.A., Ph.D., University of Virginia. Associate Professor of Business Administration.

BURTON LeROY GORDON, B.A., San Francisco State College; Ph.D., University of California. Associate Professor of Geography, Chairman of the Department of Geography.

CHARLES THERON GRACE, B.S.M.E., University of Colorado; M.S.M.E., University of Illinois. Professor of Mechanical Engineering, Chairman of the Department of Mechanical Engineering.

JOHN GREENFIELD GRACE, A.R.I.B.A., Bartlett School of Architecture, London University; M.A., Cambridge University. Visiting Associate Professor of Architecture.

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

GRADY JACK GRAYLIEE, B.A., Howard College; M.A., Louisiana State University. Assistant Professor of Speech.

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

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

ELAINE GERALD GREENSPAN, Ph.B., University of Chicago; B.A., Roosevelt University; M.A., University of New Mexico. Instructor in English (Part-time).

ERNEST GROVER, M.D., Friedrich Wilhelm University, Berlin. Lecturer in Physical Education (Part-time).

RONALD LLOYD GROW, B.A., M.A., University of California at Los Angeles. Instructor in Art.

MERCEDES GUGISBERG, B.S., M.S., University of Minnesota. Associate Professor of Health, Physical Education, and Recreation.

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

OSCAR EMIL HAGBERG, B.S., United States Naval Academy. Instructor in Mathematics (Part-time).

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

DAVID BOYCE HAMILTON, JR., B.A., M.A., University of Pittsburgh; Ph.D., University of Texas. Professor of Economics.

WILLIAM ROBERT HANRAHAN, B.S., Boston College; M.A., University of Wisconsin. Instructor in English.

DAVID LEE HANSON, B.S., Massachusetts Institute of Technology; M.A., Ph.D., Indiana University. Instructor in Mathematics (Part-time).

DAVID RUSSELL HARRIS, B.A., B.Litt., M.A., University of Oxford; Ph.D., University of California. Visiting Assistant Professor of Geography.

RUTH BRODERICK HARRIS, B.S., Cornell University; M.S., University of Tennessee. Assistant Professor of Home Economics.

First semester only.

On leave for the year.

Resigned effective November 21, 1962.
KENNETH LORENZO HAYNES, B.E.E., M.N.E., University of Virginia. Lecturer in Electrical Engineering (Part-time).

EDWARD HENRY HEATH, B.S., College of Idaho; M.Ed., University of Idaho. Assistant Professor of Recreation.

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.

SIMON HERMAN, B.S., M.S., Ph.D., Wayne State University. Associate Professor of Business Administration.

FRANK CUMMINGS HIBBEN, B.A., Princeton University; M.S., University of New Mexico; Ph.D., Harvard University. Professor of Anthropology, Director of the Museum of Anthropology.

RICHARD CHARLES HILDNER, B.S., College of Wooster; M.A., Ph.D., Ohio State University. Visiting Lecturer in Mathematics (Part-time).

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, Adviser to Graduate Students in Technical Development Program.

ANNE BAIL HOWARD, B.A., University of Colorado; M.A., University of New Mexico. Instructor in English.

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).

CLINTON F. HURLEY, JR., B.S., Abilene Christian College; M.A., Ph.D., University of New Mexico. Instructor in English (Part-time).

MARIAN ELIZABETH HURLEY, B.A., University of New Mexico. Instructor in English (Part-time).

RICHARD GEORGE HUZARSKI, B.S.C.E., University of Wisconsin; M.S., Texas Technological College. Professor of Civil Engineering.

MARGARET ANN IDEN, B.S., M.A., Ohio State University. Instructor in Health, Physical Education, and Recreation (Part-time).

HELEN MOYER INGRAM, B.A., Oberlin College. Lecturer in Government.

FREDERICK CLARENCE IRION, B.J., B.A., University of Missouri; M.A., University of Wisconsin; Ph.D., Syracuse University. Associate Professor of Government, Director of the Division of Government Research.

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

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

First semester only.

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. Associate Professor of Nursing.

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

ROBERT LELAND JOHNS, Lieutená (J.G.) U.S.N.; B.S., University of Mississippi. Assistant Professor of Naval Science.

ELIZABETH SELMA JOHNSON, B.S., Los Angeles State College; M.S., University of California at Los Angeles. Instructor in Nursing.

GARY DON JOHNSON, B.S., Stanford University; M.A., University of California at Los Angeles. Instructor in Mathematics (Part-time).

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

KENT HOOVER JONES, B.S., Ph.D., University of New Mexico. Visiting Assistant Professor of Chemistry (Part-time).

EDWARD LOREN JORDAN, B.S.E.E., University of Arkansas; M.S.E.E., University of Kansas. Associate Professor of Electrical Engineering.

MIGUEL JORRIN, B.A., Colegio “De la Salle”; Dr.Pub.Law, Dr.Civ.Law, Universidad de la Habana. Professor of Government and Modern Languages.

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

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

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

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

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

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

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

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


FRANCIS MONROE KERCHEVILLE, B.A., Abilene Christian College; M.A., Ph.D., University of Wisconsin; Certificat, Université de Paris (Sorbonne). Professor of Modern Languages.

HENRY LEOPOLD KIL, B.P.E., DePaul University. Lecturer in Physical Education (Part-time).

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

STEPHEN IRA KLASS, B.A., Harvard University; M.A., Yale University. Instructor in English.

8 Second semester only.
8 On sabbatical leave second semester.
1 On sabbatical leave for the year.
JANE KLUCKHOHN, B.A., University of Wisconsin; M.A., University of New Mexico. Assistant Professor of English.

WELLINGTON WESLEY KOEPSEL, B.S., M.S., University of Texas; Ph.D., Oklahoma State University. Associate Professor of Electrical Engineering, Adviser to Graduate Students in Technical Development Program.

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, Acting Chairman of the Department of Electrical Engineering.

WILLIAM JACOB KOSTER, B.S., Ph.D., Cornell University. Professor of Biology.

WALTER EGLE KUHLMAN, B.A., University of Minnesota. Assistant Professor of Art.

JOSEPH MARSHALL KUNTZ, B.A., M.A., University of New Mexico; Ph.D., University of Denver. Associate Professor of English.

ENRIQUE EUFRASIO LAMADRID, B.A., Western Maryland College; M.A., New Mexico Highlands University; M.A.T.S., University of New Mexico. Instructor in Modern Languages.

JOSEPH S. LAMBERT, B.S., University of Pittsburgh; M.S., Ph.D., University of Michigan. Associate Professor of Electrical Engineering.

KARL LUDWIG LANTELME, Abitur, Augustinerschule, Frankfort. Instructor in Modern Languages.

MILDRED LATINI, B.S., Mansfield State Teachers College; M.A., Pennsylvania State University. Lecturer in Dental Programs (Part-time).

WESLEY BUIE LEACH, Instructor in Health, Physical Education, and Recreation (Part-time).

CHRISTOPHER PRATT LEAVITT, B.S., Ph.D., Massachusetts Institute of Technology. Associate Professor of Physics.

JOSEPH FRANKLIN LEONARD, B.Mus., Texas Wesleyan College; B.S., M.S., Julliard School of Music; Certificat, Ecole de Fontainebleau. Instructor in Organ (Part-time).

JAMES VERNON LEWIS, B.A., M.A., Ph.D., University of California. Associate Professor of Mathematics.

RALPH WAYNE LEWIS, B.F.A., M.A., University of New Mexico. Assistant Professor of Art.

WILLARD ELDON LEWIS, B.B.A., University of New Mexico; C.P.A. Lecturer in Business Administration (Part-time).

LESTER M. LIBO, M.A., Ph.D., Stanford University. Associate Professor of Behavioral Science.

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

JOHN EDWARD LONGHURST, B.A., Washington State University; M.A., Syracuse University; M.A. Ph.D., University of Michigan. Professor of History.

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

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

CHARLES KING LUMPIN, B.A., College of William and Mary. Instructor in English (Part-time).

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

14 On disability retirement as of August 1, 1960, but not on emeritus status.
4 On leave for the year.
8 Second semester only.
7 First semester only.
RAYMOND RALPH MacCURDY, JR., B.A., M.A., Louisiana State University; Ph.D., University of North Carolina, Professor of Modern Languages.

DAVID RONALD MARSHALL, B.S. in H. & P.E., University of New Mexico. Instructor in Health, Physical Education, and Recreation (Part-Time).

ERNST LYNNE MARTIN, B.S., New Mexico Western College; M.A., Ph.D., Indiana University. Professor of Chemistry, Director of 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., State University of Iowa. 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.

WILLIAM CLARENCE MARTIN, JR., B.S., Purdue University; M.A., Ph.D., Indiana University. Assistant Professor of Biology.

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

DAVID RONALD MARSHALL, B.S. in H. & P.E., University of New Mexico. Instructor in Health, Physical Education, and Recreation (Part-Time).

FRANCES MCGILL, B.A., Mills College; M.S., University of Washington. Assistant Professor of Health, Physical Education, and Recreation.

DONALD ALEXANDER MCKENZIE, B.A., University of New Mexico; Ph.D., Stanford University. Professor of Modern Languages.

JOHN WOOD MCMANUS, B.S., M.S., Ph.D., University of Illinois. Lecturer in Business Administration (Part-Time).

BRUCE WHITTAKER MCMULLAN, B.A., Amherst College; M.F.A., Yale University. Assistant Professor of Dramatic Art.

IMOGEAN HELENA MCMURRAY, B.S., Oklahoma College for Women; M.S., University of Tennessee. Assistant Professor of Home Economics.

DONALD CHRISTOPHER MCRAE, B.F.A., M.A., University of New Mexico. Assistant Professor of Music.

VELMA RUTH MELLOTT, B.A., Hamline University. Instructor in Dental Hygiene.

LERoy CARL MEYER, B.S., M.S., North Dakota Agricultural College. Instructor in Electrical Engineering.

JUDITH PHILIPPE MEYERS, B.S., Cornell College; M.A., University of Minnesota. Instructor in Art Education.

HUGH MILTON MILLER, B.A., University of Oregon; M.A., Ph.D., Harvard University. Professor of Music.

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.

1 On sabbatical leave first semester.
2 On leave for the year.
3 On sabbatical leave for the year.
28 FACULTY

AGNES CHARLINE MOLONEY, B.S., Loyola University; M.A., University of Chicago. Assistant Professor of Nursing.

MARION EDWARD MOORE, B.S., West Texas State College; M.S., Texas Technological College. Instructor in Mathematics (Part-time).

SALLI JEAN MORAN, B.S. in Ed., Bowling Green State University; M.F.A., Cranbrook Academy of Art. Instructor in Art (Weaving).

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.

MICHAEL MORUCCI, B.A., Temple University; M.S., Lehigh University. Instructor in Mathematics (Part-time).

HOWARD NAEVE, B.S., University of Southern Illinois; D.D.S., University of Iowa. Lecturer in Dental Hygiene (Part-time).

GERALD DAVID NASH, B.A., New York University; M.A., Columbia University; Ph.D. University of California. Assistant Professor of History.

MARSHALL RUTHERFORD NASON, B.A., M.A., Louisiana State University; Ph.D., University of Chicago. Associate Professor of Modern Languages, Director of the Division of Foreign Studies.

IRENE MURPHY NAVARRE, G.D.H., University of Minnesota. Clinical Instructor in Dental Hygiene (Part-time).

WILLIAM C. NAYLOR, Major, U.S.A.F.; B.S., East Central State College; M.Ed., Sul Ross State College. Commanding Officer of the Air Force ROTC Unit, Professor of Air Science.

STANLEY STEWART NEWMAN, Ph.B., M.A., University of Chicago; Ph.D., Yale University. Professor of Anthropology, Co-editor of the Southwestern Journal of Anthropology.

RALPH DAVID NORMAN, B.S., College of the City of New York; M.A., Teachers College, Columbia University; Ph.D., Ohio State University. Professor of Psychology.

STUART ALVORD NORTHROP, B.S., Ph.D., Yale University. Research Professor of Geology, Curator of the Geology Museum.

MONICA NOVITSKI, D.H., D.D.S., Marquette University. Associate Professor of Dental Hygiene, Director of the Dental Hygiene Program.

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. Associate Professor of Art.

ANTONIO PAGÉS LARRAYA, B.A., Ph.D., University of Buenos Aires. Visiting Professor of Modern Languages.

JOHN MICHAEL PALMS, B.S., The Citadel; M.S., Emory University. Instructor in Physics (Part-time).

FRANK EDWARD PAPCSY, B.S., Upsala College; M.A., New York University; A.C.S.M. Assistant Professor of Health, Physical Education and Recreation.

SOLOMON PAPPER, B.A., Columbia University; M.D., New York University. Professor of Medicine, Chairman of the Department of Medicine, Head of the Division of Clinical Sciences.

WILLIAM JACKSON PARISH, Ph.B., Brown University; M.B.A., D.C.S., Harvard University. Dean of the Graduate School, Professor of Business Administration.

12 Deceased October 14, 1962.

On leave for the year.  On sabbatical leave second semester.  Second semester only.
JAMES WALLACE PARK, B.S.C., M.B.E., University of Mississippi. Instructor in Business Administration.

MARTHA ABBELINE PARK, B.A.E., M.A., University of Mississippi. Instructor in English (Part-time).

INGRID JUNGHANS PARKER, M.A., Texas Technological College. Instructor in German.

THOMAS MATTHEWS PEARCE, B.A., University of Montana; M.A., Ph.D., University of Pittsburgh. Professor of English.

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, Varsity Baseball Coach.

PAUL VERNON PETTY, B.S.E., Arkansas State Teachers College; M.A., Duke University; Ph.D., University of Texas. Professor of Education, Chairman of the Department of Educational and Administrative Services.


SUZANNE HANSON POOLE, B.Mus., Curtis Institute of Music; Certificate, École de Fontainebleau. Instructor in Voice (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.

PETER PROUSE, B.A., Princeton University; M.A., University of New Mexico; Ph.D., Northwestern University. Assistant Professor of Education.

MARINETTE PIERRETTE QUEYREL, License ès Lettres, University of Grenoble. Instructor in French.

CHARLES WILLIAM QUINLAN, B. Arch., Cornell University. Lecturer in Architecture (Part-time).

KEEN RAFFERTY, B.A., University of New Mexico. Professor of Journalism, Chairman of the Department of Journalism.

RAMAMOHAN KAMISETTY RAO, B.E.E., University of Madras (India); M.S. in E.E., University of Florida. Instructor in Electrical Engineering (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. Research Professor of History. Editor of the New Mexico Historical Review.

VICTOR H. REGENER, Dr.-Ing., Technische Hochschule, Stuttgart. Research Professor of Physics, Chairman of the Department of Physics.

HEINZ JURG RENGGLI, Dr.Sc., Swiss Federal Institute of Technology. Assistant Professor of Mathematics.

EMILY ANN REUWSAAT, B.A., M.A., Iowa State Teachers College; Ed.D., University of Nebraska. Assistant Professor of Education.

VIRGINIA REVA, B.A., St. Mary's College, Notre Dame; M.A., University of Michigan. Associate Professor of Business Administration.

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.

7 First semester only.
6 On leave second semester.
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.

ELAINE ROBERT, Abitur, Frauenoberschule, Vienna. Instructor in Modern Languages (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.

FRANCIS NORMAN ROCHE, B.S., B.P.E, DePaul University. Lecturer in Physical Education (Part-time).

LUTHER WILLIAM ROOK, JR., B.A., M.A., Ph.D., University of New Mexico. Visiting Assistant Professor of Psychology (Part-time).

JUDAH ISSER ROSENBLATT, B.A., Johns Hopkins University; Ph.D., Columbia University. Associate Professor of Mathematics.

SIDNEY ROSENBLUM, B.A., Drew University; M.A., Ohio State University; Ph.D., State University of Iowa. Associate Professor of Psychology.

ABRAHAM ROSENZWEIG, B.S., University of Pennsylvania; Ph.D., Bryn Mawr College. Associate Professor of Geology, Assistant Dean of the Graduate School.

JEANNE PERIN ROSS, B.S., New York University; M.A., Teachers College, Columbia University. Assistant Professor of Nursing.

CLARICE PIERCE RUMPH, B.A., M.A., University of Texas. Instructor in Mathematics (Part-time).

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

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

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

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

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. Associate Professor of Naval Science, Executive Officer of the NROTC Unit.

CONSUELO SANDOVAL, B.Mus., Eastman School of Music. Instructor in Health, Physical Education, and Recreation (Part-time).

SILVIANO SANTIAGO, B.A., University of Minas Gerais. Instructor in Portuguese.

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

JOHN PAUL SCARBROUGH, B.A., M.A., New Mexico Highlands University. Instructor in Education.

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

On sabbatical leave first semester.

First semester only.
MORTON GERALD SCHOFIELD, Juilliard Graduate School; B.Mus., Rollins College; M.Mus., University of Wisconsin. Associate Professor of Music.

WALTER KURT SCHOFENHOLZ, B.S., M.A., Ph.D., University of California. Assistant Professor of Biology.

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SHERMAN EVERETT SMITH, B.S., South Dakota School of Mines and Technology; Ph.D., Ohio State University. Director of Student Affairs, Professor of Chemistry.

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1 On leave first semester.

2 On sabbatical leave for the year.

3 First semester only.
<table>
<thead>
<tr>
<th>Name</th>
<th>University/College</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROBERT EDWIN SNAPP, B.A., M.A., University of New Mexico; M.F.A., Yale University.</td>
<td>Professor of Dramatic Art, Chairman of the Department of Dramatic Art.</td>
<td></td>
</tr>
<tr>
<td>JANE SNOW, B.Mus., M.Mus., Cincinnati College of Music.</td>
<td>Associate Professor of Music.</td>
<td></td>
</tr>
<tr>
<td>VERNON GUY SORRELL, B.A., State University of Iowa; M.A., University of Illinois; Ph.D., University of California.</td>
<td>Professor of Business Administration.</td>
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<tr>
<td>KENNETH HOTTENSTEIN STAHL, B.A., Carthage College; B.S., M.S., State University of Iowa; Ph.D., University of Maryland.</td>
<td>Associate Professor of Pharmacy.</td>
<td></td>
</tr>
<tr>
<td>SHERMAN MILLER STANAGE, B.A., University of New Mexico; Th.M., Iliff School of Theology; Ph.D., University of Colorado.</td>
<td>Visiting Professor of Philosophy.</td>
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</tr>
<tr>
<td>DONALD CHAPEZE STANTON, Major, U.S.M.C.;</td>
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<td></td>
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<tr>
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<td></td>
</tr>
<tr>
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<td></td>
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<tr>
<td>EUGENE FRANCIS STEINER, B.S., M.A., University of Missouri.</td>
<td>Assistant Professor of Mathematics.</td>
<td></td>
</tr>
<tr>
<td>KEITH KOLAR STROUPE, Lieutenant Commander, U.S.N.; B.S., Naval Post Graduate School.</td>
<td>Assistant Professor of Naval Science.</td>
<td></td>
</tr>
<tr>
<td>HOWARD KEITH STUMPFF, B.S. in Ed., Central Missouri State College; M.A., University of Missouri.</td>
<td>Instructor in Mathematics.</td>
<td></td>
</tr>
<tr>
<td>ROBERT LOUIS SUHR, B.A., M.S., State University of Iowa.</td>
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<td></td>
</tr>
<tr>
<td>JAMES COLMAN SULLIVAN, A.A., Ventura Junior College; B.A., University of California at Los Angeles.</td>
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<td></td>
</tr>
<tr>
<td>CHAITANYA SWARUP, B.S., M.S., Lucknow University (India).</td>
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<td></td>
</tr>
<tr>
<td>ROBERT DALE SWIHART, B.A., DePauw University; J.D., Indiana University.</td>
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<td></td>
</tr>
<tr>
<td>JAN DALTON TARWATER, B.S., Texas Technological College; M.A., University of New Mexico.</td>
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<td></td>
</tr>
<tr>
<td>JOHN TATSCHL, Diploma, Austrian State Teachers College; Diploma, Vienna Academy of Applied Arts; Diploma, Master School of Sculpture, Vienna Academy of Fine Arts.</td>
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</tr>
<tr>
<td>MARCELLA TATSCHL, B.A., University of Kansas.</td>
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</tr>
<tr>
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</tr>
<tr>
<td>ERNEST WARNOCK TEDLOCK, JR., B.A., M.A., University of Missouri; Ph.D., University of Southern California.</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>HOWARD WILLIAM TESSEN, B.A., M.A., Oberlin College; M.A., Ph.D., Yale University.</td>
<td>Visiting Professor of Applied Linguistics.</td>
<td></td>
</tr>
</tbody>
</table>

* Second semester only.
* First semester only.
* Retired effective October 1, 1962.
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HUGO TEUFEL, JR., B.S., University of Kansas; M.S., University of New Mexico. Instructor in Mathematics (Part-time).

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* First semester only.

4 On leave for the year.
34 FACULTY

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* Second semester only.

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**Notes:**

- On sabbatical leave first semester.
- Second semester only.
- First semester only.
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†JERRY D. WACKERLE, B.S., M.S., Ph.D., University of Kansas. Professor of Physics (Part-time).

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* Second semester only.
† First semester only.
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Chemistry: THOMAS K. KEENAN, JOSEPH A. LEARY, JESSE L. RIEBSOMER, ALFRED H. ZELTMANN.

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Mathematics: WILLIAM A. Beyer, THOMAS L. JORDAN, JR., MORRIS S. HENDRICKSON, BURTON WENDROFF.

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* Second semester only.
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7 First semester only.
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7 First semester only.

8 Second semester only.
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MARY GAYLA GLASCOCK, B.S., University of New Mexico. Department of Chemistry.

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JOAN B. LEEDS GRAVISS, B.A., University of Delaware. Department of Modern and Classical Languages.

JIMMIE JOE GREATHOUSE, B.S., New Mexico State University; M.S., New Mexico Highlands University. Department of Elementary Education.

JULIANNE JANE GREEN, B.S., University of New Mexico. Department of Biology.

WILLIAM THOMAS GRIFFITH, B.S., Johns Hopkins University. Department of Physics.

WILLIAM GLENN GUSTAFSON, B.S., Allegheny College. Department of Geology.

DAVID CHARLES HALE, B.A., Ottawa University. Department of Biology.

CHARLES FLOHR HALVERSON, JR., B.A., University of New Mexico. Department of Psychology.

ARTHUR HORNE HARRIS, B.A., M.A., University of New Mexico. Department of Biology.

CHARLES RICHARD HEDMAN, B.A., University of New Mexico. Department of Secondary Education.

PATRICK CHESTER HENDERSON, B.A., St. Mary's College; M.A., University of Arizona. Department of History.

DARRELL LEE HICKS, B.S., University of New Mexico. Department of Mathematics.

DAVID WEBSTER HOLTY, B.A., De Pauw University. Department of Chemistry.

BERNARD LEROY JACKSON, B.A., University of New Mexico. Department of Art.

EILEEN MARIE JOGANIC, B.A., Seton Hill College. Department of History.

BERNICE KAPLAN, B.A., University of Pennsylvania. Division of Foreign Studies.

WILLIAM ALBERT KEIM, B.A., Wabash College. Department of Chemistry.

PETER CARL KIMBERLEY, B.S., University of New Mexico. Department of Chemistry.

BARBARA JEAN KOWALSKI, B.S., Indiana State College. Department of Biology.


First semester only.
JOHN CONRAD KRENETSKE, B.A., Montclair State College. Department of Biology.

PATRICIA TANDROW LEWIS, B.A., San Jose State College; M.A., University of New Mexico. College of Education.

YU-CHONG LIN, B.S., Taiwan Normal University. Department of Biology.

RICHARD CHARLES LINDBERG, B.S., Antioch College. Department of Electrical Engineering.

ROBERT RALPH LINDBERG, B.A., St. Cloud State College. College of Business Administration.

DONALD JAMES Mackay, B.B.A., University of New Mexico. College of Business Administration.

NORMAN E. MARIN, B.A., University of New Mexico. Ibero-American Studies.

CONSTANCE CAROL MARTIN, B.A., University of California. Department of Anthropology.

ROSALIND JUNE MASON, B.S., University of New Mexico. Department of Psychology.

RUBY SHERILYN MEECE, B.S., Southwestern State College. Department of Psychology.

JOAN RUTH MELLEKAS, B.F.A., University of New Mexico. Department of Music.

JAMES ALBERT MEWHINNEY, B.A., Wabash College. Department of Biology.

MARILYN SUE MEYER, B.A., Rice University. Department of Modern and Classical Languages.

DAVID GEORGE MILLER, B.S., University of New Mexico. Department of Physics.

RICHARD LEROY MILLETT, B.A., Harvard College; M.A., University of New Mexico. Department of History.

MIKE S. MILLICAN, B.S., University of New Mexico. Department of Chemistry.

DOMINICK MISCIASCIO, B.S., Ursinus College. Department of Physics.

JOYCE MORRIS, B.A., San Jose State College; M.A., University of New Mexico. College of Education.

RICHARD WARD MORRIS, B.S., University of Nevada. Department of Physics.

ROSEMARY BERNICE MUDD, B.A., University of New Mexico. Department of Anthropology.

KJELL WALTER NIETSEN, B.S., Montana State College. Department of Mechanical Engineering.

DAVID MATHESON NILES, B.S., University of New Mexico. Department of Biology.

JUDITH ANN NIXON, B.A., University of New Mexico. Department of Psychology.

ARLEEN LOUISE OLSON, B.S., University of New Mexico. Department of Elementary Education.

NEAL LEWIS OSBORNE, B.A., Baldwin-Wallace College; M.S., University of New Mexico. Department of Biology.

DENNIS RAY PALMER, B.A., Baylor University. Department of Modern and Classical Languages.

JAMES ANTHONY PAREDES, B.A., Oglethorpe University. Department of Anthropology.

ROBERT MARTIN PELZ, B.A., University of Kansas. Department of Mathematics.


JAMES STONE RAMBO, B.A., University of Kansas. Department of Modern and Classical Languages.

JERRY RALPH RANDOLPH, B.A., University of New Mexico. Department of History.

MARY KATHLEEN RICKERT, B.A., University of New Mexico. Department of English.

WILLIAM HUGH RIGGS, JR., B.A., Bellarmine College. College of Business Administration.

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ROBERT KLEIN ROWE, B.B.A., Texas Western College. College of Business Administration.

SONIA LEE SABATH, B.S., University of New Mexico. Department of Chemistry.

GILBERT SANCHEZ, B.S., New Mexico State University. Department of Biology.

BARRY PIERCE SHAFER, B.A., University of New Mexico. Department of Mechanical Engineering.

WILLIAM LEWIS SHERMAN, B.B.A., Woodbury College; B.F.T., American Institute for Foreign Trade; M.A., Mexico City College. Department of History.

KENNETH BRUCE SIMMONS, B.S., University of New Mexico. Department of Mechanical Engineering.

SHELBY JOY SMITH, B.S., University of New Mexico. Department of Biology.

HENRY IRWIN SNIDER, B.S., Texas Western College. Department of Geology.

LOUISE LEONA STEELE, B.A., Linfield College. Department of Speech.

CHARLES DEAN STORRS, B.S., Kansas State University. College of Business Administration.

PHILLIP DRENNOW THOMAS, B.A., Baylor University. Department of History.

TOMMY BURT THOMPSON, B.S., University of New Mexico. Department of Geology.

DONALD HENDRICKS THURMAN, B.A., New Mexico State University. Department of Modern and Classical Languages.

SUZANNE LEE TOBIAS, B.A., Ohio State University. Department of Anthropology.

GARY WARREN TOMLINSON, B.S., Iowa Wesleyan College. Department of Physics.

EUGENE ROBERT TRAPP, B.S., Washington State University; M.S., University of Alaska. Department of Biology.

GERALD LEIGH TRAUT, B.S., University of Wisconsin. Department of Biology.

EDWIN KOERNER TUCKER, B.S., University of New Mexico. Department of Psychology.

ELLEN MIA TULAND, B.A., Knox College. Department of Modern and Classical Languages.

EDWIN LEE VANDENOORD, B.A., Grinnell College. Department of Physics.

JUDITH LEA WALLACE, B.A., University of Wichita. Department of Speech.

DAN WELLS WALTON, B.A., Birmingham Southern College; M.S., Tulane University. Department of Biology.


DONALD RUSSELL WHEELER, B.A., Grinnell College. Department of Physics.

WILLIAM GAMBOL WHITWORTH, B.S., Mississippi College. Department of Chemistry.

JACK CURTIS WILCOTT, B.A., University of Texas. Department of Physics.

CHARLES WILLIAM WILSON, B.S., University of New Mexico. Department of Civil Engineering.


JOHN HEREN WILCOTT, B.S., American University of Beirut. Department of Physics.

CLINTON RAY WOLFE, B.S., Marshall College. Department of Chemistry.

JOHN THOMAS YELVERTON, B.S., Eastern New Mexico University. Department of Biology.

YIK YUAN YOUNG, B.S., National Taiwan University. Department of Mechanical Engineering.

7 First semester only.

8 Second semester only.
GENERAL INFORMATION

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

GENERAL EDUCATION

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

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

SPECIAL AND PROFESSIONAL EDUCATION

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

SCHOLARSHIP AND RESEARCH

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

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

ADULT EDUCATION AND CULTURAL PROGRAMS

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

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

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

ACADEMIC PROGRAMS

The University is composed academically of eight undergraduate colleges, the Graduate School, the School of Law, and the School of Medicine (formally established but not yet in operation). The undergraduate colleges include:

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

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

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

SITUATION

The University is situated in Albuquerque, the center of a metropolitan area of 270,000 inhabitants. The campus lies a mile above sea level on a plateau
overlooking the Rio Grande, and about 12 miles from the lofty Sandia mountains. Albuquerque is noted for its dry and sunny climate. Although the weather undergoes the normal seasonal changes, temperatures are not extreme.

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

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

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

HISTORY

The University of New Mexico was created by an act of the Territorial Legislature in 1889, opened as a summer normal school on June 15, 1892, and began full-term instruction on September 21 of the same year. Its development in the 74 years since its inception has been extraordinary. The 20 acres comprising the original campus have become more than 500; buildings have increased from a single structure to 60 permanent structures.

The development of new colleges and divisions has kept pace with the physical growth of the institution. The College Department became the College of Literature and Arts in 1898, later changing to its present title of College of Arts and Sciences. The College of Engineering opened in 1906, and the Graduate School in 1919. In 1928 the College of Education was created; in 1935 the General College; and in 1936 the College of Fine Arts. A unit of the United States Naval Reserve Officers Training Corps was established May 20, 1941. In 1945 the following new divisions became an active part of the University program: The College of Pharmacy, the Division of Government Research, and the Bureau of Business Research. In 1946 the Institute of Meteoritics was added to the University's research program. The College of Business Administration and the College of Law were organized in the fall of 1947. The title “College of Law” was changed to “School of Law” in 1960. An Air Force Reserve Officers Training Corps unit was established in 1949. Although extension work was offered as early as 1913, the Extension Division as a separate unit with a full-time director began operations in 1928. A reorganization took place in 1953 which combined the Division of Extension, the Summer Session, the credit and non-credit evening program, conferences, and short-course offerings under the single administrative unit, Division of Extension, Summer Session, and Community Services. This Division also administers the Community College (credit and non-credit sections). The College of Nursing was established in 1955, and in 1956 the Los Alamos Graduate Center and the
University College were created. Upon the establishment of the University College, the General College was abandoned. The Holloman Graduate Center was created in 1957. The Division of Foreign Studies was established in 1959. This unit had its origin in 1941 as the School of Inter-American Affairs. A two-year School of Medicine was established in 1961 by action of the Legislature. The University has 40 instructional departments; work leading to the master's degree is offered in 39 fields, and toward the doctor's degree in 14.

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

GOVERNMENT AND SUPPORT

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

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

DEVELOPMENT OFFICE

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

The major objectives of the Development Program are: (1) to promote a better understanding of The University of New Mexico and to interpret its programs, its progress, and its needs to the public; (2) to develop and enlist the active interest and support of individuals and groups in its behalf; and (3) to provide these individuals and organizations with the opportunity voluntarily to support the University.
Although it operates as a separate unit, the Alumni Office has been made a part of the Development Office. This makes it possible to coordinate Alumni Association activities with the promotional activities of the over-all development program.

**ALUMNI ASSOCIATION**

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

The Association coordinates and directs Homecoming activities, arranges class reunions, organizes alumni clubs throughout the State and Nation, promotes citizenship among undergraduates, assists with student recruitment, and in other ways encourages alumni interest in the University.

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

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

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

**CAMPUS AND BUILDINGS**

The campus of The University of New Mexico is in the eastern section of the city of Albuquerque and comprises over 500 acres, landscaped with grass, giant cottonwoods, elms, and mountain evergreens. The 60 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, Art Education Building, Bandelier Hall (departmental offices), Biology Building, Bureau of Business Research Building, Carlisle Gymnasium, Chemical Engineering Building, Chemistry Building (Clark Hall), Civil Engineering Building, Coronado Hall (men’s dormitory), Counseling and Testing Building, Drama Building, Education Center, Electrical Engineering Building, Faculty Apartments, Fine Arts Building, Geology Building, Golf Course Clubhouse, Heating
Plant, Hodgin Hall, Hokona Hall (women's dormitory), Hydraulics Laboratory, Johnson Gymnasium, Jonson Art Gallery, Journalism Building, Law Building, Lecture Hall, Marron Hall (departmental offices), Mechanical Engineering Building, Mechanical Engineering Shops, Mesa Vista Hall (men's dormitory), Meteoritics Building, Mitchell Hall (classrooms), Music Building, New Mexico Union, North Hall (departmental offices), Nuclear Engineering Laboratory, Observatory, Ortega Hall (languages), Pharmacy Building, Physics Building, President's Home, Research Center, Rifle Range, Sara Raynolds Hall, Service Building, Speech-Television Building, Stadium Building, State Public Health Laboratory, Student Health Service, University Theatre (Rodey Hall), University Stadium, Yatoka Hall (Business Administration), Zimmerman Library. The first phase of the Fine Arts Center and two new dormitories are scheduled for completion in 1963.

THE ZIMMERMAN LIBRARY

BUILDING. The general University Library is housed in a pueblo-style building completed in 1938. It includes a 9-floor book stack tower, 109 study carrels in the stacks, a 3-wing reference and reading room, 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 343,618 cataloged and processed volumes, several thousand other cataloged serials and pamphlets, 121,337 government publications, 5,164 reels of microfilm, 76,153 microcards, 50,286 maps, several thousand pamphlets and pictures, 765 sound recordings, and a large collection of archival material. These resources provide adequate study and research facilities for undergraduate work and for the special fields in which graduate work is offered.

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

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

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

The Catron Collection, of 9,574 volumes, is an extensive and valuable library begun by Julia W. and Thomas B. Catron and given to the University Library by their sons, C.C. Catron, T. B. Catron, F. A. Catron and J. W. Catron. Outstanding items are several hundred Spanish and Mexican publications of the 16th to 19th
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., Fridays and Saturdays; and Sundays from 2 to 10 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 55,707 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

MUSEUM OF ANTHROPOLOGY

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

UNIVERSITY ART GALLERY. The University Art Gallery in the new Fine Arts Center building will open in October, 1963. With its completion, The University of New Mexico will begin presentation of a continuing series of major exhibitions. The new gallery facilities, among the finest in the Southwestern States, are of a size to permit concurrent presentation of several changing exhibitions, as well as selections from the University's permanent collections. Director: Van Deren Coke.

SLIDE AND PHOTOGRAPH COLLECTIONS. The College of Fine Arts maintains a reference collection of approximately 50,000 slides and 20,000 photographs and reproductions. The collections are particularly strong in American Indian art, Pre-Columbian art, Spanish Colonial art and architecture, and 20th century art and architecture.

MUSIC AND RECORD COLLECTIONS. The music collections include approximately 6,500 recordings and tapes, and more than 4,300 scores. These collections, located in the new Fine Arts Center building, are adjacent to specially designed listening and recording facilities.

GEOLOGY MUSEUM

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

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

HARWOOD FOUNDATION

The University of New Mexico maintains the Harwood Foundation in Taos, New Mexico. Paintings by New Mexico artists are frequently exhibited and, during the summers, field sessions are sometimes held there under the auspices of the University of New Mexico Art Department. Director: Mrs. Toni Tarleton.

JONSON GALLERY

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

MUSEUM OF SOUTHWESTERN BIOLOGY

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

**RESEARCH ACTIVITIES**

**THE OFFICE OF DIRECTOR OF RESEARCH SERVICES**

Harold L. Walker, Director

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

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

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

(2) to make a continuing survey of the research and other scholarly and creative interests, activities, and needs, as well as of the human and physical resources, within the University; and to disseminate this information to departments, the University administration, and possible sponsors of research;

(3) to coordinate, insofar as possible and desirable, the various research activities on campus;

(4) to seek 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 Services and the Dean of the Graduate School. The Committee is concerned with matters of research policy directly or indirectly affecting the Faculty and the University, administers the University's program of non-contract research, and supervises and allocates the University Research Fund.

**THE BUREAU OF BUSINESS RESEARCH**

Ralph L. Edgel, Professor of Business Administration, Director; Rudyard B. Goode, Associate Professor of Business Administration, Statistician; Arthur A. Blumenfeld, Associate Research Economist; A. David Sandoval, Assistant Research Economist; Margaret I. Meaders, Editor of Publications; Harold W. Corley, Field Representative; Shirley Huzarski, Records Supervisor; and Research Economist, new appointment to be made before July 1963.

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 Southwest Management Development Program, another activity of the Bureau, embraces several types of intensified adult educational programs, including special courses and conferences tailored to the needs of specific groups and a series of week-long advanced executive conferences offered several times each year in the retreat-type setting afforded by Bishop's Lodge in the foothills of the Sangre de Cristo Mountains north of Santa Fe.

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 BUREAU OF ENGINEERING RESEARCH
W. W. Grannemann, Associate Professor of Electrical Engineering, Director.

Established in 1937 as an Engineering Experiment Station, the Bureau of Engineering Research is an integral part of the College of Engineering. Research activities in the College of Engineering are directed toward (1) maintaining an engineering faculty who are leaders in the discovery and development of new engineering knowledge, (2) supporting the engineering graduate program by affording graduate students high-level research opportunities, and (3) service to the citizens and industry of the State of New Mexico.
It is the purpose of the engineering research program not only to train future research workers, but also to carry out a program of research that assures both sound investigations of a fundamental nature in the engineering sciences and work devoted to the solution of State problems and to greater utilization of the State's natural resources. Through publications, cooperative activity with New Mexico industry, and the conduct of sponsored contract research projects, it is the purpose of the Bureau of Engineering Research to play a prominent role in the industrial and technical development of New Mexico.

THE DIVISION OF GOVERNMENT RESEARCH
Frederick C. Irion, Associate Professor of Government, Director.

Supervisory Board: Dorothy I. Cline, Associate Professor of Government; Charles E. Woodhouse, Assistant Professor of Sociology, Chairman; David B. Hamilton, Professor of Economics.

The Division of Government Research, which was created by the University in July 1945, has as its purpose the study of problems of government in New Mexico, including the economic and social as well as the political aspects of such problems.

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

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

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

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

THE INSTITUTE OF METEORITICS OF THE UNIVERSITY OF NEW MEXICO
Resident Staff:

Lincoln LaPaz, Professor Emeritus of Mathematics and Astronomy, Director; Morris S. Hendrickson, Professor of Mathematics and Astronomy, Mathematician; Jean LaPaz, Secretary; James D. Wray, Research Associate; Byron Lance, Robert Webb, Research Assistants.

Research Associates:
†Dr. Frederick C. Leonard, Professor of Astronomy, University of California, Los Angeles, California.
Dr. Helmut E. Landsberg, Director, Office of Climatology, U. S. Weather Bureau, Washington, D.C.

† Deceased, June 23, 1960.
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.

Dr. William A. Cassidy, National Science Foundation Fellow in Meteoritics, 1956-57, Lamont Geological Observatory of Columbia University.

Professor Richard G. Huzaraski, 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 physicists, ballisticians, aerodynamicians, 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.”

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, a photographic darkroom, and a machine shop on the concrete floor of which are mounted meteorite sectioning and polishing devices.

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, the staff of the Institute of Meteoritics has cooperated with such military organizations as the Office of Special Investigations (Inspector General), United States Air Force, and with such scientific agencies as the Los Alamos Scientific Laboratory. Furthermore, the Institute staff collaborates with the Department of Geology of The University of New Mexico in the supervision of research work in meteoritics leading to the master's degree. One candidate for an advanced degree under this cooperative program, William A. Cassidy, in 1953 received the first Fulbright fellowship for research in meteoritics, and in 1956 and 1957 also was awarded the first National Science Foundation fellowships granted for research in this subject. In 1960, Cassidy received his doctorate from Pennsylvania State University, for research work carried out in a field closely allied to meteoritics.

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)

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

MILITARY TRAINING

AIR FORCE ROTC

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

The course consists of 4 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 4 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 the spring semester, freshman year, and fall semester, sophomore year, the Air Force ROTC student will attend a university class in lieu of attending formal AFROTC classes. The Department of Air Science has approved certain classes in the areas of mathematics, physical or natural sciences, foreign languages, humanities or social sciences, which are acceptable for this substitution. In the fall semester, freshman year, and spring semester, sophomore year, the AFROTC students will attend formal Air Science classes 2 hours a week.

During all freshman 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

* There is a possibility a new shortened AFROTC program may be inaugurated in the fall of 1963. Interested persons should check with academic advisers or the Professor of Air Science.
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 the U. S. Naval Reserve and Marine Corps Reserve upon completion of the baccalaureate requirements.

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

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

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

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

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

PEACE CORPS TRAINING

PEACE CORPS TRAINING CENTER FOR LATIN AMERICA

Marshal R. Nason, Ph.D., Director; Lucie E. Adams, M.A., Assistant Director; Richard W. Poston, B.S., Coordinator, Community Development Training; H. Waldo Bird, M.D., Coordinator, Psychiatric Service; Lester M. Libo, Ph.D., Chief Assessment Officer; James J. Stout, M.D., Medical Consultant; Chester Brown, M.S., Coordinator, Manual Skills Training; Laura D. Calvert, M.A.,
Coordinator, Spanish Language Training; Robert T. Gregory, M.Ed., Coordinator, Physical Training; Edward Heath, M.Ed., Coordinator, Outward Bound Training; Miguel Jorrín, Dr.Civ.Law, Coordinator, Area Studies and World Affairs; Charles Judah, Ph.D., Coordinator, U.S. Institutions; Albert R. Lopes Ph.D., Coordinator, Portuguese Language Training.

In December 1962, under the terms of a contract with Peace Corps, The University of New Mexico undertook to establish a year-round training center to serve the needs of contingents destined for service in Spanish America and Brazil. The center, the only one of its kind thus far established, will accommodate a monthly input of approximately 65 trainees. Larger summer contingents will raise the training quota to over 950 per year. Each contingent will undergo a rigorous program of preparation in languages, area studies, world affairs, U.S. institutions, Communist strategy and tactics, health and hygiene, physical training, and psychological conditioning. Depending on the specifics of their projected field service, contingents will also be given training in manual and technical skills. The principal emphasis, however, will lie in the area of rural and urban community development. The last 4 weeks of each training program will consist of field work in rural or urban areas of Hispanic or indigenous character. At the conclusion of the 12-week training and screening process, successful candidates will be graduated as Peace Corps volunteers ready for overseas assignment. While appointment of candidates to the Training Center will be made by Peace Corps' Division of Selections, the Center will receive applications for Peace Corps service and administer placement examinations at intervals prescribed by Peace Corps, Washington.
ADMISSION AND REGISTRATION

APPLICATION AND CREDENTIALS

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

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

Applicants for the School of Law are referred to “Transferring Students” on p. 64. Graduate School applicants should see the Graduate School section of this bulletin. Applicants for the Dental Hygiene or Dental Assisting programs are referred to those respective sections of this catalog.

FRESHMEN

HOW TO APPLY

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

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

WHEN TO APPLY

The University has an August 15 deadline for receipt of applications and all required credentials from students planning to enroll for the fall semester. The deadline for the spring semester is January 1. To accommodate students desiring an early determination, applications from high school students will be accepted as early as the first semester of the senior year. From the University’s standpoint, the ideal time for a student to file his application is shortly after the beginning of his final semester. At that time, the student should arrange to have his high school mail directly to the Director of Admissions a transcript complete for his first seven
semesters and including a list of all courses in progress. This partial transcript will provide a basis for extending tentative admission to the apparently eligible applicant, subject to receipt of a final transcript showing grades and credit for the senior year, and the graduation date.

ADVISEMENT TESTS

All freshmen entering the University are enrolled in the University College (see p. 117). Since one of the purposes of the University College is to assist the student in his adjustment to college work and in his selection of an educational objective compatible with his desires and aptitudes, each freshman is required to take, for advisement and guidance purposes, a series of aptitude and placement tests. These tests are administered just prior to registration on the dates indicated in the Academic Calendar. No student entering the University in regular status for the first time may register until these tests have been completed. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.

ADMISSION BY CERTIFICATE

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

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

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

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

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

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

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

- **English**—3 units.
- **Social Studies**—2 units (including 1 unit in U. S. history)
- **Science**—2 units, 1 unit of which must be in Biology, Chemistry, or Physics

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

- **Mathematics**—2 units (Algebra, Geometry, Trigonometry)
  The minimum 2-unit requirement may be satisfied with 2 units of algebra
  or 1 unit of algebra and 1 unit of geometry.

A student intending to study engineering or architecture will find it neces­
sary, in order to complete his prescribed curriculum without loss of time,
to have completed at least the following high-school mathematics: 2 units
of algebra, 1 unit of plane geometry, ½ unit of trigonometry. See "High
School Preparation" in College of Engineering or Department of Architec­
ture sections. These preparatory courses are also recommended for stu­
dents planning to major in mathematics.

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

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

- **Group A**—English, Journalism, Speech
- **Group B**—French, Spanish, Latin, German, and other foreign languages
- **Group C**—Algebra, Plane Geometry, Solid Geometry, Trigonometry
- **Group D**—General Science, Biology, Chemistry, Physics, Physiology, Geology
- **Group E**—History, Geography, Sociology, Economics, Government, Psychol­
  ogy, Social Science
- **Group F**—Fine Arts (Music, Art, Drama)

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

**ADMISSION WITH ENTRANCE DEFICIENCIES**

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

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

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

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

ADMISSION BY EXAMINATION

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

ADMISSION OF RECOMMENDED STUDENTS FROM PILOT HIGH SCHOOLS IN NEW MEXICO

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

ADVANCED PLACEMENT PROGRAM

The University participates in the Advanced Placement Program of the College Entrance Examination Board. Credit may be granted upon recommendation of
the academic departments concerned for advanced placement examinations completed with grades of 3, 4, or 5.

TRANSFERRING STUDENTS

HOW TO APPLY

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

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

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

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

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

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

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

WHEN TO APPLY

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

UNIVERSITY COLLEGE

All students who have completed fewer than 26 semester hours of acceptable college credit will be required to enroll in the University College. (See p. 117.)

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

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

ADMISSION PROCEDURE

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

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

Every new student is required to take the psychological and the English Proficiency examinations. These tests are administered just prior to registration on the dates indicated in the Academic Calendar. No student transferring to the University in regular status for the first time may register until these tests have been completed. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.
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. 62.) except that if he has completed 2 semesters (26 semester hours minimum) of work of C average in an accredited collegiate institution, which institution has granted him regular status, his preparatory record will be considered cleared even though the credits do not meet our requirements in full.

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

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

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

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

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

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

CONCURRENT ENROLLMENTS. Credit will not be granted for college courses carried either through extension or correspondence, or in residence at another institution of college level, when a student is enrolled for residence credit in this
University, except upon specific written approval of the dean or director of the college in which the student is enrolled here.

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

READMITTED STUDENTS

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

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

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

UNIVERSITY COLLEGE

The readmitted student in regular status who has not completed 26 semester hours of acceptable college credit will be required to enroll in the University College (see p. 117).

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

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

NON-DEGREE STUDENTS

Persons wishing to pursue credit courses, either evening or daytime, without meeting the full requirements for admission to undergraduate status, may apply
for non-degree status in the University's Community College provided the following qualifications are met:

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

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

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

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

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

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

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

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

GRADUATE STUDENTS
Refer to "Graduate School."

LAW STUDENTS
Refer to "School of Law."
STUDENTS FROM ABROAD

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

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

VETERANS

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

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

Credit for service training and experience is granted on the basis of measured educational achievement, in conformity with the procedures recommended by the North Central Association of Colleges and Secondary Schools and the American Council on Education. Students who were eligible for educational benefits under one of the Public Laws or who served on active duty during a period of at least 1 calendar year after July 26, 1947 must apply for such credit during the first semester of enrollment in regular status. Any credit tentatively allowed will become a part of the student's permanent record after he has completed a minimum of 12 semester hours at this University. Total semester hours of military credit to be accepted in a specific degree program will be at the discretion of the degree-granting college of this University in which the student is registered. A maximum of 8 semester hours elective credit is allowed for basic or recruit training apportioned as follows: First Aid, 2 semester hours; Hygiene, 2 semester hours; Physical Education Activity, 4 semester hours. Eight semester hours, apportioned the same as credit granted for service in the U. S. Armed Forces, will be granted to foreign students who have completed military training, provided they can show official credentials in support of their statements. Credit earned in specialized army and navy programs conducted by college and university staffs is allowed in accordance with the recommendations of the administering institution. Credit for
work done in formal training programs is allowed in accordance with the recommendations of the American Council on Education or on the basis of examinations here. U. S. Armed Forces Institute courses are acceptable if courses have been taken through university extension divisions accredited by regional accrediting associations. Other U.S.A.F.I. courses may be accepted if recommended by the American Council on Education and validated by successful scores on “End-of-Course Tests.” 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 full-time student enrolling for the first time or returning to the University after an absence of one year or more is required to have a physical examination from his own doctor. This must be reported on the official University forms (provided at the time the student is notified of his admission) and must be filed with the Student Health Service prior to his registration. Students will be re-examined by the University physicians when such examinations are indicated. Health-seeking students are accepted at the University if, in the judgment of the University physicians, their admission does not endanger themselves or their associates. The University may refuse enrollment to, or cancel the enrollment of, any student who is physically unfit to carry on class work, or whose physical condition might be a menace to the health of other students.

REGISTRATION

ORIENTATION

At the opening of each semester a new-student testing and orientation period is conducted beginning with a new-student assembly (see the Calendar). The purpose of this program is to acquaint the new student with some of his fellows, to help him feel more at home in new surroundings, to permit him to meet advisers and counselors, and to familiarize him with University methods and life. In addition to the preliminary registration and the various tests, numerous recreational and educational events are held. New freshmen with less than 10 semester hours’ credit are required to participate in the entire testing and orientation program. All other students entering the University for the first time in regular status (enrollees in the Graduate School excepted) are required to take the psychological and English tests and are urged to attend the orientation events. Any student who does not take the tests on one of the scheduled dates will be required to register during the late registration period and to pay the late registration fee.

The testing program for freshmen consists of a series of aptitude and placement tests. The results of the tests are used by advisers for counseling and guidance and for placement of the student in courses of the proper level. Students who do not pass the English placement test because of serious weakness in spell-
ing; 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 Student Council issues a Fresh­
man 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 aca­
demic 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.

REVISED SELECTIVE SERVICE REGULATIONS FOR EDUCATIONAL DEFERMENT

Beginning in the fall of 1963, revised Selective Service regulations will require
that the University report the enrollment of all male students who have registered
with Selective Service. Every male student 18 years of age or older must be pre­
pared, therefore, to provide as a part of his University registration his Selective
Service number and the name and address of his Selective Service Board. It is
anticipated that under these new regulations, considerable discretion will be left
to individual boards in the matter of criteria used for educational deferment de­
termination. It is suggested that students check with their respective boards to be
sure of the requirements.

COMPLETION OF REGISTRATION

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

See “General Academic Regulations.”

FEE PAYMENTS

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

Note: The Student Residence Status Slip must accompany payment.
STUDENT EXPENSES

FEES (REGULAR SESSION)

FEES 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):

<table>
<thead>
<tr>
<th>Students carrying 8 or more hours:</th>
<th>N. M. Residents</th>
<th>Non-Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition*</td>
<td>$138.00</td>
<td>$273.00</td>
</tr>
<tr>
<td>Activities Fee†</td>
<td>12.00</td>
<td>12.00</td>
</tr>
<tr>
<td>Total Tuition and Fees</td>
<td>$150.00</td>
<td>$285.00</td>
</tr>
<tr>
<td>Student Group Health and Accident Fee (optional)</td>
<td>7.50</td>
<td>7.50</td>
</tr>
<tr>
<td>Total Tuition and Fees with Group Insurance</td>
<td>$157.50</td>
<td>$292.50</td>
</tr>
</tbody>
</table>

All students carrying 7 hours or fewer:

| Tuition, per semester hour | $17.00 | $17.00 |

Graduate students will signify formal registration for doctoral dissertation only once. At this registration, they will be required to pay, in addition to tuition and other fees, the special fee for the doctoral dissertation ($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 $17.00 per credit hour.

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

HOUSING FEES

See Catalog section “Student Housing.”

OTHER FEES FOR SPECIAL SERVICES

| Transfer application fee | $5.00 |
| Change in program after end of second week | 1.00 |
| Late registration fee | 5.00 |
| Removal of Incomplete grade, per course | 2.00 |
| Advanced Standing Examination, and examination to establish credit, per credit hour | 2.50 |
| Examination to validate credit†, per course | 2.00 |
| Other faculty-administered special examinations‡ | 2.00 |

* Tuition in the case of all new students includes a $5 matriculation fee.
† Optional for graduate students. This fee is determined by the students with Regents’ approval, and is, therefore, subject to change (changes are usually minor).
‡ 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. 110.
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 ** 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
English A ................................................................................. 20.00
Mathematics A ........................................................................... 20.00
Applied Music (see p. 73.) ............................................................
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 immediately 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 AFROTC 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. 99 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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition and fees</td>
<td>$150.00</td>
</tr>
<tr>
<td>Student health and accident insurance</td>
<td>7.50</td>
</tr>
<tr>
<td>Books and supplies</td>
<td>50.00</td>
</tr>
<tr>
<td>Board and room</td>
<td>365.00</td>
</tr>
<tr>
<td>Clothing, laundry, misc.</td>
<td>18.75</td>
</tr>
<tr>
<td>Total, per semester</td>
<td>$760.00</td>
</tr>
</tbody>
</table>

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

FACILITIES AND REGULATIONS

THE UNIVERSITY operates three residence halls: Mesa Vista and Coronado for men, Hokona for women. Living quarters in these halls are available to undergraduate University students who are enrolled for at least 12 semester hours. Priority of space is extended to students whose homes are out of the city of Albuquerque. Reservations will be accepted under the procedures outlined below as long as space permits.

All University freshmen whose homes are not in Albuquerque are required to live in the University residence halls for the academic year regardless of social affiliations. All undergraduate women whose homes are not in Albuquerque are required to live in University residence halls or sorority houses and their admission is contingent not only upon academic acceptability but also upon availability of University housing.

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 August 15, in the case of a fall semester reservation, or January 1, if the reservation is for the spring semester.

NEW AND READMITTED STUDENTS

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

1. The student will be informed of his acceptance and if he is required to have, or desires, University housing, he will be sent a housing application which he should return to the Housing Collections Office, Mesa Vista Hall, The University of New Mexico.

2. When the student’s housing application is received, a room and board contract will be issued according to room space available. The student should complete the contract (to include the signature of his parent or guardian if he is under 21 years of age), and return it with his advance housing deposit of $15.00 to the Housing Collections Office. By the terms of this contract, the student agrees to reside in University housing for a full academic year.

3. When the student’s remittance is received, housing will be confirmed by the Director of Housing. Upon arrival at the University, men should report directly to the hall to which they have been assigned. Women should
report directly to Hokona Hall. The receipt for the advance payment should be presented at this time. Both men and women students should plan to arrive between 8:00 a.m. and 10:00 p.m.

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

STUDENTS CONTINUING IN ATTENDANCE

Students living in the residence halls are required to make housing reservations for the following year not later than May 15th of the spring semester. Student occupancy in residence halls is on a school-year basis. Unless an advance deposit and contract is on file with the Housing Collections Office, 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. Returning students should notify the Housing Collections Office. The advance housing deposit is refunded if a cancellation is received by August 15 for the fall semester, or January 1, for the spring semester.

GENERAL REGULATIONS

Upon receipt of the housing contract and the $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.

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

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

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

Rates for Board and Room in Residence Halls

<table>
<thead>
<tr>
<th></th>
<th>Per Semester</th>
<th>Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Room</td>
<td>$390.00</td>
<td>$780.00</td>
</tr>
<tr>
<td>Double Room (per person)</td>
<td>$365.00</td>
<td>$730.00</td>
</tr>
</tbody>
</table>
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. All other personal linens, pillows, towels, and blankets are provided by the student. (The use of electric blankets is not permitted.)

**PAYMENT OF ROOM AND BOARD**

Room and board is payable on or before August 15 for Semester I, and January 1 for Semester II. Installment payments include a $2.00 deferred payment fee and are due as follows:

<table>
<thead>
<tr>
<th></th>
<th>Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st payment</td>
<td>$165.00</td>
<td>August 15</td>
</tr>
<tr>
<td>2nd payment</td>
<td>$100.00</td>
<td>September 20</td>
</tr>
<tr>
<td>3rd payment</td>
<td>$100.00</td>
<td>October 25</td>
</tr>
</tbody>
</table>

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

**DINING HALLS**

To the extent that facilities permit, students living off-campus or in fraternity or sorority houses are permitted to eat at the University dining halls. Information concerning rates and types of meal tickets can be obtained at the Housing Collections Office, Mesa Vista 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:**
  - During the first 2 weeks of classes: 80% refund
  - During the 3rd through 5th week of classes: 60% refund
  - During the 6th through 8th week of classes: 40% refund
  - During the 9th through 11th week of classes: 20% refund

A student who withdraws after the 11th week of classes will receive no rent refund.

**BOARD REFUNDS**

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

EMPLOYMENT

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

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

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

LOAN FUNDS

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

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

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

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

Other loan funds available to students at the University are: The American Association of University Women's Loan Fund; Revolving Loan Fund of the Ancient, Free and Accepted Masons of New Mexico; Educational Loan Fund of the Grand
Commandery of Knights Templar of New Mexico; The McGaffey Memorial Loan Fund of the Albuquerque Rotary Club; The Women's Club Loan Fund; The Altrusa Club Loan Fund; The G. Perry Steen Memorial Student Loan Fund; Zonta Club of Albuquerque Loan Fund; A. & L. Rosenbaum Loan Fund; The Pharmacy Scholarship Loan Fund; The Kiwanis-Milne Loan Fund; the State Bar of New Mexico Loan Fund; the Lois and Harry Bruch Memorial Loan Fund; and the Walter B. Fuente Memorial Loan Fund.

NATIONAL DEFENSE STUDENT LOANS

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

UNITED STUDENT AID FUND LOANS

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

VOCATIONAL REHABILITATION

(For the Physically Handicapped Non-Veteran)

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

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

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

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

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

HOW TO APPLY. Those students having disabilities who wish to apply should do so by writing to one of the New Mexico Rehabilitation Offices at 117 Richmond Drive NE, in Albuquerque, New Mexico; P. O. Box 881, in Santa Fe, New Mexico; 104 North Penn, Roswell, New Mexico; 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

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

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

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

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

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

Four primary factors are involved when a student is being considered for a scholarship, as follows: (1) the academic record; (2) scores on standardized tests; (3) the need of the student for financial assistance; and (4) the recommendation of the student's counselor or principal.
For information on scholarships in Latin American Studies, Law, Naval R.O.T.C., and Pharmacy, see those respective sections of this catalog.

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

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

SCHOLARSHIPS

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

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

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

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

The Albuquerque Downtown Lions Club Scholarship I. The award covers full tuition costs for an 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 Albuquerque 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 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 Allstate Insurance Company Foundation Scholarship in Nursing. The recipient is to be a first-year nursing student selected on the basis of financial need, interest in a nursing career, and scholastic ability. Preference will be given to students who have residence in New Mexico, or secondly, in the Rocky Mountain states.

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

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

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

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

The American Institute of Architects Scholarship. A scholarship and a book on architecture are awarded to an outstanding junior student in Architecture, the scholarship to be applied toward the student's tuition in his senior year.
American Legion Auxiliary Department of New Mexico Scholarship. A $100 scholarship is given to the finalists in the American Legion Department Oratorical Contest.

The American Ordnance Association—Albuquerque Chapter Scholarship. 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.

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

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

The Associated General Contractors of New Mexico Scholarships. The Associated General Contractors of New Mexico present a number of scholarships yearly to Civil Engineering students. These scholarships are in the amount of $200.00 per year for 4 years and may be granted to freshmen at The University of New Mexico or at New Mexico State University.

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

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

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

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

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

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

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

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

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

The Bernalillo County Medical Association Scholarship. A scholarship in the amount of $250 given to a first-year medical student who must be a resident of Bernalillo County.
Bernalillo County Medical Society Women's Auxiliary Scholarship. A $300 award made every other year to a student in the College of Nursing. It was established to assist a student to further academic pursuits in nursing, the preference being given to students from Bernalillo County.

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

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

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

The 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 Burkhart-Persons Memorial Scholarships. The income from a trust fund established by the late Mrs. Miriam P. Burkhart 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 Coraline 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 resident tuition given each year by the Chi Omega Alumnae to a woman student who has earned a minimum of 30 semester hours at The University of New Mexico, who has creditable scholarship, and who has need of financial assistance.

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

Lena C. Clauve Scholarship of the Maia Chapter of Mortar Board. A scholarship established in honor of Lena C. Clauve by the Maia Chapter of Mortar Board. It is to be awarded to a woman student who has completed 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.

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

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

The Lou Beverly Damron Memorial Scholarship. At least $100 of the proceeds from a trust fund established by the parents of Lou Beverly Damron, Class of 1952, as a memorial to their son, 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.

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

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

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

The Faculty Women's Club Scholarships. One or more scholarships of $15 each 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 Forty and Eight Grand Voiture of New Mexico Scholarships in Nursing. A $135 scholarship is awarded each year to a student in the College of Nursing and is renewable for the recipient's four years of college if a high academic standard is maintained and the student continues towards a degree in nursing. The recipient is selected by the Dean of the College of Nursing on the basis of New Mexico residence, high school record, and references.

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

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

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

The Edward Grisso Memorial Scholarship Fund. A trust fund established by Mr. W. D. Grisso of Oklahoma City as a memorial to his son 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 is awarded annually to a junior or senior student who has been accepted for admission to an approved medical college.

The Gwinn Henry Memorial Scholarship Fund. A $500 fund established by the University of New Mexico Alumni Letterman's Association as a memorial to the late Coach Gwinn Henry is used to assist in the education of a worthy student athlete who is regularly enrolled at the University of New Mexico.
Benjamin K. Horton Scholarship. An award of $1,000 which is made to a regularly enrolled student who is participating in intercollegiate track and field. Selection will be made by the Faculty Committee on Prizes and Awards, based on recommendations from the Director of Athletics.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Robert W. Korber Memorial Scholarship. The Robert W. Korber Memorial Scholarship, an award of $270 ($30 per month for 9 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 4 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.

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

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

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

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

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

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

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

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

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

Military Order of World Wars Scholarship. A $50 scholarship that is rotated between the Navy and Air Force ROTC Units. The recipient is recommended to the organization by the respective ROTC units.
The Phillip D. Miller Memorial Scholarship. The Miller and Smith Manufacturing Co., Inc. has established a scholarship in memory of Mr. Phillip D. Miller. The scholarship is given annually to an entering freshman interested in a career in engineering, with the opportunity of having it renewed if his academic work is satisfactory. The award is for $350 and is made to a senior in an Albuquerque high school.

The John Milne Memorial Scholarship Fund. A trust fund of $5,000 established as a memorial to the late John Milne, Superintendent of Albuquerque Schools for 45 years, 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 honor of Abraham Lincoln Mitchell. The income from this fund is to be awarded to a man or woman student of The University of New Mexico who has completed the freshman year of college. First consideration will be given second or third-year students in the School of Law. Students interested in the field of race relations will be given special consideration.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The New Mexico Petroleum Industries Scholarships. Each year the N.M.P.I.C. awards two scholarships for $250.00 to students of the six state institutions. One of the awards went to The University of New Mexico in 1960, so it will return in 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.

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

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

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

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

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

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

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

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

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

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

The Retired Officers' Association Scholarships, New Mexico Chapter. Scholarships of $50 are awarded annually to a deserving sophomore midshipman and cadet of the NROTC and AFROTC. They are selected on the basis of demonstrated professional interest, motivation, academic excellence, and financial need. The recipients to be selected by the Professor of Naval Science and the Professor of Air Science respectively.
Reynolds Metals Company Competition. An annual award of $200 to the student submitting the best original design for a building component in aluminum.

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

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

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

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

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

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

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

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

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

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

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

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

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

The Sigma Alpha Iota Patroness Scholarship. The Albuquerque Patroness Chapter of Sigma Alpha Iota has established an annual scholarship of $50 to be awarded to a member of the Alpha Sigma Chapter of Sigma Alpha Iota, national honorary music fraternity.
Sigma Chi Mothers Club Scholarships. Two scholarships of $120 each have been provided by the Sigma Chi Mothers Club. One of the scholarships is to be awarded in the spring semester and one in the fall. They are to be awarded to members of the Sigma Chi Fraternity who are above the rank of freshman, have financial need, and have satisfactory scholarship.

The Sigma Delta Chi Scholarship in Journalism. A scholarship of $100 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 resident tuition given each year by Chi Omega Alumnae of Albuquerque in honor of Mrs. Elizabeth P. Simpson, Professor Emeritus of Home Economics and Chi Omega member. The award is granted to a woman student who has earned a minimum of 30 semester hours at The University of New Mexico, who has creditable scholarship, and is in need of financial assistance.

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

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

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

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

The Theta Sigma Phi Scholarship in Journalism. This scholarship of $100 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 Town Club Alumnae Scholarship. A scholarship given by the Town Club Alumnae to a second-semester sophomore or junior who is an active member of the Town Club. Recipient must have creditable scholarship and need of financial assistance. The award is made in March of each year by a committee selected by the alumnae group.

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

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

University Golfer's Association Scholarship. A $375 scholarship is given to a student participating in the intercollegiate golf program of the University. The recipient will be selected by the coach of the golf team, who will make his recommendation to the Scholarship and Prizes Committee of the University.
The University Theatre Training Scholarship. The Department of Dramatic Art provides a scholarship of $150 each semester which is awarded in the spring of each year upon recommendation of the faculty of the Department on the basis of need, scholarship, and suitability for the training involved.

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

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

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

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

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

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

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

PRIZES

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

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

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

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

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

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

The 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.

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

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

The Chemical Rubber Company Handbook Award in Physics. A current copy of the Handbook of Chemistry and Physics will be awarded annually to the student in Physics 60, 61, or 62 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 Harry L. Dougherty Memorial Prize in Engineering. A cash prize consisting of the income from a trust fund contributed by colleagues, students, and friends, as a memorial to Mr. Harry L. Dougherty, Assistant Professor of Civil Engineering, is awarded each year to the student in the College of Engineering who has made the highest scholastic average in residence during his freshman and sophomore years while carrying a normal course of study.

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

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

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

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

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

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

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

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

The H. E. Henry Award in Pharmacy. A pocket watch appropriately engraved is presented annually to a male student in the graduating class of the College of Pharmacy on the basis of scholarship, ability, and promise in the field of pharmacy.
The Kappa Kappa Gamma Alumnae Memorial Prize for Poetry. An annual prize of $25 to be awarded as a first prize for poetry in the undergraduate literary contests in the English Department. This prize was established by the Kappa Kappa Gamma Alumnae Association in memory of all deceased members of the Association and of the New Mexico Chapter of Kappa Kappa Gamma.

Law Prizes, see School of Law section.

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

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

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

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

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

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

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

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

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

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

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

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

The Tile Council of America Award in Architectural Engineering. Prizes of $25.00, $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 Yemco Prize in Architectural Engineering. A prize consisting of a set of Yemco drawing instruments and Yemco 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.

MEDALS AND CERTIFICATES

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

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

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

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

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

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

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

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

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

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

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

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

Information in regard to Admission and Registration, Student Housing, and Financial Aid will be found in those respective sections of this catalog. An explanation of the orientation and advisement program is given on p. 70.

PERSONNEL OFFICE

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

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

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

COUNSELING AND TESTING SERVICES

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

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

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

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

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

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

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

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

THE HEALTH SERVICE

The Student Health Service, 720 Yale Boulevard NE, provides facilities for medical advice, treatment, and if necessary, infirmary care for acute illnesses of relatively short duration. The Student Health Service is not a teaching department and is staffed by experienced physicians and graduate nurses. Consultation with the physicians is available at regular morning and afternoon office hours, and the Service is open for emergency care 24 hours a day.

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

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

The Health Service maintains constant supervision over sanitary conditions in residence halls, dining halls, swimming pools, and classrooms.
Full information is contained in the brochure, “This Is Your Health Service,” which is issued at registration and should be preserved for reference.

INSURANCE PLAN

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

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

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

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

DIVISION OF VETERANS AFFAIRS

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

NEW MEXICO UNION

The New Mexico Union is well planned to provide a focal point for the cultural and recreational activities of the University. It is the center of a consolidated program enlisting the joint efforts of student government, program directorate committees, student organizations, and staff to bring about a balance of activities providing the greatest values and benefits for students and staff. All students are members of the Union, and their cooperation and contributions are depended upon to assure its total success. Control of the Union operation is vested in a board made up of students, faculty, alumni, and administrative representatives. The
"Lobo" stands guard at Johnson Gymnasium
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

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

ASSOCIATED WOMEN STUDENTS

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

PROFESSIONAL, HONORARY, AND SERVICE ORGANIZATIONS

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

SOCIAL GROUPS

Fraternities: Delta Sigma Phi, Kappa Alpha, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, Phi Sigma Kappa, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Chi, Sigma Phi Epsilon, Tau Kappa Epsilon.
Sororities: Alpha Chi Omega, Alpha Delta Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Kappa Alpha Theta, Kappa Kappa Gamma, Pi Beta Phi.

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

Other social groups: Town Club.

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

STUDENT PUBLICATIONS

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

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

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

RELIGIOUS ACTIVITIES

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

The following religious organizations hold regular meetings on the campus: Baha'i Student Association, Baptist Student Union, Canterbury Club, Christian Science Organization, Christian Student Center, Deseret Club, Hillel Counsellorship, The Islamic Society, Lobo Christian Fellowship, Lutheran Student Association, Newman Club, Presbyterian University Fellowship, United Campus 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 Western Athletic Conference, the general athletic policy of the University, the North Central Asso-

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

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

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

CULTURAL OPPORTUNITIES

A number of concerts and lectures are presented by distinguished artists in the University Program Series. The Series is financed by the Associated Students with funds from the activity fee and is open without charge to all students holding activity tickets. The University Theatre presents a series of plays produced by the Drama Department. The Music Department presents a number of orchestra, chorus, and wind ensemble concerts during the year. 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 officially after the fourth week of the semester or second week of the summer session, while doing passing work, subject to the regulations for dropping a course or for withdrawal from the University. These regulations appear under "Change in Program of Studies" on p. 105, and under "Withdrawal from the University" on p. 107.

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

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

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

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

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

GRADE REPORTS

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

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

SCHOLARSHIP INDEX

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

REGISTRATION

CHANGES IN REGISTRATION

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

* Exclusive of hours in nonprofessional physical education and ensemble music.
sity regulations relating to student dishonesty will be shown. When a student drops a course officially after the first 4 weeks of the semester or the second week of the summer session, he will receive a grade of W or F according to his standing in the course at the time of withdrawal, except that no student may withdraw after the twelfth week of the semester or the sixth week of the summer session with a grade of W without petition to, and approval by, the dean or director of his college. For regulations governing withdrawal from all courses for which a student is enrolled, refer to "Withdrawal from the University" on p. 107. In the School of Law, a student desiring to drop a course after the first 8 weeks must petition the faculty of that School in writing to drop the course and receive a grade of W therein.

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

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

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

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

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

REPETITION OF COURSE

A student may repeat a course without special permission (but may receive credit only once), except for one in which a grade of Incomplete was earned (see p. 104). When a student repeats a course in which he has previously made a D or F, hours and points for all attempts will be counted in his scholarship index. Hours and points for repetition of a course in which the student has previously earned a grade of C or better will not be counted in his scholarship index.

AUDITED COURSES

A student may register for a course as an auditor, without credit, provided he obtains the permission of the instructor concerned and of the dean or director
of the college having jurisdiction over his program of studies. The fee for audited courses is the same as for credit courses.

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

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

CLASSIFICATION

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

WITHDRAWAL FROM THE UNIVERSITY

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

SCHOLASTIC REGULATIONS

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

PROBATION

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

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

SUSPENSION

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

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

A student who has been suspended is not eligible to re-apply for admission for a period of one calendar year from the date of suspension. The readmission of a suspended student to the University after the expiration of the suspension period is contingent upon the approval of the dean or director of the college to which he is seeking admission or readmission. A student who is suspended for poor scholarship or who, after having been placed on probation, fails to re-register for the following semester, shall be considered as on probation upon his return to the University. The same regulation applies to a student who withdraws from the University while on probation (unless his withdrawal grades make
him subject to suspension). A dean may require a student who is on probation at the time of registration to enroll for the minimum number of hours, and he may at any time require a student on probation to drop as many hours as seem to be in excess of the student's ability.

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

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

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

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

GRADUATE SCHOOL DISQUALIFICATION

See the Graduate School Bulletin.

ATTENDANCE

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

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

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

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

DISHONESTY IN ACADEMIC MATTERS

Every student is expected to abide by the highest standards of honorable conduct in academic matters. Dishonest action in connection with tests, quizzes, or assignments, whether in the classroom or out, generally will be cause for dismissal from the University.

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

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

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

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

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

EXAMINATIONS

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

GRADUATE RECORD EXAMINATION. See p. 113.

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 a per-credit-hour basis. (See p. 73.) Other types of special examinations have a per-course fee (see p. 73). There is no charge for certain examinations administered by the University's Counseling and Testing Service. The latter include the University's entrance examinations, required placement and aptitude tests and the A.C.E. Psychological Examination.

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

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

1. He shall not have been previously registered in the course in any division of any college or university.
2. The applicant shall have a scholarship index of 3.0 or more in a normal program of studies completed during the last semester (or last 2 summer sessions) in residence, and he shall be doing superior work at the time of taking the examination.
3. The examination shall have the approval of the dean or director of the college, the chairman of the department, and the instructor concerned.
4. The applicant shall obtain from the dean or director of his college a permit for the examination, and shall pay in advance the required fee of $2.50 per credit hour.
5. The student shall obtain in the examination a grade not lower than C, and shall show a mastery of the course acceptable to an examining committee of three, appointed by the dean or director, including the instructor and the chairman of the department concerned.
6. Credits earned through advanced standing examinations do not apply to residence requirements.

DEGREE REQUIREMENTS

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

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

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

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

SCHOLASTIC REQUIREMENT. The minimum University requirement for a bachelor's degree is at least a 2.0 cumulative grade-point average on the last 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 nonprofessional activity physical education shall be completed by all undergraduate students in the University. Veterans, NROTC and AFROTC students, students over 30 years of age, and handicapped students excused by the University Physician are exempted from the physical education requirement. Exemption for ROTC and for medical excuse is on a semester-by-semester basis. Not more than 1 semester hour per semester nor more than 4 total hours of nonprofessional physical education may be credited toward a degree.

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

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

SENIOR RESIDENCE REQUIREMENTS. Residence credit is defined as credit earned by attendance in regular classes on the University of New Mexico campus or in one of its field sessions. Credits earned through the Extension Division or by examination are not counted toward the residence requirement.

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

Students who have done 60 semester hours, but less than 90, in residence previous to senior status, shall earn 24 semester hours in residence in the senior year.
Students who have done 90 or more semester hours in residence previous to
senior status shall earn 15 semester hours in residence in the senior year.

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

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

RESIDENCE REQUIREMENTS IN MAJOR AND MINOR. At least one-half of the mini­
mum 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 labora­
tory 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 mini­
mum 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 resi­
dent 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 spe­
cial 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 exten­
sion courses to the student's program while he is in residence, refer to
p. 106.
6. No credit will be given for a course taken by correspondence if the student has previously received a grade of F in the course at this University. Exceptions to this rule can be made only upon petition to, and approval by, the Committee on Entrance and Credits.

7. The student is solely responsible for complying with all regulations stated in the current Correspondence Bulletin.

COMMENCEMENT

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

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

HONORS WORK AND GRADUATION WITH HONORS

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

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

THE GENERAL HONORS PROGRAM. The General Honors Program (leading to graduation with Honors in General Studies) is available to students in any degree-granting college or division of the University except the Graduate School and the School of Law. Normally, the student enters this program in his freshman year. Requirements for graduation with Honors in General Studies are as follows: (a) an over-all grade point average of 3.2; (b) completion of 15 to 21 hours in courses listed under "General Studies" in the section of this catalog entitled "Courses of Instruction," including normally the program for the junior and senior years; (c) certification by the General Honors Council; (d) completion at The University of New Mexico of all of the last 60 hours of the work for the bachelor's degree. In addition to these minimal requirements, the General Honors Council may set such additional qualitative requirements as are approved by the University Faculty. Completion of the required General Studies courses does not necessarily mean that the student will graduate with General Honors.
The major purposes of the program of General Honors are as follows: (1) to supply additional breadth to the student's general education; (2) to put the able student more directly into competition with other able students so that his achievement may be more nearly in line with his potentialities; (3) to give the able student full opportunity to express himself in writing and in vital discussions in small groups; (4) to thrust the abler student into an environment that will offer improved intellectual opportunity and a greater challenge.

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

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

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

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

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

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

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

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

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

SCHOOL OF LAW GRADUATION HONORS

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

GRADUATION WITH DISTINCTION

Students graduating with a scholarship index which ranks them in the upper 5 per cent of the graduating class of the University will automatically receive the degree “with Distinction.” Ranking will be based only upon work taken by the student at The University of New Mexico. Eligible senior students who have taken all of their work at this University will automatically receive this honor. Transferred students must present a minimum of 45 semester hours earned at this University in order to be eligible for the “Distinction” list; however, their transfer records shall be subject to review by the Scholarships and Prizes Committee for the purpose of determining the quality of their over-all academic accomplishment.
ALL FRESHMEN entering the University are enrolled in the University College. The primary purpose of the College is to give each student the maximum opportunity to select the course of study best suited to his needs and aptitudes. To this end the College plans an individual program of testing, counseling, and guidance for each student.

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

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

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

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

ADMISSION REQUIREMENTS

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

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

CONTINUATION IN UNIVERSITY COLLEGE

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

SCHOLASTIC REGULATIONS

See p. 107.

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 (adminis­  
       tered 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 col­  
lege, refer to the admission regulations set forth in the section of this catalog de­  
voted to that college.

CERTIFICATE OF COMPLETION

Upon application to the University College Office, a University College Certifi­  
cate 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.
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. 111.)

III. Humanities. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) History, (b) Literature (either English or foreign), (c) Philosophy, (d) Art History or Music History or Speech (to the extent of 3 semester hours).

IV. Social Science. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) Anthropology, (b) Economics, (c) Geography, (d) Government, (e) Sociology.

V. Mathematics and Natural Science. Fourteen semester hours (not more than 8 from any one area, and including 2 semesters in courses that require laboratory work) must be completed in courses in the following areas: (a) Astronomy, (b) Biology, (c) Chemistry, (d) Geology, (e) Mathematics, (f) Physics, (g) Psychology.

MAJOR AND MINOR STUDIES

At the beginning of his junior year a student shall select and declare (1) a major and a minor subject or (2) two major subjects, or (3) one of the special curricula of the College, and his program of studies thereafter shall meet with the approval of the chairman of his major department or the supervisor of the special curriculum.

Only work of at least C quality is accepted toward the major and the minor; in the case of a special curriculum, all work within the general area of the specialization must be of at least C quality. (Courses in which grades of D are earned in The University of New Mexico may be accepted as electives and in fulfillment of group requirements.)

For the Bachelor of Science degree in the College of Arts and Sciences in departments requiring a major and a minor, the major department may specify in lieu of a single minor in one department a distributed minor in courses in related departments. The distributed minor shall consist of not less than 30 semester hours nor more than 36 semester hours. Rules relating to number of hours required in courses numbered 100 or above and to penalties for excessive hours in freshman courses shall be set aside when in conflict with distributed minor requirements. The student should consult the chairman of his major department if he wishes to take a distributed minor.

A distributed minor in Comparative Literature or in Russian Studies may be elected by candidates for either the Bachelor of Science or Bachelor of Arts degree. A distributed minor in American Studies is also available for students majoring in Anthropology, Economics, English, Government, History, or Sociology. A distributed minor in Paleoecology is offered to students majoring in Anthropology, Biology, Chemistry, or Geology.
CERTIFICATION TO TEACH IN HIGH SCHOOL

It is often possible for a student taking a degree in the College of Arts and Sciences to achieve certification as a secondary school teacher in New Mexico on the same basis as students graduating from the College of Education and without going beyond the 124 semester hours required by the College of Arts and Sciences for graduation. To do this, however, requires careful planning of the program. In certain major-minor combinations a student cannot achieve the B.A. or B.S. degree from the College of Arts and Sciences and also achieve teacher certification without taking more than 124 semester hours. The plan is possible only when the major-minor combination (or double major) is in subject areas usually offered in high school (see p. 159 for approved areas). All students at The University of New Mexico who expect to follow a course of study leading to certification are subject to the requirements for admission to teacher education listed on pp. 142-144 in the College of Education section of this catalog.

Students interested in following this plan should consult the office of the Dean of the College of Arts and Sciences as early as possible, preferably at the beginning of the sophomore year but at least by the beginning of the junior year. Additional time may be required to complete the program if advice is sought too late.

ELECTIVES

A student who has fulfilled all other requirements for graduation may use electives to complete his total of 124 hours for graduation, subject to the restrictions stated below.

A maximum of 24 hours in any combination, earned in courses offered in the Colleges of Business Administration, Engineering, Law, Education,* Fine Arts,** Nursing and Pharmacy, or in Naval Science and Air Science, is acceptable as electives in the College of Arts and Sciences, with the following exceptions:

1. Courses in typing or in office machines and filing in the College of Business Administration.
2. Ensemble music in excess of 4 hours.
3. Shop work in excess of 3 hours.
4. Courses in health, physical education, and recreation in excess of 7 hours, the 7 permissible hours to be chosen from courses 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.

* Except in the case of a Home Economics major, when a maximum of 34 hours will be accepted.
** Except in the case of an Art major, when a maximum of 32 hours will be accepted.
2. Not more than 50 hours in courses open to freshmen may be taken without a penalty of 1 hour for every 3 excessive hours. Exceptions to these rules may be made only by the Dean.

NORMAL FRESHMAN-SOPHOMORE PROGRAMS

A student wishing ultimately to enter the College of Arts and Sciences should take the following standard program while enrolled as a freshman in the University College. Deviations from this program should be made only with the permission of the University College adviser.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (Group 1)</td>
<td>3</td>
</tr>
<tr>
<td>At least 9 hours from Groups II, III, IV or V</td>
<td>At least 9 hours from</td>
</tr>
<tr>
<td>Elective</td>
<td>Groups II, III, IV or V</td>
</tr>
<tr>
<td>Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 12 hours from Groups I, II, III, IV, or V</td>
<td>At least 12 hours from</td>
</tr>
<tr>
<td>Elective</td>
<td>Groups I, II, III, IV, or V</td>
</tr>
<tr>
<td>Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

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. 188, and requirements for a Minor in Law under “Law” in “Courses of Instruction” section.

† If the student fails to make a satisfactory score on the placement test, he will be required by his adviser to take remedial work or tutoring.
CURRICULUM PREPARATORY TO DENTISTRY

The minimum requirement for admission to accredited dental schools is 2 years of acceptable academic work with a scholarship index of 2.5.

Because of the varying requirements of different dental schools, it is not possible to formulate a definite pre dental program. However, among the courses required for admission are English, social science, biology, physics, inorganic and organic chemistry.

The student should select the dental school(s) to which he plans to seek admission, and then, with the assistance of the pre dental adviser, plan a course of study which will meet the admission requirements of the school(s) in which he is interested. A student who plans to do more than 2 years preparatory to entering a dental school should select courses which will give him a broad liberal arts background as well as courses which will prepare him for the more technical requirements of dental school.

Ordinarily, the student will be expected to plan his academic program in such a manner that, if his plans to go to dental school do not materialize, he will still have made progress towards a baccalaureate degree.

CURRICULUM PREPARATORY TO FORESTRY

Because of the variable admission requirements of different schools of forestry, the student is advised to seek admission information from the Department of Biology.

FOR CURRICULA RELATING TO FOREIGN STUDIES

See p. 128.

FOR STUDENTS WHO PLAN TO STUDY LAW

See “School of Law.”

CURRICULUM IN MEDICAL TECHNOLOGY

Certification as Medical Technologist

For requirements relating to certification as a medical technologist without a bachelor's degree, the student should consult the Chairman of the Department of Biology.

Degree of Bachelor of Science in Medical Technology

The curriculum and requirements leading to the degree of Bachelor of Science in Medical Technology are listed below. In addition to the prescribed academic work, candidates for the degree must complete a 12-month medical technology program at an approved hospital and be certified as a medical technologist by the American Society of Clinical Pathologists. Before completing the year's work at the hospital, for which 16 hours of credit are allowed, the student must satisfactorily complete a minimum of 108 academic hours, of which at least 45 shall be earned while the student is in residence on the campus of The University of New Mexico. Thirty of these 45 hours shall be earned at The University of New Mexico after the student has attained junior status. Of the 53 hours of specified courses in science and mathematics, not fewer than 21 hours shall be earned in residence on the campus of The University of New Mexico.
The order of courses in the prescribed program should be followed as closely as possible. Only the student's adviser may give permission to vary the order of courses.

Students wishing to follow this program should make their intention known to the Chairman of either the Department of Biology or the Department of Chemistry as early in their student careers as possible.

The program described below meets all Group Requirements and all requirements as to major and minor in the College of Arts and Sciences.

The number of hours from outside the College of Arts and Sciences which can be counted towards this degree is reduced from the usual 24 hours to 12 hours (not counting the 16 hours of credit from the hospital course).

**PRESCRIBED PROGRAM—MEDICAL TECHNOLOGY**

**Freshman Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 1L Gen</td>
<td>4</td>
</tr>
<tr>
<td>Engl I Wtrng w/Rdgs in Expos</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Math 15 Coll Alg or 48 Intro to Math 3-5</td>
<td><strong>Math 16 PI Trig or Soc Sci †</strong> 2-3</td>
</tr>
<tr>
<td>§†Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>15-16 + PE</td>
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</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th></th>
<th>18 + PE</th>
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<tbody>
<tr>
<td>Biol 1L Gen</td>
<td>4s</td>
</tr>
<tr>
<td>Chem 101-103L Organic</td>
<td>4</td>
</tr>
<tr>
<td>English Literature</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Physics 11-13L Gen</td>
<td>4</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>18 + PE</td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th></th>
<th>14-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol 129L Cellular Physiol</td>
<td>4</td>
</tr>
<tr>
<td>Chem 53L Quant Anal</td>
<td>4</td>
</tr>
<tr>
<td>*Humanities</td>
<td>3-6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14-17</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th></th>
<th>13-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Humanities</td>
<td>3</td>
</tr>
<tr>
<td>‡Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-10</td>
</tr>
<tr>
<td></td>
<td>13-16</td>
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<tr>
<td></td>
<td></td>
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</tbody>
</table>

Total Number of Hours Required—124 + PE

The program can be accelerated by completion of two summer sessions and entrance to the school of medical technology in June or September.

† Any course in the social sciences that is allowed in the stated Group Requirements of the College of Arts and Sciences.

‡ For this particular requirement only, "Social Science" shall include courses in the departments of Anthropology, Economics, Geography, Government, History, and Sociology. History courses may be counted as either Humanities or Social Science, but not as both. (Of the 9 hours required in the social sciences, not more than 6 may be from one department.)

* For this particular requirement only, "Humanities" may include courses in the departments of English, History, Modern and Classical Languages, and Philosophy, and in the College of Fine Arts. History courses may be counted as either Humanities or Social Science, but not as both.

§ Defer to Semester II if Mathematics 48 is taken in Semester I.

** Substitute Social Science for Mathematics 16 if credit has been earned in Mathematics 48.
Upon completion of the 12-months' course in medical technology at an approved hospital, the student will submit a transcript of his work and certification as a medical technologist and apply for the degree of Bachelor of Science in Medical Technology from The University of New Mexico.

CURRICULUM PREPARATORY TO MEDICINE

The requirement for admission to medical schools approved by the Association of American Medical Colleges and by the Council on Education of the American Medical Association is ordinarily at least 90 semester hours in a college of arts and sciences. However, because of the large number of applications for admission to medical schools in recent years, it is difficult to gain admission to many accredited medical schools without a bachelor's degree.

Because of variable requirements for admission to different medical schools, it is not possible to outline for the student a specific program, particularly beyond the first 2 years. For admission, many medical schools require that a student shall have had 2 years of either French or German; varying amounts of English, speech, social science, and mathematics; and 1 year of physics with laboratory. Normally, 1 year of general chemistry, a year of organic chemistry, and 1 semester of quantitative analysis are required. Most medical schools require 1 year of general biology; also vertebrate embryology and/or comparative vertebrate anatomy. Normally the student should major in biology, chemistry, or physics.

In view of the varying admission requirements, the student is advised to determine the medical school(s) to which he plans to seek admission and then, with the assistance of the premedical adviser, plan a course of study which will meet the admission requirements of the school(s) in which he is interested. The student is urged to seek early the advice of the premedical adviser.

Following is a suggested premedical curriculum for the first 2 years at The University of New Mexico.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English 1, 2</strong></td>
<td><strong>English, and Psychology 51</strong></td>
</tr>
<tr>
<td><strong>French or German</strong></td>
<td><strong>French or German</strong></td>
</tr>
<tr>
<td><strong>Chemistry 1L, 2L</strong></td>
<td><strong>Social Science, Chemistry 53L</strong></td>
</tr>
<tr>
<td><strong>Biology 1L, 2L</strong></td>
<td><strong>Biology 71L and 121L</strong></td>
</tr>
<tr>
<td><strong>Math 15-16 (or Math 48)</strong></td>
<td><strong>Physics 11, 12, 13L, 14L</strong></td>
</tr>
<tr>
<td><strong>Physical Ed</strong></td>
<td><strong>Physical Ed</strong></td>
</tr>
</tbody>
</table>

**N.R.O.T.C. CURRICULUM**

(Suggested curriculum for the first 2 years.)

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td><strong>English</strong></td>
</tr>
<tr>
<td><strong>Foreign Language</strong></td>
<td><strong>†Physics</strong></td>
</tr>
<tr>
<td><strong>Social Science</strong></td>
<td><strong>Foreign Language</strong></td>
</tr>
<tr>
<td>†<strong>Math 15-16 (or Math 48)</strong></td>
<td>†<strong>Naval Science§</strong></td>
</tr>
<tr>
<td>*<strong>Naval Science</strong></td>
<td><strong>Social Science</strong></td>
</tr>
<tr>
<td><strong>Elective</strong></td>
<td><strong>Electives</strong></td>
</tr>
</tbody>
</table>

† 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 spring semester.
DIVISION OF FOREIGN STUDIES

Marshall R. Nason, Associate Professor of Modern Languages, Director

The Division of Foreign Studies is an administrative unit of the College of Arts and Sciences and of the Graduate School. From its founding in 1941 until 1959 this division functioned under the name of the School of Inter-American Affairs, offering the Bachelor Arts and Master of Arts degrees in the field of Latin American Studies. With the addition of curricula in Western European Studies and Russian Studies in 1959 and 1960, respectively, the designation Division of Foreign Studies was adopted. The Latin American Studies curriculum and the facilities of the Division continue as in the past.

THE UNDERGRADUATE CURRICULUM

The Division offers the degree of Bachelor of Arts in the College of Arts and Sciences with combined majors and minors in (1) Latin American studies, (2) Western European studies, (3) Russian studies. These programs are designed to provide basic training in fundamental subjects and a choice of supplementary courses to meet individual needs and preferences. The emphasis of these major fields of concentration is upon language study and the social sciences, with particular attention to the important countries of each area. Proficiency in Spanish and a reading knowledge of Portuguese are basic requirements for the Latin American major. Proficiency in French and a reading knowledge of either German or Russian are required for a Western European major. The Russian studies program is designed to give considerable competence in the Russian language. Students are expected to use the languages as tools in various advanced courses in the program.

I. MAJOR IN LATIN AMERICAN STUDIES

FOREIGN LANGUAGES, 37 hours
Spanish 1, 2, 51, 52, 92, 101, 102, 157, 158;
Portuguese 75, 76, 75L, 76L

HISTORY, GEOGRAPHY, GOVERNMENT, ECONOMICS, 36 hours
History 1, 2, 11, 12, 161, 162, 165;
Geography, 101, 102;
Government 53, 155;
Economics 121.

ELECTIVES, 28 hours
15 hours to be chosen from a list of courses of Latin American content made available to the student at the beginning of each semester; the remaining 13 hours will be free electives.

II. MAJOR IN WESTERN EUROPEAN STUDIES

FOREIGN LANGUAGES, 36 hours
French 1, 2, 51, 52, 101, 102, 107-108.
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, 142, 143, 162, 169
Three additional hours chosen from:
Government 121, 105, 168;
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, 15 hours
Economics 51, 52, 190
Geography 133
Government 157
HISTORY, 15 hours
History 1, 2, 148, 149, 150
ADDITIONAL REQUIREMENTS, 12 hours
to be selected from the following in consultation with adviser:
Economics 154, 159;
Geography 2, 131;
Government 53, 142, 161, 162;
History 145, 146;
Russian 138;
Sociology 2, 140, 195.
FREE ELECTIVES, 28 hours

IV. MINOR IN RUSSIAN STUDIES, 21 hours
FOREIGN LANGUAGES
Russian 1, 2, 51, 52;
9 additional hours chosen from:
Economics 190;
Geography 133;
Government 157;
History 148, 149, 150;
Russian 91, 92, 138, 197D.

THE GRADUATE CURRICULUM
Facilities for graduate work leading to the Master of Arts in Latin American Studies and to the Ph.D. in Ibero-American Studies are provided through inter-departmental programs. For prerequisites and requirements see the Graduate School Bulletin.

SCHOLARSHIPS
ALL-UNIVERSITY LATIN AMERICAN SCHOLARSHIPS. In the academic year 1963-64, The University of New Mexico is offering 2 scholarships covering tuition and room and board, and 4 covering tuition only, to qualified graduate and undergraduate students from any Latin American countries who are planning to pursue studies in any of the departments of the University. These scholarships have been established by the Regents and are administered jointly by the University and the
Institute of International Education. Information may be obtained from the Director of the Division of Foreign Studies. All applications must be received not later than May 1.

SCHOLARSHIPS IN LATIN AMERICAN STUDIES. The Division of Foreign Studies is offering in the academic year of 1963-64 six tuition scholarships in the general course leading to a B.A. in Latin American Studies. These scholarships are open to well-qualified graduates of high schools in the State of New Mexico who deserve financial assistance and who are planning to enter the University as freshmen. It also offers 3 tuition scholarships to undergraduates above the freshman level or graduate students from New Mexico or outside the State. For application forms and further information address the Director of the Division. All applications must be received not later than May 1.

FORD FOUNDATION M-3 PROGRAM

With the help of a grant from the Ford Foundation, the University has undertaken a program to encourage gifted undergraduates who intend to become college or university instructors. During their junior and senior years and during the first graduate year, students enrolled in the program will pursue an accelerated and rigorous course of study. Each will receive close supervision and counseling by a senior member of the faculty whom he will assist in teaching and research activities. For this assistance the student will receive a small stipend during the two undergraduate years and a more substantial fellowship in the final year. There are ten participating departments: Anthropology, Biology, Chemistry, English, Geology, History, Mathematics, Physics, Psychology, and Spanish. Students interested in knowing more about the program should inquire at the office of the department in which they expect to major, or at the office of the Director of the Three-Year Master’s Program, Administration 152.

DEPARTMENTS OF INSTRUCTION

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

American Studies
Anthropology
Astronomy
Biology
Chemistry
Comparative Literature
Economics
Economics-Philosophy
English
English-Philosophy
Foreign Studies
Geography
Geology
Government and Citizenship

History
Ibero-American Studies†
Journalism
Latin-American Studies *
Mathematics
Modern and Classical Languages
Paleoecology
Philosophy
Physics
Psychology
Russian Studies *
Sociology
Speech
Western European Studies *

† Ph.D. program only.
* Requirements outlined under "Division of Foreign Studies," pp. 128-129.
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.
COLLEGE OF BUSINESS ADMINISTRATION

CURRICULA in the College of Business Administration are designed to give broad experience in the liberal arts and applied sciences as preparation for productive living and progress toward executive responsibilities. The student will find his studies spread over diverse disciplines throughout his four years that he may maximize his opportunities to apply wide-ranging facts, opinions, and techniques to the art of decision-making. Whether a student's objective be that of proprietor or partner in a firm, executive in a private corporation, or officer in a public or quasi-public institution, the core work presented is basic to the appreciation and practice of the administrative function.

The program of studies designed to achieve these objectives has three main divisions. The first division includes courses in a number of areas of knowledge outside the fields of economics and business and comprises 40 percent or more of the entire 4-year program; the second division is that of a group of courses in economics, quantitative analysis, and management specifically required of all students in the College; the third division comprises a group of courses in a specialized field (concentration) of the student's own choosing. Thus a student graduating with a degree in the College of Business Administration will have had the opportunity to gain a broad knowledge of the institutions and culture of the society in which he will live and work, a special understanding of the economic institutions with which almost inevitably he will become connected, and a reasonable competence in one or more of the major administrative functions present in the organization and direction of economic activities.

The College would not wish to impart to any student a feeling of security in his path toward executive responsibilities. He may hold confidence in his ability to advance more rapidly toward such goals in consequence of his academic background; yet he should recognize that success in any field of endeavor depends upon many factors. One of these, obviously, is experience gained through diligent work in preparatory jobs.

The College of Business Administration includes within its framework a Bureau of Business Research (see p. 52).

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 consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. A scholarship index of at least 2.0 on all Business Administration and Economics hours attempted.

4. Completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score, or a grade of C or better in a remedial English course offered on a non-credit basis by The University of New Mexico English Department.

5. The successful completion of Mathematics 47.

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. 107-109). 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 51 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.
   E. Mathematics 1.

10. Credit is not allowed toward a degree in the College of Business Administration for typing, except in the Executive Secretarial Program.

**DEGREE REQUIREMENTS**

Requirements for the degree of Bachelor of Business Administration (for description of courses, see section "Courses of Instruction"):

A. **GENERAL REQUIREMENTS**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. English 1 and 2 (6 hrs.) Literature (3 hrs.) and Speech 55 (3 hrs.)</td>
<td>12</td>
</tr>
<tr>
<td>2. Social Science (other than Economics), 6 hrs.; Government 1 and 51</td>
<td>12</td>
</tr>
<tr>
<td>3. Two semesters of laboratory science within a single department</td>
<td>6-8</td>
</tr>
</tbody>
</table>
| 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. Mathematics 47 | 4 |
| 6. Philosophy | 3 |
| 7. Physical Education | 4 |
| **Total** | **53-55** |

B. **SPECIFIC REQUIREMENTS IN ECONOMICS AND BUSINESS COURSES COMMON TO ALL CONCENTRATIONS**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 5, 6, Principles of Accounting</td>
<td>3-3</td>
</tr>
<tr>
<td>BA 89, Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BA 106, 107, Business Law</td>
<td>3-3</td>
</tr>
<tr>
<td>BA 108, Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BA 110, Corporation Finance</td>
<td>3</td>
</tr>
<tr>
<td>BA 129L, Quantitative Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BA 130, Elements of Indus., Adm.</td>
<td>3</td>
</tr>
<tr>
<td>Ec 51, 52, Prin of Economics</td>
<td>3-3</td>
</tr>
<tr>
<td>Ec 111, Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

C. **CONCENTRATION REQUIREMENTS** (varies with concentration)

D. **FREE ELECTIVES**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total hours of credit for degree</strong></td>
<td><strong>15-18</strong></td>
</tr>
</tbody>
</table>

**FRESHMAN PROGRAM** (Taken in the University College)

(Be sure to read explanations and exceptions)

<table>
<thead>
<tr>
<th>Course Description</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>Elective*</td>
<td>3</td>
<td>Elective</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>3-4</td>
<td>Laboratory Science</td>
</tr>
<tr>
<td>Math 47 Intro to Math for Soc Sci</td>
<td>4</td>
<td>Elective (Math 70 recommended)</td>
</tr>
<tr>
<td>Foreign Language or History</td>
<td>3</td>
<td>Foreign Language or History</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
<td>Physical Ed</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17-18</strong></td>
<td><strong>16-17</strong></td>
</tr>
</tbody>
</table>

*BA 5 is open to freshmen who are eligible to enroll in, or have completed, Math 47.
SOPHOMORE YEAR
(Be sure to read explanations and exceptions)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ 51 Prin of</td>
<td>3</td>
</tr>
<tr>
<td>Gov 1 Intro to Gov</td>
<td>3</td>
</tr>
<tr>
<td>BA 89 Stat Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BA 5* Prin of Acctg</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Lang or Engl 55 Vocab Bldg</td>
<td>3</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Credits:** 16

**EXPLANATIONS AND EXCEPTIONS**

Students in the University College who do not follow the freshman program as set forth must take the courses they have missed after they enter the College of Business Administration.

Students looking forward to a concentration in Accounting normally will have elected to take BA 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.

Executive-Secretarial Program students should follow the 4-year program as outlined on pp. 138-139.

**General Studies.** Students who accept an invitation to join the General Studies program (see p. 280) 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, Government, and 100-level Psychology courses are acceptable for Social Science requirements.

**Option.** If a student chooses option (a) and is admitted with high school language credits and wishes to enter courses above the elementary level, he should consult the Chairman of the Modern and Classical Languages Department (in the College of Arts and Sciences).

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.

**Mathematics.** During the freshman year the student must take Mathematics A (Intermediate Algebra—non-credit) as a prerequisite to Mathematics 47 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 declara-

* BA 5 is open to freshmen who are eligible to enroll in, or have completed, Math 47.
tion 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. 134, 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.

   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**

   - BA 106 Business Law: 3
   - BA 121 Adv Acctg 1: 3
   - Elective: 3
   - Postpone one of the following three courses to the senior year:
     - BA 108 Prin of Mktg
     - BA 110 Corp Finance
     - BA 130 Elem of Ind Adm

   **Second Semester**

   - BA 147 Auditing: 3
   - BA 107 Bus Law: 3
   - BA 111 Money and Banking: 3
   - BA 129L Quant Anal for Mgt: 3
   - Elective: 3

   **Senior Year**

   - BA 108 Prin of Mktg postponed from junior year: 3
   - BA 110 Corp Finance: 3
   - BA 130 Elem of Ind Adm: 3
   - BA 149 Income Tax Acctg: 3
   - BA 184 Cost Acctg: 3

   **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, 128, 148, and 150.

2. **FINANCE.** Adviser: Mr. Goode, Mr. McDaniel.

   A survey of the courses offered in this concentration will reveal that they have been carefully selected to give the student a sound basic understanding of the principles and practices of both private and public finance. Thus the program serves not only those who plan to enter the banking, insurance, investment security, and similar businesses; it will also provide highly useful training for the average citizen who will almost certainly deal with banks, buy life insurance, make some investments, vote on fiscal proposals, and pay the tax collector. To provide the student with an informed and intelligent approach to such problems is the aim of the concentration.
Junior Year

First Semester
- BA 106 Bus Law 3
- BA 108 Prin of Mktg 3
- BA 110 Corp Finance 3
- BA 130 Elements of Ind Adm 3
- Elective 3

Second Semester
- BA 107 Bus Law 3
- BA 111 Money & Banking 3
- BA 127 Life Insurance 3
- Literature 3

Senior Year
- BA 131 Fin Anal & Credit Adm 3
- Philosophy 3
- Soc Sci Elective 3
- Electives 6

Senior Year
- BA 198 Invest Prin & Anal 3
- Speech 3
- Soc Sci Elective 3
- Econ 152 Public Finance 3
- Elective 3

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
- BA 106 Bus Law 3
- BA 108 Prin of Mktg 3
- BA 110 Corp Finance 3
- BA 130 Elements of Ind Adm 3
- Elective (BA or Econ) 3

Second Semester
- BA 107 Bus Law 3
- BA 111 Money and Banking 3
- BA or Econ Elective 3
- Elective 3
- BA 129L Quant Anal for Mgt 3

Senior Year
- BA or Econ Elective 6
- Social Science Elective 3
- Speech 3
- Social Science Elective 3
- Elective 3

Concentration requirements in addition to specific requirements:
- a. 12 hours in BA from the following: BA 63, 114, 127, 128, 131, 143, 190, 195, and 198.
- b. 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.

First 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

Second Semester
- BA 107 Bus Law 3
- BA 111 Money & Banking 3
- Soc 160 Soc of Ind Relations 3
- Elective 3
- BA 129L Quant Anal for Mgt 3

Concentration requirements in addition to specific requirements:
- a. 12 hours in BA from the following: BA 63, 114, 127, 128, 131, 143, 190, 195, and 198.
- b. 6 hours in Economics from the following: Econ 141, 152, 154, 159, 160, 170, and 186.
5. MARKETING. Adviser: Mr. Kirkpatrick.

Those students who are looking forward to positions in selling, purchasing, advertising, and merchandising, or who are interested in establishing businesses of their own, especially in retailing and wholesaling, should follow the Marketing concentration. Opportunities exist in manufacturing, agriculture, mining, petroleum, building, and other industries, for those trained in the field. The problem of the proper and efficient movement of merchandise from the original producer through various channels to the consumer is often a very complex one in modern society and demands well-trained people all along the line.

Junior Year

<table>
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<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>BA 106 Bus Law</td>
<td>BA 107 Bus Law</td>
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<tr>
<td>BA 108 Prin of Mktg</td>
<td>BA 111 Money &amp; Banking</td>
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<tr>
<td>BA 110 Corp Finance</td>
<td>BA 143 Transportation</td>
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<tr>
<td>BA 130 Elements of Ind Adm</td>
<td>BA 183 Marketing Research</td>
</tr>
<tr>
<td>Literature</td>
<td>BA 129L Quant Anal for Mgt</td>
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Senior Year

| BA 182 Retail Merchandising                        | BA 185 Marketing Mgt                                |
| BA 131 Fin Anal & Credit Adm                       | Speech                                               |
| Philosophy                                         | BA Sci Elective                                      |
| BA Sci Elective                                    | 3                                                    |
| Electives                                          | 3                                                    |
|                                                    | 15                                                   |

6. EXECUTIVE SECRETARIAL PROGRAM. Advisers: Mrs. Glaese, Mrs. Reva, Mr. Park.

In recognition of the increasing demand for trained office personnel, this program is designed to give students not only the basic knowledge and skills necessary for initial employment, but also the background necessary in office administration and supervision that will help the new employee progress toward positions of greater managerial and supervisory responsibility. In recent years greater appreciation of the value of well-planned and well-directed office services has opened an attractive field of employment for college-trained men and women. Those students who wish to teach business subjects in high schools, and who take courses in the College of Education to fulfill teacher certification requirements, may wish to choose this concentration.

Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>BA 12 Intern Typ</td>
<td>BA 17 Office Mach &amp; Filing</td>
</tr>
<tr>
<td>Math 47 Intro to Math for Soc Sci</td>
<td>Gov 1 Intro to</td>
</tr>
<tr>
<td>Foreign Language or History</td>
<td>Foreign Language or History</td>
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<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
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<tr>
<td>Physical Ed</td>
<td>Physical Ed</td>
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<td>16</td>
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<td>+ PE</td>
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Sophomore Year

| BA 62 Adv Typ                                       | Laboratory Science                                  |
| Laborotary Science                                  | 3                                                    |
| Econ 51 Prin of                                    | Econ 52 Prin of                                     |
| BA 5 Prin of Acctg                                  | BA 6 Prin of Acctg                                  |
| Foreign Long or Engl 55 Vocab Bldg                  | BA 65 Business Communications                       |
| Physical Ed                                         | Foreign Long or Engl 64 (Inf Wrtng)                  |
|                                                    | Physical Ed                                         |
|                                                    | 1                                                    |
|                                                    | 15-16                                                |
|                                                    | + PE                                                 |
### Junior Year

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<tr>
<th>Course</th>
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<tr>
<td>Elective or BA 13 Shorth Theory</td>
<td>3</td>
<td>BA 107 Bus Law</td>
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<tr>
<td>BA 106 Bus Law</td>
<td>3</td>
<td>BA 111 Money &amp; Banking</td>
<td>3</td>
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<tr>
<td>BA 108 Prin of Mktg or 110 Corp Finance</td>
<td>3</td>
<td>BA 14 Begin Dictation</td>
<td>3</td>
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<tr>
<td>BA 130 Elements of Ind Adm</td>
<td>3</td>
<td>BA 89 Stat Analysis</td>
<td>3</td>
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<tr>
<td>Gov 51 Amer Gov</td>
<td>3</td>
<td>Elective</td>
<td>3</td>
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### Senior Year

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BA 53 Transcription</td>
<td>3</td>
<td>BA 54 Speed Dictation</td>
<td>3</td>
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<tr>
<td>BA 108 Prin of Mktg or 110 Corp Finance</td>
<td>3</td>
<td>BA 158 Office Mgt</td>
<td>3</td>
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<tr>
<td>BA 157 Sec Office Practice</td>
<td>3</td>
<td>BA 129L Quant Anal for Mgt</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
<td>Speech</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>3</td>
<td>Literature</td>
<td>3</td>
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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**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>Elective</td>
<td>Lab Sci</td>
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<tr>
<td>Lab Sci</td>
<td>Gov 1 Intro to</td>
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<tr>
<td>For Lang or Hist</td>
<td>For Lang or Hist</td>
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<td>Air S Elective</td>
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**Sophomore Year**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Econ 51 Prin of</td>
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<td>Econ 52 Prin of</td>
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<tr>
<td>BA 5 Prin of Acctg</td>
<td></td>
<td>BA 89 Bus Statistics</td>
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<tr>
<td>For Lang or Engl 55</td>
<td></td>
<td>BA 6 Prin of Acctg</td>
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<tr>
<td>AS 51</td>
<td></td>
<td>Soc Sci Elective</td>
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<tr>
<td>Soc Sci Elective</td>
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<td>For Lang or Engl 64</td>
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<td></td>
<td>Gov 51 Amer Gov</td>
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<td>Air S Elective</td>
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**Junior Year**

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<th>Course</th>
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<tbody>
<tr>
<td>BA 106 Bus Law</td>
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<td>Lit</td>
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<tr>
<td>BA 110 Corp Fin</td>
<td></td>
<td>BA 107 Bus Law</td>
<td></td>
</tr>
<tr>
<td>BA 130 El of Ind Adm</td>
<td></td>
<td>BA 111 Mon &amp; Bank</td>
<td></td>
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<tr>
<td>AS 101</td>
<td></td>
<td>BA 129L Quant Anal for Mgt</td>
<td></td>
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<tr>
<td>BA Elective</td>
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<td>AS 102</td>
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**Senior Year**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Philosophy</td>
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<td>Speech</td>
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<tr>
<td>BA 108 Prin of Mktg</td>
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<td>BA Elective</td>
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<td>BA Elective</td>
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<td>BA Elective</td>
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<tr>
<td>Gov 53 Int Politics</td>
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<td>AS 152</td>
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<tr>
<td>Air S Elective</td>
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**BUSINESS ADMINISTRATION STUDENTS IN THE NAVY ROTC**

<table>
<thead>
<tr>
<th>Freshman Year</th>
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<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
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<tr>
<td>Lab Sci</td>
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<tr>
<td>NS 11</td>
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<td>For Lang or Hist</td>
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</tbody>
</table>
Sophomore Year
Econ 52 Prin of
BA 6 Prin of Acctg
BA 89 Stat Analysis
General Psych
For Lang or Engl 64 Inf Wrtng

Junior Year
BA 107 Bus Law
BA 111 Mon & Bank
BA 129L Quant Anal for Mgt
BA Elective
NS 102

Senior Year
BA Elective
NS 152
BA Elective
Speech
Lit
ONE of the most important and urgent responsibilities of The University of New Mexico is the effective preparation of teachers and school service personnel (e.g. principals, counselors, supervisors, and superintendents). In this connection the University’s College of Education plans, develops, coordinates, and evaluates the preparation programs for these teachers and school service personnel. The College of Education also is solely responsible for all the courses, seminars, and professional laboratory experiences which constitute the professional education portions of these programs.

The College of Arts and Sciences, the College of Fine Arts, and, to a limited degree, the College of Business Administration, work closely with the College of Education both in determining and meeting the educational needs of those expecting to serve, or already serving in elementary and secondary schools. The collaborative effort of these colleges is greatly enhanced by the work of the U. N. M. Advisory Committee on Teacher Education, a group of faculty members and administrative officers representing these colleges, which serves in an advisory capacity to the Dean of the College of Education.

Every University of New Mexico program which leads to professional certification for New Mexico’s elementary and secondary schools is made up of: 1) breadth in general (liberal) education; 2) depth in subject-matter specialization; and 3) appropriate offerings in professional education. All three categories are deemed necessary in each program. At the present time all the certification programs offered by this institution for elementary and secondary school classroom teachers include 4 years of college work, culminating in the bachelor’s degree. Beginning in September 1963, however, the University will offer planned five-year programs for classroom teachers who expect to qualify for “Professional Licensure,” as outlined in Rules and Regulations Governing Certification of Teachers, State of New Mexico, adopted by the New Mexico State Board of Education on August 2, 1962.* Four-year programs will continue to be offered, but after 1963 those persons completing them will qualify only for provisional certification which will entitle the holder to teach in New Mexico for a limited time only.

All programs for the preparation of school service personnel are offered at the graduate level only.

ACCREDITATION AND CERTIFICATION

The University of New Mexico is fully accredited by the National Council for the Accreditation of Teacher Education (NCATE). This full accreditation covers every bachelor’s degree program described in this section of the catalog and all graduate programs for teachers and school service personnel listed in the current Graduate School Bulletin, including those offered at the master’s, sixth-year, and doctoral levels.

This full accreditation means that graduates of this institution’s teacher education programs are eligible not only for appropriate certification to teach in New Mexico, but also for comparable certification (same level and/or same subject field) in all the 28 states of the Union which have entered voluntarily into a

* Details of the new regulations are available at the Office of the Dean, College of Education.
reciprocity agreement based upon NCATE accreditation of institutional programs.

The University is also an active member of the American Association of Colleges for Teacher Education.

UNDERGRADUATE PROGRAMS

All the University of New Mexico undergraduate programs accredited by NCATE are devoted entirely to the preparation of regular classroom teachers (elementary or secondary) and of teachers in special areas (i.e., Art Education, Health, Physical Education, Music Education, Industrial Arts, and Home Economics) who may teach in grades 1 through 12. (See curricula for all these programs in later sections of the catalog.)

DEPARTMENTAL HONORS. A departmental honors program is offered in several of the departments of the College of Education. Application for participation in the program must be made during the junior year. The program may consist of any one of the following: (1) a senior thesis, (2) a reading and tutorial program under the major adviser, (3) honors in student teaching. All students permitted to enter the honors program will meet University regulations as described on p. 115. Permission of the major adviser is required for enrollment in course 197, Reading and Research in Honors.

GRADUATE PROGRAMS

MASTER'S DEGREE PROGRAMS. The College of Education offers through the Graduate School programs leading to the master's degree in the following areas of work: Art Education, Educational Administration, Elementary Education, Guidance and Counseling, Music Education, Physical Education, Recreation, Science Education, and Secondary Education. All these programs except Recreation include work in subject matter areas, as well as courses and seminars in professional education. For further information, consult the current Graduate School Bulletin.

SIXTH YEAR PROGRAMS. Sixth year graduate programs leading to the "Certificate of Advanced Graduate Study" are available in the areas of 1) Educational Administration, and 2) Counseling and Guidance. Consult the Department of Educational and Administrative Services for details of these programs.

DOCTOR'S DEGREE PROGRAMS. The College of Education offers through the Graduate School two doctoral programs in Education: one leading to the degree, Doctor of Philosophy; and the other leading to the degree, Doctor of Education. Both these degree programs include work in professional education and subject-matter areas outside professional education. Persons pursuing either of these degrees must complete a concentration of work in one of the following areas of study: (1) Foundations of Education; (2) Administration and Supervision; (3) Curriculum and Instruction; and (4) Pupil Personnel Services. Consult the current Graduate School Bulletin for details of these programs.

TEACHER EDUCATION AT THE UNIVERSITY OF NEW MEXICO

As stated in an earlier section of this catalog, teacher education at The University of New Mexico is viewed as a broad, institutional responsibility. In an effort to marshal all relevant resources of the University to the support of teacher education programs on this campus, the College of Education, the College of
Arts and Sciences, and the College of Fine Arts have agreed upon and now support the following principles, procedures, and requirements with respect to undergraduate teacher education programs offered by the University.

**Principles**

1. Every University of New Mexico student, irrespective of the college in which enrolled, who expects to teach in an elementary or secondary school after receiving the bachelor's degree at this institution is required to submit formal application for admission to the teacher education program he wishes to pursue. Admission to such a program is separate from: (1) admission to the University; and (2) admission to a degree-granting college.

2. There shall be at this institution only one approved preparation program leading to any one teaching objective. (This principle does not preclude flexibility and elective possibilities in a program.)

3. All University of New Mexico students requesting admission to a particular teacher education program shall be subject to the same admission requirements, irrespective of the college in which enrolled.

4. Every teacher education program at the University shall include at least: 50 semester hours of general (liberal) education; 50 semester hours of subject-matter specialization (subject area or areas in which the person expects to teach); and 24 semester hours of professional education.

5. All colleges and departments concerned with the preparation of teachers will cooperate in every way possible in carrying out the five steps listed below.

   1) Identification of majors and minors
   2) Advisement of students
   3) Recommendation for student teaching assignment
   4) Supervision of student teaching
   5) Recommendation for teacher certification

**Requirements for Admission to Teacher Education Programs**

1. Eligibility for admission to a degree-granting college from University College:

   1) Twenty-six hours of earned credit

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

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

   3) Completion of the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score, or a grade of C or better in English A, a non-credit course offered by the Department of English.
2. Evidence of satisfactory speech patterns
3. Satisfactory performance on:
   1) Academic aptitude test (SCAT or ACE)
   2) Personality inventory administered by the Counseling and Testing Service of the University
   3) Selected achievement tests in appropriate subject areas.
4. Evidence of ability to write coherently, clearly, and effectively. (Includes minimum levels in legibility, correctness of spelling and grammar, effectiveness of thought.)
5. Evidence of adequate physical vigor and strength and absence of obvious physical conditions which might interfere materially with a student’s performance in a classroom as a teacher.

**Procedures for Admission to Teacher Education**

1. As soon as possible after a student has met requirements for admission to a degree-granting college and has decided to become a teacher, and not later than the semester in which he takes his first professional course, the student shall make formal application for admission to teacher education. Forms for this purpose may be obtained at the offices of the Deans of the College of Education, Arts and Sciences, Fine Arts, and Business Administration.

2. Instructions received with the application forms will then guide the student in next steps to be taken in this connection.

3. Any student making formal application for admission to a teacher education program after the first semester of his junior year, may be required to spend one or more additional semesters beyond the usual 4-year period, in order to complete the desired program.

4. Students transferring from other colleges or universities or students in the University College wishing to pursue any of the preparation programs listed below must enroll in the College of Education as soon as eligible. These programs are available only through the College of Education: a) Elementary Education; b) Health and Physical Education; c) Home Economics; d) Industrial Arts; e) Recreation; f) Composite in Science (Secondary Level); g) Composite in Social Sciences (Secondary Level); h) Composite in Communication Arts (Secondary Level).

5. Persons wishing to pursue either the Art Education Curriculum or the Music Education Curriculum may enroll in either the College of Education or the College of Fine Arts, inasmuch as these two programs are jointly offered by these two colleges.

6. Persons wishing to pursue the Business Education Curriculum may enroll in either the College of Education or the College of Business Administration.

7. All students expecting to complete teaching majors in general subject areas (e.g. English, Mathematics, History, Biology, Chemistry, Physics, Foreign Languages, Government, and Speech) and wishing to be recommended and certified to teach in one or more of these areas at the junior or senior high school level may enroll in either the College of Education or the College of Arts and Sciences.

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1. "Satisfactory performance" details available in the Office of the Dean, College of Education.
TRANSFER STUDENTS

All students transferring from another college or university and wishing to pursue a teacher education program at this University are subject to all requirements for admission to these teacher education programs. They may be enrolled conditionally for one semester only in the College of Education, during which time they must complete all the requirements referred to above. Any such transfer student not completing these requirements during the first semester at this University shall be declared ineligible for further enrollment in teacher education programs.

MAXIMUM NUMBER OF HOURS

No student in the College of Education may enroll for more than 17 semester hours, plus 1 hour of physical education (or military drill in the case of NROTC and AFROTC students), unless his standing for the previous semester was at least B in two thirds of his studies, with no grade below C; and then only by presenting a written petition to the chairman of his department, who may, at his discretion, grant permission to enroll for extra hours, not to exceed 21 including physical education.

PROFESSIONAL LABORATORY EXPERIENCES

All degree programs offered through the College of Education include organized and sequential experiences with children and youth. These required experiences (usually referred to as professional laboratory experiences) include directed observation of pupils at work and at play, guided participation with groups of children, and, finally, the formal student teaching assignment.

OBSERVATION AND PARTICIPATION. Selected elementary and secondary schools in the Albuquerque Public Schools, other nearby school systems, and selected community agencies, are used for observation and participation with children and youth in their work and play activities. These pre-student-teaching experiences are carefully planned and directed cooperatively by University faculty members and representatives of the cooperating school systems and agencies.

STUDENT TEACHING. The student teaching assignment, usually occurring in the senior year, is the culminating experience of the entire undergraduate preparation program, and is considered one of the most important prerequisites to graduation and certification for teaching. Because of the importance of this experience, specific requirements are set up for admission to student teaching. Every student must complete these requirements before his admission to student teaching, and it is recommended, therefore, that he read and thoroughly understand them before he makes formal application for a student teaching assignment.

Requirements for Admission to Student Teaching

For admission into student teaching the student must have:

1. Been regularly admitted and be in good standing in the college in which enrolled at the time of application. This requirement means specifically that the English Proficiency examination must have been passed and that the student is not on probation at the time of application.
2. Registered with the University supervisor of student teaching (elementary or secondary) the spring before the actual student teaching begins.

3. Passed a physical examination, including a chest X-ray, as required of regular school teachers. Evidence of the examination and its findings, completed within three months of the date of application, must be filed with the Director of Professional Laboratory Experiences (Secondary Education) or the Chairman of the Department (Elementary) at the time application is made.

4. Achieved a general grade-point average of at least 2.00 (C) in all courses attempted at The University of New Mexico. Graduate students must also meet these requirements and maintain a 3.0 grade point average.

5. Achieved a grade point average of at least 2.3 in all courses attempted in the major teaching area (elementary education, English, history, industrial arts, etc.).

6. Completed Speech 55 satisfactorily and/or passed a speech proficiency test for prospective teachers administered by the Department of Speech.

7. Demonstrated proficiency in English usage. If any staff member in the University has reported a deficiency in the use of written English (including spelling and grammatical usage), the student will also be required to pass successfully a special written examination prepared and scored by at least three members of the College of Education department involved (Secondary or Elementary).

8. Completed satisfactorily all prerequisites for student teaching listed in the current University Catalog.

9. Planned a total semester schedule of no more than 15 hours of course work, including student teaching. A course load of 12 hours is highly recommended. Elementary student teachers must be available between 8:30 a.m. and 12 noon daily and secondary student teachers must have a block of three hours daily (between 8:00 a.m. and 3:00 p.m.) clear for assignment in the schools.

10. Arranged his schedule in order to be available to start an assignment in the fall when public school students report for the fall semester (usually late August or early September). Students should register for student teaching in the spring and carefully check starting dates with an adviser.

11. Filed an application for degree in the office of the dean of the college.

Each Elementary Student Teacher Must Also Have:

1. Passed a proficiency examination in preparing typed, duplicated materials for use with an elementary school class. Specific requirements are available in the Department of Elementary Education.

2. Demonstrated proficiency in handwriting—both cursive and manuscript styles—both on paper and on the chalkboard. Acceptable standards of legibility and form will be required.

3. Demonstrated ability to thread, run and rewind a filmstrip and a motion picture projector, when both machines are functioning properly.

Each Secondary School Teacher Must Also Have:

1. Submitted recommendations from three faculty members indicating that the student is believed ready for student teaching. (Signatures are included on application form.)
2. Completed a major portion of work in his teaching major and minor.

The student teaching assignment is carried on under the personal direction of selected teachers in the cooperating school systems and professors from the University.

These experienced and competent supervisors and the excellent facilities of the nearby elementary and secondary schools provide a splendid opportunity for University students to work in a practical laboratory situation, in which the principles of good teaching can be studied, observed, and applied. Furthermore, this student teaching experience is closely correlated with campus courses and seminars included in the students’ programs.

COOPERATING TEACHERS

The University of New Mexico is deeply indebted to the cooperating teachers in the Albuquerque and nearby school systems who help to supervise the student teachers during their assignments for the actual classroom experience.

These carefully selected teachers who work closely with the University faculty representatives in planning and carrying out these practical experiences for the student teachers are in every sense of the word temporary members of the University faculty, and are, therefore, accorded some of the privileges extended to the permanent faculty members. It is hoped that these privileges may be extended as the cooperation between the University and nearby school systems is increased. The names of the cooperating teachers are listed each year in the Student Teaching Handbook, published and distributed by the University.

LABORATORIES

LEARNING MATERIALS CENTER. (Located in the new College of Education Center). Students pursuing undergraduate and graduate programs may make use of the Learning Materials Center which includes samples of all textbooks used in New Mexico elementary and secondary schools, courses of study, curriculum guides, manipulative materials used in the teaching of mathematics and science, globes, charts, 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. (Located in the new College of Education Center.) Industrial arts laboratories are maintained for the 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 bench 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. 98 for description of services.

SCHOLASTIC REGULATIONS


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 and physical education receive the degree of Bachelor of Science in Health and Physical Education; those who major in recreation receive the degree of Bachelor of Arts in Recreation; those who major in industrial arts receive the degree of Bachelor of Science in Industrial Arts Education; and those who major in other subjects receive the degree of Bachelor of Arts in Education.

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

1. 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, and at least a 2.0 grade-point average on all work attempted at The University of New Mexico.

3. In addition to the required work in general education and in teaching majors and minors, professional courses in education are required as outlined in the various curricula. All candidates for degrees are required to take a course in observation and student teaching.

4. Students who plan to teach in the elementary schools are required to have a major or a minor of at least 24 sem. hrs. in a subject area. They will be expected to follow the curriculum as outlined on pp. 152-153.

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 English A, a non-credit course offered by the Department of English. No student shall be recommended for graduation unless he shows ability to write and speak clear and correct English.

7. Every candidate for graduation must take the Graduate Record Examination. (See p. 113.) 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 pp. 112-113.

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 workshop restrictions related to graduate degrees, see current Graduate School Bulletin.

GENERAL (LIBERAL) EDUCATION REQUIREMENTS

All prospective teachers should be broadly educated as a foundation for a successful professional career. 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 course. 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, government and citizenship, history, philosophy, and sociology. 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 and Astronomy, Chemistry, Biology, Geology, Mathematics, 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

MAJOR STUDY (TEACHER CERTIFICATION FOR ART AND PROVISIONAL SECONDARY CERTIFICATES)

A student may enroll in either the College of Education or the College of Fine Arts and satisfy requirements for teacher certification at the secondary level.

The candidate for the B.A. in Education must complete at least 40 semester hours in courses numbered above 100.

The following curriculum prepares the student to teach art and a second subject area in grades 7-12. The successful completion of this curriculum entitles the graduate to the Provisional Secondary Certificate endorsed for the teaching of art issued by the New Mexico Department of Education.*

CURRICULUM FOR SECONDARY TEACHERS**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3 Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
</tr>
<tr>
<td>† Soc Sci</td>
<td>3 † Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>† Math or Science</td>
<td>4 † Math or Science</td>
<td>4</td>
</tr>
<tr>
<td>Art 3 Two Dim Des</td>
<td>3 Art 53 Three Dim Des</td>
<td>3</td>
</tr>
<tr>
<td>Art 6 Begin Draw</td>
<td>3 Art Studio</td>
<td>3</td>
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<tr>
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<td></td>
<td>17</td>
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<table>
<thead>
<tr>
<th>Sophomore Year</th>
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</thead>
<tbody>
<tr>
<td>Engl Lit</td>
</tr>
<tr>
<td>† Math or Science</td>
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<tr>
<td>† Soc Sci</td>
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<tr>
<td>Art Ed 48 Creat Arts in Sec Ed</td>
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<td>Art 71 Gen Art Hist</td>
</tr>
<tr>
<td>Physical Ed</td>
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<table>
<thead>
<tr>
<th>Junior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psy 110 or 111, Ed or Child &amp; Adoales</td>
</tr>
<tr>
<td>Ed &amp; Ad Serv 104 Philos of Ed</td>
</tr>
<tr>
<td>Sec Ed 141 Founda of</td>
</tr>
<tr>
<td>Art, Studio</td>
</tr>
<tr>
<td>Art Electives</td>
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<td></td>
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<table>
<thead>
<tr>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Ed 124 Pre-tchg Exper in Art</td>
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<tr>
<td>Art Electives</td>
</tr>
<tr>
<td>† Gen Electives</td>
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</tr>
</tbody>
</table>

* Students wishing to qualify for a special certificate endorsed for the teaching of art in Grades 1-12 must include in the curriculum above Art Education 120 or Elementary Education 118 and Elementary Education 136 (3 cr). Electives may be used to meet this requirement. In the case of a student desiring 1-12 certification in art no minor is required.

** Students enrolled in College of Fine Arts must meet group requirement listed on p. 175.
† Choose from General Education requirement of College of Education, p. 149.
† Electives are to be used to meet departmental minor requirements. A minor may be selected from approved list shown on p. 160.
†† Student teaching may be divided between the 2 semesters of the senior year.
MINOR STUDY IN ART EDUCATION

Elementary Education students: Art 3, 6, 53, and 71 or 72; Art Education 17, 18, 120, and 124. Secondary Education students: same as above except that Art Education 48 and 49 must be substituted for Art Education 17 and 18.

BUSINESS EDUCATION

SECRETARIAL CURRICULUM

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

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Sophomore Year</th>
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</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3 English (Literature)</td>
</tr>
<tr>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3 Spch 55 Pub Spkg</td>
</tr>
<tr>
<td>*Laboratory Science</td>
<td>8 *Math or Science</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>6 Bus Ad 62 Adv Typ</td>
</tr>
<tr>
<td>Bus Ad 12 Intern Typ</td>
<td>3 Econ 51 Prin of</td>
</tr>
<tr>
<td>Math 1 Coll Arith</td>
<td>2 †Bus Ad 5-6 Prin of Acctg</td>
</tr>
<tr>
<td>Fine Arts Elective</td>
<td>3 Psy 51 Gen</td>
</tr>
<tr>
<td>Bus Ad 17 Office Mach &amp; Filing</td>
<td>2 ‡Bus Ad 13 Shorthand Theory</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>2 ‡Bus Ad 14 Begin Dictation</td>
</tr>
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</table>

32

Junior Year

<table>
<thead>
<tr>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Ad 53 Transcription</td>
</tr>
<tr>
<td>Bus Ad 54 Speed Dicta</td>
</tr>
<tr>
<td>Econ 103 Consumer Ec</td>
</tr>
<tr>
<td>§Education Elective</td>
</tr>
<tr>
<td>Bus Ad 106-107 Business Law</td>
</tr>
<tr>
<td>Bus Ad 65 Bus Commun</td>
</tr>
<tr>
<td>Sec Ed 141 Founda of</td>
</tr>
<tr>
<td>Electives &amp; Minor</td>
</tr>
<tr>
<td>Sec Ed 155g Tchg of Bus Subjs</td>
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31-33

30-32

Senior Year

<table>
<thead>
<tr>
<th>Electives &amp; Minor</th>
<th>10-11</th>
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</thead>
<tbody>
<tr>
<td>§Education Elective</td>
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</table>

31-32

GENERAL BUSINESS CURRICULUM

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

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Sophomore Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3 English (Literature)</td>
</tr>
<tr>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3 Spch 55 Pub Spkg</td>
</tr>
<tr>
<td>*Laboratory Science</td>
<td>8 Econ 51-52 Prin of</td>
</tr>
<tr>
<td>Fine Arts Elective</td>
<td>3 ††Bus Ad 89 Statistical Anal</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>6 Psy 51 Gen</td>
</tr>
<tr>
<td>Math 47</td>
<td>4 †Bus Ad 5-6 Prin of Acctg</td>
</tr>
<tr>
<td>Electives or Minor</td>
<td>6 §Education Elective</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>2 Bus Ad Elective</td>
</tr>
</tbody>
</table>

35

32

* Choose from General Education requirement listed on p. 149.
† Business Ad 5 is open to freshmen who are eligible to enroll in, or have completed, Mathematics 47.
‡ Certain elementary courses may be waived on the basis of a placement test if the student has had shorthand in high school, but 6 hours of credit must be earned in shorthand and 6 in typewriting.
†† Prerequisite: Mathematics 47.
§ As approved by the Chairman of the Department of Secondary Education.
### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 141 Founda of Bus Ad</td>
<td>3</td>
<td>Sec Ed 156-157 Stu Tchg in Sec Schs</td>
<td>6-9</td>
</tr>
<tr>
<td>Bus Ad 106-107 Bus Law</td>
<td>6</td>
<td>§Ed Electives</td>
<td>6</td>
</tr>
<tr>
<td>§Ed Electives</td>
<td>6</td>
<td>Bus Ad 110 Corp Finance</td>
<td>3</td>
</tr>
<tr>
<td>Bus Ad 65 Bus Commun</td>
<td>3</td>
<td>Bus Ad 130 Elem of Indus Adm</td>
<td>3</td>
</tr>
<tr>
<td>Bus Ad 111 Money &amp; Banking</td>
<td>3</td>
<td>Electives or Minor</td>
<td>9</td>
</tr>
<tr>
<td>Bus Ad 108 Prin of Mktg</td>
<td>3</td>
<td>Bus Ad Elective</td>
<td>3</td>
</tr>
<tr>
<td>Sec Ed 153 Mater &amp; Meths of Tchg in Sec Schs</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Electives or Minor</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
<td><strong>Total</strong></td>
<td>30-33</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 156-157 Stu Tchg in Sec Schs</td>
<td>6-9</td>
<td>§Ed Electives</td>
<td>6</td>
</tr>
<tr>
<td>Bus Ad 110 Corp Finance</td>
<td>3</td>
<td>Bus Ad 130 Elem of Indus Adm</td>
<td>3</td>
</tr>
<tr>
<td>Electives or Minor</td>
<td>9</td>
<td>Bus Ad Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30-33</td>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 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.

### Educational and Administrative Services

See pp. 244-247 for course descriptions, and the Graduate Bulletin for detailed descriptions of master's and doctoral programs.

### Elementary Education

Curriculum for Students Preparing to Teach in Elementary Schools

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Lit 1 Wrtng w/Rdgs in Lit</td>
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</tr>
<tr>
<td></td>
<td>Biol 1L, 2L Gen</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Hist 11, 12 The Americas or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hist 51, 52 US</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Art Ed 17 Creat Arts in El Sch</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Art Ed 18 Creat Crafts in El Sch</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Physical Ed</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>‡Electives</td>
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</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>34</td>
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<tr>
<td></td>
<td>Literature elective</td>
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<tr>
<td></td>
<td>Spch 55 Pub Spkg</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Geol 1 Physical or Phys Sci 61</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Geol 2 Historical or Phys Sci 62</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Geog 1, 2 Gen</td>
<td>6</td>
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<tr>
<td></td>
<td>Mus Ed 93 Prim Grds</td>
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<tr>
<td></td>
<td>Mus Ed 94 Interm Grds</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Physicat Ed</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Math 1 Call Arith</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Psych 51 Gen</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>‡Electives</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td>35</td>
</tr>
</tbody>
</table>

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

‡ Students must use these hours toward a minor of at least 24 sem. hrs. in a subject area approved by the Department of Elementary Education. Students wishing to complete both a major in elementary education and a second major in another field should consult both departments concerned. Students wishing to work with mentally retarded children will complete a minor in Psychology, including Psych 60, 113, 114; and El Ed 139, 141, and 145 plus an additional 3 hrs. of El Ed 136 with mentally retarded children.
### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI Ed 118 Child Growth &amp; Dev</td>
<td>3</td>
</tr>
<tr>
<td>EI Ed 119 PE in El Sch</td>
<td>2</td>
</tr>
<tr>
<td>EI Ed 121 Reading in El Sch</td>
<td>3</td>
</tr>
<tr>
<td>EI Ed 122 Soc Studies in El Sch</td>
<td>2</td>
</tr>
<tr>
<td>EI Ed 124 Sci in El Sch</td>
<td>3</td>
</tr>
<tr>
<td>EI Ed 135 Arith in El Sch</td>
<td>2</td>
</tr>
<tr>
<td>Ed &amp; Ad Serv 188 Ment Hyg in Clrsm or Home</td>
<td></td>
</tr>
<tr>
<td>Phys Ed 72 Hlth Ed</td>
<td>3</td>
</tr>
<tr>
<td>Soc 2 Intro to</td>
<td>3</td>
</tr>
<tr>
<td>Gov 103 Probs of Democ</td>
<td>3</td>
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<tr>
<td>Electives</td>
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### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Ed &amp; Ad Serv 90 Founda of Ed</td>
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<tr>
<td>EI Ed 120 Child Lit</td>
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<td>EI Ed 136 Student Tchg in El Sch</td>
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<tr>
<td>Electives</td>
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</table>

### 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.)

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
</tr>
<tr>
<td>Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>PE 64 First Aid</td>
<td>2</td>
</tr>
<tr>
<td>PE 44 Swimming</td>
<td>2</td>
</tr>
<tr>
<td>PE 45 Phys Fitness Prag</td>
<td>2</td>
</tr>
<tr>
<td>Fine Arts Elective</td>
<td>2-3</td>
</tr>
<tr>
<td>PE Activity</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
</tr>
<tr>
<td>Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>PE 72 Hlth Ed</td>
<td>3</td>
</tr>
<tr>
<td>PE 74 Th &amp; Prac of Football</td>
<td>2</td>
</tr>
<tr>
<td>PE 75 Th &amp; Prac of Basketball</td>
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<tr>
<td>PE Activity</td>
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**Sophomore Year**

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<tr>
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</tr>
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<td>Biol 12L Gen Zool</td>
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<tr>
<td>Psy 51 Gen</td>
<td>3</td>
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<tr>
<td>PE 40 Gymnastics</td>
<td>2</td>
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<tr>
<td>PE 77 Th &amp; Prac of Baseball</td>
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<tr>
<td>PE Activity</td>
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**Junior Year**

<table>
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<tbody>
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<td>Biol 126L Phys of Exercise</td>
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<td>PE 41 Recrea Sports</td>
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<tr>
<td>PE 119 PE in El Sch</td>
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</tr>
<tr>
<td>PE 138 Tchg Hlth Ed in Schs</td>
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</tr>
<tr>
<td>PE 171 Prin of</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 141 Founda of</td>
<td>3</td>
</tr>
<tr>
<td>EI Ed 118 Child Growth &amp; Dev</td>
<td>3</td>
</tr>
<tr>
<td>PE 128 Treat of Athl Injuries</td>
<td>2</td>
</tr>
<tr>
<td>PE 104 Kinesiology</td>
<td>4</td>
</tr>
<tr>
<td>PE 172 Org &amp; Adm of</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI Ed 139, 141, and 145 plus an additional</td>
<td></td>
</tr>
<tr>
<td>3 hrs. of EI Ed 136 with mentally retarded</td>
<td></td>
</tr>
<tr>
<td>Students must use these hours toward a minor</td>
<td></td>
</tr>
<tr>
<td>of at least 24 sem. hrs. in a subject area</td>
<td></td>
</tr>
<tr>
<td>approved by the Department of Elementary</td>
<td></td>
</tr>
<tr>
<td>Education. Students wishing to complete both</td>
<td></td>
</tr>
<tr>
<td>a major in elementary education and a second</td>
<td></td>
</tr>
<tr>
<td>major in another field should consult both</td>
<td></td>
</tr>
<tr>
<td>departments concerned. Students wishing to</td>
<td></td>
</tr>
<tr>
<td>work with mentally retarded children will</td>
<td></td>
</tr>
<tr>
<td>complete a minor in Psychology, including</td>
<td></td>
</tr>
<tr>
<td>Psych 60, 113, 114; and EI Ed 139, 141, and</td>
<td></td>
</tr>
<tr>
<td>145 plus an additional 3 hrs. of EL Ed</td>
<td></td>
</tr>
<tr>
<td>136 with mentally retarded children.</td>
<td></td>
</tr>
</tbody>
</table>

* Choose from General Education requirement listed on p. 149.
### 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.

**Freshman Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs In Expos</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>†Soc Sci</td>
<td>†Soc Sci</td>
</tr>
<tr>
<td>Art</td>
<td>Biol 36 &amp; 39L Hum Anat &amp; Phys &amp; Lab</td>
</tr>
<tr>
<td>Biol 12L Gen Zool</td>
<td>PE 49 Team Sports</td>
</tr>
<tr>
<td>PE 48 Body Mech &amp; Self-Test Activ</td>
<td>PE 72 Hlth Ed</td>
</tr>
<tr>
<td>PE Activity</td>
<td>PE Activity</td>
</tr>
<tr>
<td>14 + 1</td>
<td>15 + 1</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>English (Literature)</th>
<th>Math or Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>†Soc Sci</td>
<td>†Soc Sci</td>
</tr>
<tr>
<td>Psy 51 Gen</td>
<td>PE 55 Pub Spkg</td>
</tr>
<tr>
<td>PE 64 First Aid</td>
<td>PE 99 Indiv &amp; Dual Sports</td>
</tr>
<tr>
<td>PE 98 Folk Dance</td>
<td>PE 145A Prof Lab Exp</td>
</tr>
<tr>
<td>PE Activity</td>
<td>PE Activity</td>
</tr>
<tr>
<td>Electives</td>
<td>Electives</td>
</tr>
<tr>
<td>15 + 1</td>
<td>16-17 + 1</td>
</tr>
</tbody>
</table>

* Students wishing to be certified on kindergarten through 12 basis must take El Ed 136 (P.E.). For certification at the secondary level, only Sec Ed 156 is required.
† Choose from General Education requirement listed on p. 149.
MINOR STUDY IN PHYSICAL EDUCATION FOR WOMEN

This minor is designed to prepare students to teach physical education in the elementary or secondary schools.

MAJOR STUDY IN RECREATION

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

### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol 126L Phys of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>PE 107 Team Sports in Sec Sch</td>
<td>2</td>
</tr>
<tr>
<td>PE 121 Official in Sports or</td>
<td></td>
</tr>
<tr>
<td>156 Tchg of Contemp Dance</td>
<td>2</td>
</tr>
<tr>
<td>PE 138 Tchg of Hlth Ed in Schs</td>
<td>3</td>
</tr>
<tr>
<td>PE 145D Prof Lab Exp</td>
<td>1</td>
</tr>
<tr>
<td>El Ed 118 Child Growth &amp; Dev</td>
<td>3</td>
</tr>
<tr>
<td>PE 125 Org of Sports Progs</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 153 Mater &amp; Meth of Tchg in Sec Sch</td>
<td>3</td>
</tr>
<tr>
<td>PE 145C Prof Lab Exp</td>
<td>1</td>
</tr>
<tr>
<td>El Ed 136 (PE)* Stu Tchg in El Schs</td>
<td>3</td>
</tr>
<tr>
<td>PE 145B Prof Lab Exp</td>
<td>1</td>
</tr>
<tr>
<td>PE 171 Prin of</td>
<td>3</td>
</tr>
<tr>
<td>PE 109 Aqua and Gymst</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

### Minor Study in Physical Education for Women

This minor is designed to prepare students to teach physical education in the elementary or secondary schools.

### MAJOR STUDY IN RECREATION

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

#### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
</tr>
<tr>
<td>†Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>Art, Art Ed, or IA</td>
<td>3</td>
</tr>
<tr>
<td>PE Activity</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
</tr>
<tr>
<td>†Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>Art, Art Ed, or IA</td>
<td>3</td>
</tr>
<tr>
<td>PE Activity</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

#### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl (Lit)</td>
<td>3</td>
</tr>
<tr>
<td>†Not Sci</td>
<td>3</td>
</tr>
<tr>
<td>Mus 95 Mus in Recrea Ldrshp</td>
<td>2</td>
</tr>
<tr>
<td>†Soc Sci</td>
<td>2</td>
</tr>
<tr>
<td>Psy 51 Gen</td>
<td>2</td>
</tr>
<tr>
<td>PE 64 First Aid</td>
<td>2</td>
</tr>
<tr>
<td>PE Activity</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

* Students wishing to be certified on kindergarten through 12 basis must take EI Ed 136 (P.E.).

**For certification at the secondary level, only Sec Ed 156 is required.**

† Choose from General Education requirement listed on p. 149.
## Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 103 Prin of Recrea</td>
<td>3</td>
<td>PE 119 PE in El Sch</td>
<td>2</td>
</tr>
<tr>
<td>Sociology Elective</td>
<td>3</td>
<td>PE 131 Prin &amp; Prac of Camp</td>
<td>3</td>
</tr>
<tr>
<td>DA 110 Elective</td>
<td>3</td>
<td>El Ed 118 Child Growth &amp; Dev</td>
<td>3</td>
</tr>
<tr>
<td>PE 45 Phys Fitness Progs or 107 Team</td>
<td></td>
<td>PE 41 Recrea Sports or 108 Indiv Sports in Sec Sch</td>
<td></td>
</tr>
<tr>
<td>Sports in Sec Sch</td>
<td>2-3</td>
<td>PE 174 Org of Commun Recrea</td>
<td>3</td>
</tr>
<tr>
<td>PE 44 Swim or 121 Officia in Sports</td>
<td>2</td>
<td>PE 40 Gymnastics or Elec</td>
<td>2-3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16-17</td>
<td></td>
<td>15-17</td>
</tr>
</tbody>
</table>

## Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 175 Fld Wk in Recrea</td>
<td>3</td>
<td>PE 176 Fld Wk in Recrea</td>
<td>3</td>
</tr>
<tr>
<td>Psy 101 Social Psy</td>
<td>3</td>
<td>Gov (City, State, Nat'l)</td>
<td>3</td>
</tr>
<tr>
<td>PE 125 Org of Sports Progs</td>
<td>3</td>
<td>Sociology Elective</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7</td>
<td>Electives</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

### MINOR STUDY IN RECREATION

- PE 103 Prin of Recrea
- PE 175 Fld Wk in Recrea
- Speciality in one area (in addition to major field). Consult adviser for list of approved courses for specialty
- Electives approved by adviser

### 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE 72 Hlth Ed</td>
<td>3</td>
<td>PE 64 First Aid</td>
<td>2</td>
</tr>
<tr>
<td>PE 138 Tchg of Hlth Ed in Schs</td>
<td>3</td>
<td>PE 163 Adm of a Sch Hlth Prog</td>
<td>3</td>
</tr>
<tr>
<td>Home Ec 104 Nutrition</td>
<td>3</td>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>PE 164 Gen Safety Ed</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HOME ECONOMICS

#### MAJOR STUDY

See curriculum. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 253.

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 157 or 159; Biology 93L; Chemistry 64L or Biology 123L.*

#### MINOR STUDY

A total of 24 or 25 hours, at least 9 hours numbered above 100, chosen from the following four areas and from the following courses:

1. Family Relations and Child Development, from 6-7 hours: H. E. 2L, 128, 138L.
2. Clothing and Textiles, 6 hours: H. E. 12L, 60, 63L, 64L.

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

---

* See adviser for selection of courses to meet the requirements for Plan III, Emphasis I, II, or III and Concentration A or C of the American Dietetic Association.
CURRICULUM FOR STUDENTS PREPARING TO TEACH HOME ECONOMICS

This curriculum leading to a degree of Bachelor of Science in Education with a major in Home Economics is designed to prepare the student to teach Home Economics in the junior and the senior high school, for a career in Home Economics in business, as well as for the role of a homemaker. The curriculum for students preparing to teach home economics is approved by the State Department of Vocational Education for the training of teachers of 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.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th></th>
<th>Second Semester</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
</tr>
<tr>
<td>Art Ed 30 Tech of Design Ed</td>
<td>3</td>
<td>Biol 36 Human Anat &amp; Physiol</td>
<td>3</td>
</tr>
<tr>
<td>H Ec 12L Cloth Selec &amp; Constr</td>
<td>3</td>
<td>Art Ed 31 Tech of Design Ed</td>
<td>3</td>
</tr>
<tr>
<td>H Ec 2L Infant Growth &amp; Dev</td>
<td>3</td>
<td>H Ec 53L Food and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>3</td>
<td>*Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
<td>Physical Ed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td>16</td>
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</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 41L Elem of Gen Chem</td>
<td>4</td>
<td>Chem 42L Elem of Org Chem</td>
</tr>
<tr>
<td>Psy 51 Gen</td>
<td>3</td>
<td>Spch 55 Pub Spkg</td>
</tr>
<tr>
<td>H Ec 54L Food and Nutrition</td>
<td>3</td>
<td>H Ec 60 Textiles</td>
</tr>
<tr>
<td>H Ec 63L Adv Cloth Constr</td>
<td>3</td>
<td>H Ec 62 Pers &amp; Fam Hlth</td>
</tr>
<tr>
<td>H Ec 109 House &amp; its Furn</td>
<td>3</td>
<td>Elective</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
<td>Physical Ed</td>
</tr>
<tr>
<td></td>
<td>17</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 141 Founda of</td>
<td>3</td>
<td>Ec 103 Consumer Ec</td>
</tr>
<tr>
<td>H Ec 107L Exper Foods</td>
<td>3</td>
<td>Sec Ed 153 Mater &amp; Meth of Tchg in Sec Sch</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>3</td>
<td>H Ec 128 Family Rela</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>H Ec 64L Adv Cloth Constr</td>
</tr>
<tr>
<td>Psy 110 Ed</td>
<td>3</td>
<td>Electives</td>
</tr>
<tr>
<td></td>
<td>15</td>
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<table>
<thead>
<tr>
<th>Senior Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H Ec 127L Nutri &amp; Diet</td>
<td>4</td>
<td>H Ec 132 Home Mgnt</td>
</tr>
<tr>
<td>H Ec 138L Child Care &amp; Dev</td>
<td>4</td>
<td>H Ec 133L Home Mgnt Residence</td>
</tr>
<tr>
<td>Engl (Lit)</td>
<td>3</td>
<td>H Ec 196 H Ec Seminar</td>
</tr>
<tr>
<td>Sec Ed 155d Tchg of H Ec</td>
<td>3</td>
<td>Sec Ed 156 Student Tchg in Sec Sch</td>
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<tr>
<td>Electives</td>
<td>2</td>
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</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

* Choose from General Education requirement listed on p. 149.
† Certain beginning courses may be waived on the basis of a placement test.
INDUSTRIAL ARTS EDUCATION

CURRICULUM FOR STUDENTS PREPARING TO TEACH INDUSTRIAL ARTS
(Leading to the degree of Bachelor of Science in Industrial Arts Education.)

Freshman Year  Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
<td>Engl (Lit)</td>
<td>3</td>
</tr>
<tr>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
<td>Spch 55 Pub Spkg</td>
<td>3</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>3</td>
<td>*Soc Sci</td>
<td>9</td>
</tr>
<tr>
<td>IA 1 Shop Computa</td>
<td>4</td>
<td>Psy 51 Gen</td>
<td>3</td>
</tr>
<tr>
<td>IA 5 Intro to IA</td>
<td>2</td>
<td>IA 65L Wood Area II</td>
<td>2</td>
</tr>
<tr>
<td>IA 10L Wood Area I</td>
<td>3</td>
<td>IA 80L Gen Elect &amp; Electronics</td>
<td>3</td>
</tr>
<tr>
<td>IA 20L Metal Area I</td>
<td>3</td>
<td>IA 85L Metal Area II</td>
<td>2</td>
</tr>
<tr>
<td>IA 25 Design in IA</td>
<td>2</td>
<td>IA 86L Metal Area III</td>
<td>3</td>
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<tr>
<td>CE 11L Draft I</td>
<td>3</td>
<td>CE 61L Draft II</td>
<td>3</td>
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<tr>
<td>CE 12L Draft II</td>
<td>2</td>
<td>CE 62L Draft IV</td>
<td>2</td>
</tr>
<tr>
<td>Art Ed 20, 21 Tech of Crafts Ed</td>
<td>4</td>
<td>Physical Ed</td>
<td>2</td>
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<td>Physical Ed</td>
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<td>35</td>
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<td></td>
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<tr>
<td>Junior Year</td>
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<tr>
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<td></td>
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<tr>
<td>*Science &amp; Lab</td>
<td>8</td>
<td>Sec Ed 155i Tchg of IA</td>
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</tr>
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<td>Ed Elective (over 100)</td>
<td>3</td>
<td>Ed Elective (over 100)</td>
<td>3</td>
</tr>
<tr>
<td>Sec Ed 141 Founda of</td>
<td>3</td>
<td>IA 166 Th &amp; Org of Gen Shop</td>
<td>3</td>
</tr>
<tr>
<td>Sec Ed 153 Mater &amp; Meth of Tchg in Sec Sch</td>
<td>3</td>
<td>Sec Ed 156 or Elem Ed 136 Stu Tchg</td>
<td>3</td>
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<tr>
<td>IA 115L Wood Area III</td>
<td>3</td>
<td>Sec Ed 157 Student Tchg</td>
<td>3</td>
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<tr>
<td>IA 130L Power Mechanics</td>
<td>2</td>
<td>IA 162L Wood Area V</td>
<td>3</td>
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<tr>
<td>IA 140L Metal Area IV</td>
<td>3</td>
<td>IA 165L Metal Area V</td>
<td>3</td>
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<tr>
<td>IA 150L Wood Area IV</td>
<td>3</td>
<td>Elective</td>
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<tr>
<td>Technical Elective</td>
<td>3</td>
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<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

MINOR STUDY

CE 11L Drafting I                            | 3     | Art Ed 20, 21, Tech of Crafts Ed            | 4     |
IA 15L, 16L General Woodwork                 | 4     | Technical Electives                         | 7     |
IA 17L, 18L General Metalwork                | 4     |                                             | 24    |
IA 25 Design in Ind Arts                     | 2     |                                             |       |

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.

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC IN GRADES 1-12 (133 hours)

First Semester  Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
<td>3</td>
</tr>
<tr>
<td>*Soc Sci</td>
<td>3</td>
<td>*Soc Sci</td>
<td>3</td>
</tr>
<tr>
<td>*Math or Science</td>
<td>4</td>
<td>*Math or Science</td>
<td>4</td>
</tr>
<tr>
<td>Mus 5 Music Theory</td>
<td>3</td>
<td>Mus 6 Music Theory</td>
<td>3</td>
</tr>
<tr>
<td>Applied Mus Elective</td>
<td>2</td>
<td>Applied Mus Elective</td>
<td>3</td>
</tr>
<tr>
<td>Ensemble Elective</td>
<td>1</td>
<td>Ensemble Elective</td>
<td>1</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1</td>
<td>Physical Ed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>16 + 1 PE</td>
<td></td>
<td>16 + 1 PE</td>
</tr>
</tbody>
</table>

* Choose from General Education requirement listed on p. 149.
† Choose from General Education requirements listed on p. 149. 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. 149.
All students pursuing the curriculum listed above are also subject to all requirements pertaining to Music Education listed on p. 308.

MINOR IN MUSIC EDUCATION
Mus 5, 6, Music Theory 6 Mus Ed 63, 64 Cond; Choral Cond 2
Mus Apprec or Mus Hist 4-6 Mus Ed 93, 94, Mus in Prim and Interm 4
Music, Piano 4 or 145 and 146 Mus in Jh & Sr High 4
Music, Voice 2 Ensemble 2

PHYSICAL EDUCATION

SECONDARY EDUCATION
PROGRAMS FOR TEACHERS IN SECONDARY SCHOOLS
The following curricula, leading to the degrees of Bachelor of Arts in Education and Bachelor of Science in Education, are designed for students preparing for junior and senior high school teaching. Each student should select one of these curricula no later than 4 semesters prior to his expected date of graduation. The general conditions under which students may select these curricula are to be found under "Degree Requirements" of the "General Academic Regulations."

For graduation from the College of Education in Secondary Education the candidate must have successfully completed, in conformity with the regulations prescribed for the several major and minor concentrations, not less than one departmental major concentration and one departmental minor concentration. These concentrations shall total at least 51 semester hours of credit.

Acceptable as major or minor concentrations are: Biology, Chemistry, English, 

† Choose from General Education requirements listed on p. 149. 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. 149.
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, Astronomy, Business Administration, Dramatic Art, Economics, German, Geography, Geology, Journalism, Latin, Library Science, Portuguese, Psychology, and Sociology. All teaching minors must include at least 18 semester hours.

SPECIAL FIELDS FOR TEACHING
1. Art Education: For details see pp. 150-151.
2. Business Education: For details see pp. 151-152.
4. Industrial Arts Education: For details see p. 158.
5. Music Education: For details see pp. 158-159.
8. Health Education: Minor teaching subject only

GENERAL EDUCATION. The General Education program for students in Secondary Education is the same as that required of other undergraduate students in Education. (See p. 149 of this catalog.)

PROFESSIONAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sec Ed 141 Foundations of Sec Ed</td>
<td>3</td>
</tr>
<tr>
<td>Sec Ed 153 Materials &amp; Methods of Tchg in Sec Schs</td>
<td>3</td>
</tr>
<tr>
<td>Sec Ed 155 Special Methods of Tch in Sec Schs or Ed substitute</td>
<td>3</td>
</tr>
<tr>
<td>*Sec Ed 156 Student Tchg</td>
<td>6</td>
</tr>
<tr>
<td>Ed &amp; Ad Serv 115 Intro to Guid or equivalent</td>
<td>3</td>
</tr>
<tr>
<td>Electives in Education</td>
<td>6</td>
</tr>
<tr>
<td>**Total Professional Education</td>
<td>24</td>
</tr>
</tbody>
</table>

COMPOSITE TEACHING AREAS

The composite teaching major area is designed to enable the prospective teacher to acquire unified learning within a broad field of closely related subject matter disciplines which would not be possible in a single subject-matter major teaching area.

The application of this unified knowledge to the teaching of currently unified or generalized secondary school subjects (e.g., Communication Arts, General Science, Social Studies) is an avowed purpose of this form of preparation.

The composite is also designed to prepare students to teach adequately in several closely related subjects. This type of preparation will be of advantage to novice teachers beginning their careers in small secondary schools in which they must expect multiple rather than single subject teaching assignments.

COMPOSITE IN SOCIAL STUDIES IN SECONDARY EDUCATION. The composite major in general social studies shall consist of at least 54 hours, including freshman courses, of which at least 24 hours must be in the Department of History, including 2 courses in United States and 2 courses in European or World History; 9 hours in the Departments of Government or Economics; 12 hours in the Departments of Anthropology, Geography, Philosophy, or Sociology; and 9 hours in electives from these departments. No minor is required with the general social studies major, but one is strongly recommended.

* See p. 143 for admission requirements. Secondary Education 157 may be included as a second experience in student teaching, with the approval of the adviser.

** Ordinarily, students may enroll in not more than 9 hours of work in this kind of course in any one registration period.
COMPOSITE IN SCIENCE. The composite major in science shall consist of at least 54 hours, including freshman courses, in the Departments of Biology, Chemistry, Physics, Geology, and Naval Science, of which at least 11 hours must be in each of 3 of the first 4 departments listed above. Regardless of choices of sciences included in this composite, however, students must include a minimum of 8 hours each of physics and biology. It is desirable that preparation in each of the first four be included in this composite. No minor is required with the composite science major, but one is strongly recommended.

COMPOSITE IN COMMUNICATION ARTS IN SECONDARY EDUCATION. The composite major in communication arts shall consist of at least 54 hours, including freshman courses, in the Departments of English, Speech, Dramatic Art, and Journalism. At least 24 of these hours must be in English: English 1, 2, 53, 54; 6 hours in upper division courses in American or World Literature; 3 hours in an upper division course in British Literature; and 3 hours in creative or informative writing. At least 12 hours must be in the Department of Speech: Speech 55 and 9 additional hours or Speech 1 and 2 and 6 additional hours in courses numbered above 50. Nine hours must be in the Departments of Dramatic Art or Journalism. The remaining 9 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 communications arts major, but one is strongly recommended.

SECONDARY EDUCATION CURRICULUM

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Year</td>
<td></td>
</tr>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3 Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>*Math or Sci</td>
<td>*Math or Sci</td>
</tr>
<tr>
<td>*Sac Sci</td>
<td>*Sac Sci</td>
</tr>
<tr>
<td>Electives or Major</td>
<td>Electives or Major</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>Physical Ed</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>13-17</td>
<td>13-17</td>
</tr>
<tr>
<td>Sophomore Year</td>
<td></td>
</tr>
<tr>
<td>Eng (Lit)</td>
<td>Spch 55 Pub Spkg</td>
</tr>
<tr>
<td>Psy 51 Gen</td>
<td>Ed Elective</td>
</tr>
<tr>
<td>*Sac Sci</td>
<td>*Sac Sci</td>
</tr>
<tr>
<td>*Math or Sci</td>
<td>Electives</td>
</tr>
<tr>
<td>†Fine Arts or Major</td>
<td>Physical Ed</td>
</tr>
<tr>
<td>Physical Ed</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15-17</td>
<td>16-17</td>
</tr>
<tr>
<td>Junior Year</td>
<td></td>
</tr>
<tr>
<td>Sec Ed 141 Founda</td>
<td>Sec Ed 153 Mater &amp; Meth of Tchg in Sec Sch</td>
</tr>
<tr>
<td>Electives, Major or Minor</td>
<td>Electives, Major or Minor</td>
</tr>
<tr>
<td></td>
<td>14-17</td>
</tr>
<tr>
<td>Senior Year</td>
<td></td>
</tr>
<tr>
<td>Sec Ed 155 Tchg of Sec Sch Subj or Ed Elec</td>
<td>Sec Ed 156 Tchg of Sec Sch</td>
</tr>
<tr>
<td>**Sec Ed 156 Student Tchg in Sec Sch</td>
<td>Ed Elective</td>
</tr>
<tr>
<td>Ed &amp; Ad Serv 115 Intro to Guid (or equivalent)</td>
<td>Electives, Major or Minor</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Choose from General Education requirement listed on p. 149.
† The required 2-3 semester hours in Fine Arts may be taken during any semester of the first 2 years.
** See p. 143 for admission requirements. Student Teaching may be taken during either or both of the semesters in the senior year.
THE ENGINEER is a creator and a builder. He directs his imagination, ingenuity, resourcefulness, and intelligence to the economical usage of our natural resources. He is beginning to probe the mysteries of cosmic space. Few professions offer the individual greater challenge, stimulation, and satisfaction of creative accomplishment. In these days, when breathtaking technological advances are commonplace, the engineer requires ever greater breadth and depth of mathematical and scientific cognition. Of increasing importance are the ability for clear self-expression and a sympathetic appreciation of the social, economic, and human values of the world in which we live. The engineer is not only an interpreter of science and mathematics to the producers of material human needs, but he is also a manager of men, money, materials, and machines in effecting the satisfaction of these needs.

The continued growth of American industry and technology has created a demand for engineers far in excess of supply. Present and predicted enrollments in schools of engineering indicate that the shortage will continue for many years to come. Certainly, no profession offers greater challenges or a more promising future. Surveys show that the income of the engineer compares very favorably with that of the other professions. American industry and commerce are increasingly utilizing engineers in top administrative positions.

The several curricula of the College of Engineering are designed to give the student suitable education, attitudes, and motivations for his entry into a successful career as a practicing engineer, administrator, researcher, or 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 postgraduate level and work toward the master’s or doctor's degree. The student must realize, however, that education does not stop with the completion of college. More truthfully, this is when education really begins. The true professional engineer never stops learning; he is continually broadening his intellectual horizons. One indication of continued growth and development is registration as a professional engineer. Every state has established criteria of education and experience which must be met before an engineer can enjoy this status.

In the College of Engineering, the student is afforded an opportunity for scholarly study, laboratory exercise, and research participation. He daily rubs shoulders with engineers nationally recognized in their fields. The University of New Mexico strongly believes that engineering teachers must be competent engineers in their own right, and faculty members are encouraged to participate actively in professional practice and research. This experience keeps the faculty informed on new developments, increases their understanding of subjects taught, and gives the student the benefit of their findings and personal experiences. Faculty and students work side by side in research and instructional laboratories.

The College of Engineering maintains a Bureau of Engineering Research. For details of the Bureau’s purposes and activities, see p. 53.
HIGH SCHOOL PREPARATION

It is important that the high school student who wishes to pursue professional engineering studies at The University of New Mexico orient his subject selection in the proper directions at the earliest possible moment. The student properly prepared will be able to follow the regular pattern of studies without the necessity of making up scholastic deficiencies. Students inadequately prepared in mathematics or English are required to take remedial work for no credit to remove these subject deficiencies. Students who place particularly high on their placement examinations are excused from Mathematics 49 (4 hours) and English 1 (3 hours).

Students intending to study engineering should take in high school all of the mathematics and English possible as well as chemistry and physics. The mathematics should include a minimum of 2 units of algebra, 1 unit of plane geometry, and \( \frac{1}{2} \) unit of trigonometry.

ADMISSION

All freshman students are admitted to the University College. A detailed statement of entrance requirements to University College is in the "Admission" section of this Catalog. All freshman engineering students, during their residence in University College, take the prescribed freshman engineering course of study as set forth on p. 166. In addition, each freshman engineering student is advised by a faculty member of the student's major engineering department.

ADMISSION FROM UNIVERSITY COLLEGE

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

1. Completion of 26 semester hours of the freshman engineering program.
2. (a) A scholarship index of at least 2.0 on all hours attempted; or
   (b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. A satisfactory score on the English Proficiency Examination (administered by The University of New Mexico) or a grade of C or better in a remedial English course offered on a non-credit basis by the English Department of The University of New Mexico.

TRANSFERS

A student will be eligible for transfer to the College of Engineering from other degree-granting colleges of the University or from other accredited institutions if he has a grade-point index of 2.0 or better on all work attempted in the other degree-granting colleges or institutions, and if he has completed 26 semester hours of acceptable credit.
COURSES OF STUDY

The College of Engineering offers 4-year programs of study leading to the degrees of Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, and Bachelor of Science in Mechanical Engineering. These 4-year curricula are designed for the student who enters without deficiencies and who is capable of carrying the required scholastic loads indicated under the respective departmental programs. Otherwise, the student should plan on spending more than 8 regular semesters to complete requirements for his degree.

The College of Engineering is a member of the American Society for Engineering Education. The curricula in Civil, Electrical, and Mechanical Engineering are fully accredited by the Engineers' Council for Professional Development.

SPECIAL FIELDS

In addition to the major fields of study listed above, it is possible for the student to specialize in some degree by choosing appropriate elective courses within the basic curriculum of his major department. A few of the many possibilities are: Aero-Space Engineering, Electronic Computers, Fuel Processing, Structural Engineering, and Theoretical and Applied Mechanics. All departments make use of the modern, high-speed electronic computers located in the University of New Mexico Computer Center.

DEGREES IN COMBINATION WITH OTHER COLLEGES

If a student wishes to secure a degree in another college together with his engineering degree, he is urged to seek advice early in his college career from the deans of the colleges concerned. With care in selecting his program of studies, it is possible for a student to secure two degrees in one additional year.

AIR SCIENCE, NAVAL SCIENCE

It is possible for students enrolled in the Air Force ROTC or the Naval ROTC to complete their programs of study in 4 years. However, students may need an extra semester to complete the requirements for both a degree and a commission. The student should consult the department chairman concerned in planning his program.

GRADUATE STUDY

A program of graduate studies is offered by the College of Engineering leading to the Master of Science degree with a major in Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Nuclear Engineering, and Engineering Science of Materials (Los Alamos Center only). A fifth year of study leading to the Master's degree is strongly recommended for students of more than usual ability who believe that they can profit from the additional study.

The College of Engineering offers through the Graduate School a program leading to the degree of Doctor of Science in Engineering, under which study concentrations may be pursued in a variety of engineering fields. Consult the current Graduate School Bulletin for details of these programs.

NUCLEAR ENGINEERING

Elective courses in this field are available to all seniors and a complete graduate program is offered leading to the Master of Science degree with a major in
Nuclear Engineering. A study concentration in nuclear engineering leading to the Doctor of Science in Engineering is also available. The Nuclear Engineering Laboratory is equipped with a subcritical reactor, reactor simulator, and a complete metallurgy laboratory.

**SCHOLASTIC REGULATIONS**

The student should become familiar with the general academic and scholastic rules which apply to all students enrolled in the University (see pp. 104-116). 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 engineering departments must complete all of the work outlined in their respective curricula. The student is solely responsible for completing all requirements for graduation.

2. Each candidate for a degree must have at least a 2.0 grade-point average on work taken at The University of New Mexico which is counted toward his graduation. Three-fourths of the semester hours offered toward a degree must be of C grade or better.

3. Every candidate for graduation must take the Graduate Record Examination.

4. All students in the College of Engineering, including transfer students, must either have passed the English Proficiency Examination (administered by The University of New Mexico) or have earned a grade of C or better in a remedial English course offered on a non-credit basis by the English Department of the University.

5. For minimum residence requirements, see p. 112.

6. If a beginning student is placed in Mathematics 50 because of high entrance test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by four.
7. If a student is placed in English 2 because of high entrance test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by three.

8. Each student must make formal Application for Degree with his major department at the beginning of his last semester in residence.

CURRICULA OFFERED BY THE COLLEGE OF ENGINEERING

The College of Engineering offers work in the departments listed in alphabetical order on the following pages. Curriculum requirements are set forth under each department. Descriptions of the courses offered will be found, listed by departments, in the Catalog section “Courses of Instruction.”

COURSE OF STUDY FOR ALL ENGINEERING STUDENTS

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 49 Intro to Analysis</td>
<td>4</td>
<td>(4-0)</td>
</tr>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3</td>
<td>(3-0)</td>
</tr>
<tr>
<td>Chem 1L Gen</td>
<td>4</td>
<td>(3-3)</td>
</tr>
<tr>
<td>CE 1L Engr Graphics</td>
<td>3</td>
<td>(1-6)</td>
</tr>
<tr>
<td>CE 3 Engr Lectures</td>
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<td>(1-0)</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>(12-9)</td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. High school preparation for Mathematics 49 should include at least 2 units of algebra, 1 of geometry, and ½ of trigonometry. Students who lack this minimal preparation are urged to remove their mathematics deficiencies in the University’s summer session immediately after their high school graduation. Students who make unsatisfactory scores on their mathematics placement tests or who have a trigonometry deficiency will be required to take Mathematics 48 rather than Mathematics 49. Students who place very low on their mathematics placement tests will be required to take Mathematics A prior to taking Mathematics 48.

2. Students with unsatisfactory scores on their English placement examination will be required to take remedial English.

3. For a description of the freshman courses refer to p. 296 for Mathematics; to p. 276 for English; to p. 235 for Chemistry; to p. 263 for Civil Engineering; and to p. 319 for Physics.

CHEMICAL ENGINEERING

Chemical engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of material are involved.

The course in Chemical Engineering is designed to afford the student broad training in the fundamentals of mathematics, physics, chemistry, and engineering to meet the needs of the chemical or related industries where men competent to design, develop, and operate new processes and to improve existing processes are required. The chemical engineer is not specifically trained for only one industry. The distinctly professional courses of Unit Operations and Unit Processes enable him to apply his knowledge to any chemical or process industry with relatively little difficulty.

The graduate chemical engineer will find many avenues of opportunities in research and development; production, operation, and maintenance; management and administration; design, construction, and installation; technical service
and sales; consulting; teaching, and technical writing, etc., in such industries as industrial chemicals, petroleum, explosives, plastics, rubber products, paper and allied products, synthetic rubber, food products, drugs, insecticides, glass, cement, clay, iron and steel, paints and varnishes, oils, soaps, rayon and synthetics.

**CHEMICAL ENGINEERING LABORATORY.** The Chemical Engineering building has a floor space of over 8,000 sq. ft. and contains a laboratory adequately equipped with pilot plant equipment for use in the study of Unit Operations of Chemical Engineering such as fluid flow, heat flow, evaporation, distillation, air conditioning, absorption, filtration, crystallization, etc., and Unit Processes such as nitration, sulfonation, hydrogenation, etc.

The process development laboratory is well equipped for the study of small scale manufacture of chemical products. Smaller laboratories are provided for the testing of fuels, gases, water, etc.

Adequate classroom space and design laboratory are available. Shop facilities are in conjunction with the well-equipped Mechanical Engineering Shop.

**CURRICULUM IN CHEMICAL ENGINEERING**

Hours required for graduation: 141† + 4 PE.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hrs.</td>
</tr>
<tr>
<td>Math 51 Calc &amp; Anal Geom</td>
<td>4     (4-0)</td>
</tr>
<tr>
<td>Physics 61 Gen</td>
<td>3     (3-0)</td>
</tr>
<tr>
<td>Physics 63L Gen Lab</td>
<td>1     (0-3)</td>
</tr>
<tr>
<td>Chem 101 and 103L Organic</td>
<td>4     (3-3)</td>
</tr>
<tr>
<td>ChE 51 Chem Calculations</td>
<td>3     (3-0)</td>
</tr>
<tr>
<td>Ec 51 Prin of</td>
<td>3     (3-0)</td>
</tr>
<tr>
<td></td>
<td>18     (16-6)</td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
</tr>
</tbody>
</table>

**Junior Year**

|                | Hrs.           |                | Hrs.           |                |
| 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 60L Engr Statics | 3     (2-3) | 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     (17-6) |                | 18     (15-9) |

**Senior Year**

|                | Hrs.           |                | Hrs.           |                |
| 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 | 3     (3-0) | ChE 192 Prin of Chem | 3     (3-0) |
| Proc & Thermo I | 3     (3-0) | 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) |
|                | 19     (15-12) |                | 17     (13-12) |

† Reduced for students placed ahead in freshman mathematics and/or English.
† Technical electives may be chosen from ChE 117, 160, 162, 168L. Student enrolled in the ROTC programs may, with the approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives.
* Electives are to be chosen from the Humanities and Social Sciences. See Department Chairman for list of approved courses.
CIVIL ENGINEERING

The work of the civil engineer continues to expand both in magnitude and variety. In addition to the traditional areas such as highway, railroad, irrigation, water supply, sewage disposal, flood control, and bridge and structural design, new specialties unknown a few years ago now demand the training of the civil engineer. One such specialty is that of arid land engineering now being introduced by this department. Management and administrative work, in both public and private organizations, offer increasing opportunities. The training offered by this department is designed to give the young engineer a broad background of knowledge to allow him the maximum latitude of choice in his career.

CIVIL ENGINEERING LABORATORIES. The Civil Engineering Laboratories have been especially designed for the experimental verification of the fundamental principles of theories as developed in the lecture courses.

The Civil Engineering Building comprises 13,000 sq. ft. of floor space, and is representative of the most modern type of construction.

The Strength of Materials laboratory is well equipped for the torsion, bearing, compression, tension, shear, flexure, impact, and hardness testing of engineering materials, and includes the latest mechanical, electrical, photoelastic, and stress-coat strain measuring devices.

The combined Concrete and Soils laboratory is equipped with a 300,000 lb. testing machine, direct shear machine, tri-axial apparatus, and other modern equipment which is used for the engineering testing of soils, concrete, masonry, and other construction materials.

The Bituminous laboratory contains equipment for making standard tests on road oils and asphalts, and for designing and testing bituminous mixes for highways, airports, and other pavements.

A separate Cement laboratory is completely equipped for making the standard physical tests on Portland cement. Equipment includes the most advanced type of temperature control mechanisms for maintaining constant temperatures during tests.

A completely equipped Sanitary laboratory affords the student the opportunity of gaining practical experience in performing customary tests and experiments with municipal and industrial wastes.

The Fluid Mechanics laboratory, housed in a separate building, is equipped for the study of the basic principles of fluid mechanics.

The Civil Engineering Building also includes a separate research laboratory for use in graduate study and in engineering research problems.

Field equipment for classes in surveying includes a large number of transits, levels, alidades, plane tables, computing machines, and similar items. Precision theodolites of both American and foreign manufacture, including optical theodolites of latest design, constitute the most modern equipment procurable.

CURRICULUM IN CIVIL ENGINEERING

Hours required for graduation: 137*** + 4 PE.

*** Reduced for students placed ahead in freshman mathematics and/or English.
### Sophomore Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cr.</strong></td>
<td><strong>Lect.-Lab.</strong></td>
<td><strong>Cr.</strong></td>
<td><strong>Lect.-Lab.</strong></td>
</tr>
<tr>
<td>Math 51 Calc &amp; Anal Geom</td>
<td>4 (4-0)</td>
<td>Math 52 Calc &amp; Anal Geom</td>
<td>4 (4-0)</td>
</tr>
<tr>
<td>Physics 61 Gen</td>
<td>3 (3-0)</td>
<td>Physics 62 Gen</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Physics 63L Gen Lab</td>
<td>1 (0-3)</td>
<td>Physics 64L Gen Lab</td>
<td>1 (0-3)</td>
</tr>
<tr>
<td>CE 51L Engr Meas</td>
<td>3 (1-6)</td>
<td>CE 52L Engr Surveys</td>
<td>3 (2-3)</td>
</tr>
<tr>
<td>CE 60L Engr Statics</td>
<td>3 (2-3)</td>
<td>CE 102 Mech of Mater</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Geol 4 Engr Geology</td>
<td>3 (3-0)</td>
<td>*Elective</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td></td>
<td>17 (13-12)</td>
<td></td>
<td>17 (15-6)</td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
<td>PE</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 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 (3-0) | Econ 51 Prin of                        | 3 (3-0) |
| ME 106L Dynamics                     | 3 (2-3) | CE 108L Fluid Mech Lab                 | 1 (0-3) |
| CE 121 Struc Anal I                  | 3 (3-0) | CE 120 Hydrol & Engr Hydr              | 2 (0-3) |
| **Elective**                          | 3 (3-0) | **Elective                              | 3 (3-0) |
|                                        | 18 (16-6) |                                              | 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         | 3 (2-3) | CE 168L CE Proj                        | 3 (2-3) |
| Water Disposal                       | 3 (2-3) | CE 152 Prof Pros in Engr               | 2 (0-3) |
| 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) |                                              |                  |

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**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 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

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

§ To be selected from Math 131 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, ME 161.

‡ Technical electives for the second semester may be chosen from the following courses: CE 174, 176, 178L, 188, 190, 196L, EE 194, ME 194. Students enrolled in the ROTC programs may, with approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives.
interested in sales and administrative work may take up to 13 hours in business administration. Other possible combinations include "human engineering" (up to 25 hours of psychology) and medical electronics (up to 13 hours of biology).

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

The circuits and fields laboratory is equipped to acquaint the student with elementary measurements on electric and analogous circuits, and to instruct in the use of a variety of instruments. It also permits a variety of field and traveling-wave experiments.

The electronics laboratory provides an opportunity to design electronic devices, quickly make experimental hook-ups, and test performance with a variety of electronic laboratory instruments. The circuits studied form the basis for radio, radar, television, automatic control, telephone, electronic computer, and other systems.

The power laboratory provides facilities for determining characteristics of various power conversion devices, including dc and ac rotating machines, transformers, rectifiers, and the associated control devices. Specialized industrial electronic devices such as induction heaters are also available.

The microwave laboratory makes possible the study of tubes and transmission devices at frequencies above 3.0 kmc. Standard microwave power and impedance measurement techniques are taught.

CURRICULUM IN ELECTRICAL ENGINEERING

Hours required for graduation: 137† + 4 PE.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Sophomore Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>EE 55L Fld Bases of EE</td>
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<tr>
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<td>Math 51 Calc &amp; Anal Geom</td>
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<td>Physics 61 Gen</td>
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<tr>
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<td>Physics 63L Gen Lab</td>
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<tr>
<td>3</td>
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<td>3</td>
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<tr>
<td>17</td>
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<tr>
<td></td>
<td></td>
<td>15-6</td>
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**Junior Year**

<table>
<thead>
<tr>
<th></th>
<th>Hrs.</th>
<th>Cr. Lect.-Lab.</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(2-3)</td>
</tr>
<tr>
<td>3</td>
<td>EE 111 Electromag Fields</td>
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<td>3</td>
<td>EE 113 Elec Circ Anal</td>
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<td>EE 117L Fld &amp; Circ Lab</td>
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<tr>
<td>3</td>
<td>Elective</td>
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<tr>
<td>6</td>
<td>6-0</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
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</table>

† Reduced for students placed ahead in freshman mathematics and/or English.
* 55L and 56L may be taken concurrently in the second semester.
COLLEGE OF ENGINEERING 171

Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Units</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>EE 132L Electronics Lab II</td>
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<td>(0-3)</td>
</tr>
<tr>
<td>EE 151L Electromech Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conv Prin</td>
<td>3</td>
<td>(2-3)</td>
</tr>
<tr>
<td>EE 171 Seminar</td>
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<td>(1-0)</td>
</tr>
<tr>
<td>ME 101 Thermodyn</td>
<td>3</td>
<td>(3-0)</td>
</tr>
<tr>
<td>Physics 110 Atomic &amp; Nuclear</td>
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<td>(3-0)</td>
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<tr>
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<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>17</td>
<td>(15-6)</td>
</tr>
</tbody>
</table>

Probable EE Electives
EE 182, 182L, 183, 183L, 190, 192, 192L

ELECTIVES:
1. At least 12 hours of electives are to be taken in the humanities and social sciences, including modern languages.
2. At least 3 hours of electives are required in other engineering, mathematics, science, or business administration.
3. The remaining electives may be taken in any field, with departmental approval. Students enrolled in the ROTC programs may, with approval of the Department Chairman, substitute up to 6 hours of Air or Naval Science for free electives. An elective plan must be approved by the end of the first semester of the junior year.
4. Electives in the senior year, shall, in general, be numbered 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 plant design, construction, and operation, including steam, hydraulic, internal combustion engine, gas turbine plants, and nuclear power; heating and air conditioning; refrigeration; railroads; machine design; automation; control systems, including environmental control systems; production planning and control; materials handling; thermodynamics; combustion; heat transfer; and fluid mechanics. Recently the aerospace industry has been added to the many traditional areas included in the field of mechanical engineering. Mechanical engineering graduates are employed in all industries.

Because the realm of mechanical engineering is so extensive and because it is the center from which many new engineering developments proceed, training must be broad and basic, providing the thorough grounding in the engineering sciences and engineering analysis which an engineer requires in order to gain competence in any specialized field. In view of this, the curriculum in mechanical engineering includes ample foundation courses in engineering, mathematics, physics, 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 choose technical electives which apply the principles previously learned and which prepare the student for his chosen specialty or for more advanced work on the graduate level.

Students who are interested in design, research, development, and teaching, and who desire a more comprehensive background in mathematics, science, and fundamental engineering than can be obtained in the undergraduate program are encouraged to consider graduate study.
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.

AEROSPACE ENGINEERING, ENGINEERING MECHANICS

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.)

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Math 51 Calc &amp; Anal Geom</td>
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<td>(4-0)</td>
<td>Math 52 Calc &amp; Anal Geom</td>
<td>4</td>
<td>(4-0)</td>
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<td>Phys 61 Gen</td>
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<td>Phys 62 Gen</td>
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<td>CE 60L Engr Statics</td>
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<tr>
<td>ME 63L Mfg Processes (Req'd)</td>
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<td>Engl Elect</td>
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<td>OR</td>
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<tr>
<td>Engl Elect</td>
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<td>ME 63L Mfg Processes (Req'd)</td>
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<tr>
<td>ME 73L Kinematics</td>
<td>3</td>
<td>(2-4)</td>
<td>EE 55L Field Bases of EE</td>
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</tr>
<tr>
<td>17 or 18 + 1 PE</td>
<td></td>
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<td>17 or 18 + 1 PE</td>
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Junior Year

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ME 101 Thermodynamics</td>
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<td>ME 102 Thermochem &amp; Gas Dyn</td>
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<tr>
<td>ME 106L Dynamics</td>
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<td>ME 117 Fluid Mech</td>
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<td>EE 56L Circuit Bases of EE</td>
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<td>ME 118L ME Lab 1</td>
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<td>ME 120 Heat Transfer</td>
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<td>ME 114L Dyn of Mach</td>
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<td>OR</td>
<td></td>
<td></td>
<td>ME 116 Space Flight Dyn</td>
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<td>(3-0)</td>
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<tr>
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<td>(0-3)</td>
<td>18</td>
<td></td>
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</tr>
<tr>
<td>16</td>
<td>(14-6)</td>
<td>OR</td>
<td>CE 102 Mech of Mater</td>
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<tr>
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<td>CE 103L Mech of Mater Lab</td>
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<tr>
<td>ME 157 Design Anal I</td>
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<td>ME 152L ME Lab III</td>
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<tr>
<td>ME 108L Design Anal Lab</td>
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<td>(0-3)</td>
<td>ME 156 Indus Engr</td>
<td>2</td>
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</tr>
<tr>
<td>ME 161 Engr Metallurgy</td>
<td>3</td>
<td>(3-0)</td>
<td>*Tech Elective</td>
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<td></td>
</tr>
<tr>
<td>ME 163 Anal of Fluid Sys</td>
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<td>(3-0)</td>
<td>ME 166 Indus Engr</td>
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<td></td>
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<tr>
<td>*Tech Elective</td>
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<td>(3-0)</td>
<td>ME 160 Indus Engr</td>
<td>3</td>
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<td>*Elective</td>
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<td>ME 161 Engr Metallurgy</td>
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<tr>
<td>18</td>
<td></td>
<td></td>
<td>16</td>
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Senior Year

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>ME 151L ME Lab II</td>
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<td>ME 155L ME Lab</td>
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<td>ME 157 Design Anal I</td>
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<td>ME 156 Indus Engr</td>
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<td>ME 108L Design Anal Lab</td>
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<td>ME 161 Engr Metallurgy</td>
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<td>ME 166 Indus Engr</td>
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<td>ME 163 Anal of Fluid Sys</td>
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<td>18</td>
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<td></td>
<td>16</td>
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</tbody>
</table>

*** Reduced for students placed ahead in freshman mathematics and/or English.

† To be selected from Math 131 through Math 147 (excluding Math 141-142).

* Electives are to be chosen from the humanities and social sciences, with the approval of the Department Chairman.

† Technical electives may be chosen from the following courses: ME 155, 159L, 160, 165, 167, 168, 170, 181, 182, 192, 194L, Engr 197. One technical elective must be a course that includes a design project. Students enrolled in the ROTC programs may, with approval of the Department Chairman, substitute Air Science or Naval Science for up to 6 hours of technical electives. Those interested in Aerospace Engineering should elect ME 116, 167, 168, 170; however, selection of 116 does not commit the student to the following three courses. Those interested in Engineering Mechanics should elect ME 192 or CE 173, and ME 194L.
COLLEGE OF FINE ARTS

THE COLLEGE OF FINE ARTS offers instruction in the several fields of architecture, art, dance, drama, and music. Its courses are designed to advance understanding of the arts as a vital force in civilization, to promote scholarship, and to provide advanced instruction for those who wish to enter professional careers in any of these fields of study. In cooperation with the College of Education the College offers curricula leading to teacher certification in art education and in music education.

DEGREES

The College of Fine Arts offers the following degrees:

Bachelor of Architecture

Bachelor of Fine Arts in Art with programs in:
1. Studio: Crafts, Drawing, Graphic Design, Painting, Printmaking, and Sculpture
2. Art History and Criticism
3. Art Education

Bachelor of Fine Arts in Dramatic Art

Bachelor of Fine Arts in Music with programs in:
1. Applied Music
2. Music Literature
3. Theory and Composition
4. Music Education

Bachelor of Arts in Fine Arts

See Combined Curriculum, p. 176.

For information regarding graduate study in Art and in Music, leading to the degrees of Master of Arts, Master of Music and Master of Music Education, the student should consult the Bulletin of the Graduate School.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE

Any student enrolled in the University College who wishes to transfer to the College of Fine Arts is advised to follow during the freshman year the suggested first-year curriculum in the particular field of his interest. The various curricula are set forth in this section of the catalog.

The requirements for transfer from the University College to the College of Fine Arts are:
1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted; or
(b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.

3. A satisfactory score on the English Proficiency Examination (administered by The University of New Mexico), or a grade of C or better in English A, a non-credit course offered by the Department of English.

4. An average of at least 2.0 in all Fine Arts courses attempted.

5. In addition to the above requirements, students expecting to follow and complete a curriculum leading to certification to teach are subject to the requirements for admission to teacher education listed on p. 143 in the College of Education section of this catalog.

TRANSFERS

A student will be eligible for transfer to the College of Fine Arts from other degree-granting colleges of the University or from other accredited institutions if he has completed at least 26 hours of acceptable college credit, has a scholarship index of 2.0 or better on all work attempted in the other degree-granting colleges or institutions, and has an average of 2.0 or better in all Fine Arts courses attempted. Students transferring from other institutions may satisfy the requirement listed in item 3 above during the first semester after admission. Students transferring from other institutions who plan to major in Music Education or Art Education may satisfy the requirements referred to in item 5 during the first semester after admission.

GRADUATION REQUIREMENTS

1. Completion of all course requirements outlined in one of the several curricula offered by the College.

2. Completion of at least 40 hours in courses numbered 100 or above.

3. A scholarship index of 2.0 or higher.

4. An average of 2.0 or higher in all hours attempted in the major field, and satisfaction of proficiency requirements as established by the major department.

5. Completion of the English Proficiency Requirement (see item 3 under Admission, above).

6. Completion of the Graduate Record Examination.

7. Completion of the Group Requirements described below.

8. Completion of an application for degree at the beginning of the first semester of the senior year. This application is made in the Office of the Dean.

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

All candidates for graduation must have completed no fewer than 48 hours in the following areas:

- English 1 and 2: 6 hours
- Natural Science or Mathematics: 8
- Social Science: 6
- Humanities and Fine Arts: 9

*Additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, and social science: 15
- Physical Education: 4

48

The acceptability of transferred work toward fulfilling group requirements will be determined by the Director of Admissions and the Dean of the College. Students who accept an invitation to join in the General Studies program (see p. 280) may apply their various seminars to satisfying appropriate requirements as approved by the Dean of the College.

To clarify these requirements, the following definitions are given:

Natural Science. Astronomy, Biology, Chemistry, Geology, and Physics.


Humanities. English literature, literature courses offered by the Department of Modern and Classical Languages, History, and Philosophy.

Fine Arts. Architecture, Art, Dance, Drama, and Music; except that students may not use courses in the field of their major in satisfaction of such requirements.

DEPARTMENTAL HONORS

A departmental honors program is offered in each of the departments of the College of Fine Arts. A student who wishes to enter one of these programs should inform his department chairman prior to beginning his senior year.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all grade point average of 3.2; (b) completion of Fine Arts 190, an interdepartmental pro-seminar; and (c) completion of the Senior Thesis course offered by the student’s major department.

For general information about departmental honors programs, see p. 115.

SCHOLASTIC REGULATIONS

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

Students wishing to enroll for more than 18 hours in a given semester must first secure the written permission of the department chairman and then the approval of the Dean of the College.

* Majors in Music Education may include 6 hours of music history or literature in satisfaction of this requirement.
COMBINED CURRICULUM—Bachelor of Arts in Fine Arts

This curriculum is designed for the student who wishes to pursue a program of study containing both a major and a minor field. The degree requires a total of 128 hours. The major field may be chosen from Architecture, Art, Drama, or Music; the minor field may be chosen from Architecture, Art, Dance, Drama, or Music, or, with permission of the student's adviser, in a department outside the College of Fine Arts. A minimum of 45 hours is required in the major field; 20 hours, in the minor. Requirements for the degree may be summarized as follows:

<table>
<thead>
<tr>
<th>Group requirements</th>
<th>48 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>45</td>
</tr>
<tr>
<td>Minor</td>
<td>20</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

DEPARTMENTS OF INSTRUCTION

The College of Fine Arts offers work in four departments as listed below. Descriptions of the courses will be found, listed by department, in the catalog section, "Courses of Instruction." Courses in Dance are offered in the Department of Music. An interdepartmental seminar is listed under "Fine Arts."

ARCHITECTURE

The curriculum below is designed to meet the academic requirements of a student who is undergoing training to practice architecture. Most States, including New Mexico, require 8 years of training, 5 of which may be in a university offering architecture. The remaining years are to be spent in an architectural office, prior to taking the State Board Examination.

All work, drawings and designs made by the student and presented for credit will become the property of the Department of Architecture; their return will be at the discretion of the Architecture faculty.

Students intending to study architecture should take in high school all of the mathematics and English possible as well as chemistry and physics. The mathematics should include a minimum of 2 units of algebra, 1 unit of plane geometry, and \( \frac{1}{2} \) unit of trigonometry.

CURRICULUM IN ARCHITECTURE

(Leading to the degree of Bachelor of Architecture. Hours required for graduation, 170 + 4 PE.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>First Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>3 (3-0)</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>Math 49 Intro to Analysis</td>
<td>4 (3-0)</td>
<td>Math 50 Calc &amp; Anal Geom</td>
</tr>
<tr>
<td>Arch 21 Arch Appprec</td>
<td>2 (2-0)</td>
<td>Art 1 Art Appprec</td>
</tr>
<tr>
<td>†Electives</td>
<td>8 (9-0)</td>
<td>Electives</td>
</tr>
<tr>
<td><strong>17 (17-0)</strong></td>
<td></td>
<td><strong>17 (17-0)</strong></td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
<td>PE</td>
</tr>
</tbody>
</table>

† Electives must include 12 credit hours in Humanities, 6 credit hours in Social Science, 9 credit hours in Fine Arts and additional hours to total 45 credit hours. Students enrolled in the Air Force or Navy ROTC programs may, with the approval of the Department Chairman, substitute 9 hours of Air Force or Navy ROTC courses for 9 hours of electives.
### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits (S-H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch 81L Arch Des</td>
<td>5 (0-15)</td>
</tr>
<tr>
<td>Arch 83 Mater &amp; Constr</td>
<td>2 (2-0)</td>
</tr>
<tr>
<td>Arch Des 5</td>
<td>3 (0-6)</td>
</tr>
<tr>
<td>Math 51 Calc &amp; Anal Geom</td>
<td>4 (4-0)</td>
</tr>
<tr>
<td>Physics 60 Gen</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Electives</td>
<td>4 (4-0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17 (9-21)</strong></td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits (S-H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch 131L Arch Des</td>
<td>5 (0-15)</td>
</tr>
<tr>
<td>Arch 61 Hist of Anc &amp; Med Arch</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Art 93 Watercolor Rendering</td>
<td>2 (0-6)</td>
</tr>
<tr>
<td>CE 60L Engr Statics</td>
<td>3 (2-3)</td>
</tr>
<tr>
<td>Physics 63L Gen Lab</td>
<td>1 (0-3)</td>
</tr>
<tr>
<td>Elective</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17 (8-27)</strong></td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits (S-H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch 181L Arch Des</td>
<td>5 (0-15)</td>
</tr>
<tr>
<td>Arch 111 Sources of Med Arch</td>
<td>2 (2-0)</td>
</tr>
<tr>
<td>CE 121 Struc Anal I</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>ME 108 Mech Eq of Bldg</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Electives</td>
<td>4 (4-0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17 (12-15)</strong></td>
</tr>
</tbody>
</table>

### Fifth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits (S-H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch 191L Arch Des</td>
<td>5 (0-15)</td>
</tr>
<tr>
<td>Arch 193L Working Draw</td>
<td>3 (0-9)</td>
</tr>
<tr>
<td>Arch 195 Specific &amp; Est</td>
<td>2 (2-0)</td>
</tr>
<tr>
<td>Arch 197 Program Writing</td>
<td>1 (1-0)</td>
</tr>
<tr>
<td>CE 157 Rein Conc Des</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Elective</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17 (9-24)</strong></td>
</tr>
</tbody>
</table>

### 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. 222.

**UPPER DIVISION REQUIREMENTS**

The candidate for the B.F.A. must complete at least 40 hours of upper division work (courses numbered above 100); of this requirement at least 22 hours must be in art courses (or, in the case of Teacher Certification, Art and Art Education).

### CURRICULA IN ART

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

Three programs of study are offered by the Art Department:

1. **Studio**: Crafts, Drawing, Graphic Design, Painting, Printmaking, and Sculpture.
2. **Art History and Criticism**
3. **Art Education**

‡ Not open to freshmen.

* Not open to students enrolled in the University College.
CURRICULUM FOR STUDIO MAJORS

1. Studio Courses (including Art 3, 6, and 53): 42 credit hours
2. Art History and Criticism (including Art 30, 71 and 72): 18 credit hours
3. Group Requirements: English 1 and 2 (6); Natural Science or Mathematics (8); Social Science (6); ♦Modern or Classical Language (6); Humanities (6); Fine Arts (6); Physical Education (4); “Additional Hours” (See Fine Arts Group Requirements) (6): 48 credit hours
4. Electives: 20 credit hours

TOTAL 128 credit hours

CURRICULUM FOR ART HISTORY AND CRITICISM MAJORS

1. Art History and Criticism (including Art 30, 71 and 72): 27 credit hours
2. Studio Courses (including Art 3, 6, and 53): 18 credit hours
3. Group Requirements: English 1 and 2 (6); Natural Science or Mathematics (8); Anthropology 1 and 2 (6); History 1 and 2 (6); Modern or Classical Language (6); Fine Arts (6); Physical Education (4); “Additional Hours” (See Fine Arts Group Requirements) (6): 48 credit hours
4. Electives: 35 credit hours

TOTAL 128 credit hours

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

A student may enroll in either the College of Fine Arts or the College of Education and satisfy the requirements for teacher certification at the secondary level.

The candidate for the B.F.A. in Art must complete at least 40 semester hours in courses numbered above 100.

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

CURRICULUM FOR SECONDARY TEACHERS

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos 3</td>
<td>Engl 2 Wrtng w/Rdgs in Lit 3</td>
</tr>
<tr>
<td>*Soc Sci 3</td>
<td>*Soc Sci 3</td>
</tr>
<tr>
<td>*Math or Science 4</td>
<td>*Math or Science 4</td>
</tr>
<tr>
<td>Art 3 Two Dim Des 3</td>
<td>Art 53 Three Dim Des 3</td>
</tr>
<tr>
<td>Art 6 Begin Draw 3</td>
<td>Art, Studio 3</td>
</tr>
<tr>
<td>Physical Ed 1</td>
<td>Physical Ed 1</td>
</tr>
<tr>
<td>Total 17</td>
<td>Total 17</td>
</tr>
</tbody>
</table>

♦ 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.

* The student enrolled in the College of Fine Arts must satisfy all Group Requirements as listed on p. 175. Electives are also to be used to meet departmental minor requirements. A minor may be selected from approved list shown on p. 160.
Sophomore Year

Engl Lit 3  Spch 55 Pub Spkg 3
*Soc Sci 3  *Soc Sci 3
*Math or Science 3  *Psy 51 Gen 3
Art Ed 48 Creat Arts in Sec Ed 3  Art Ed 49 Creat Arts in Sec Ed 3
Art 71 Gen Art Hist 3  Art 72 Gen Art Hist 3
Physical Ed 3  Physical Ed 1

16 16

Junior Year

*Psy 110 or 111 Ed or Child & Adoles 3  Sec Ed 153 Mater & Meths of Tchg in 3
Ed & Ad Serv 104 Philos of Ed 3  Sec Sch 3
Sec Ed 141 Found of 3  Art Ed 155a Tchg Art in H S 3
Art, Studio 6  Art, Studio 6
Art Electives 2  Art Electives 2

17 *Gen Electives 3

17

Senior Year

Art Ed 124 Pre-Tchg Exper in Art 3  ††Sec Ed 156-157 Stu Tchg in Sec Sch 6
Art Electives 7  *Gen Electives 6

6 12

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. 239.

CURRICULA IN DRAMATIC ART

(Leading to the degree of Bachelor of Fine Arts in Dramatic Art. Hours required for graduation, 132.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos 3</td>
<td>Engl 2 Wrtng w/Rdgs in Lit 3</td>
</tr>
<tr>
<td>Math or Natural Science 4</td>
<td>Math or Natural Science 4</td>
</tr>
<tr>
<td>D A 15 Theatre Apprc 2</td>
<td>D A 16 Theatre Apprc 2</td>
</tr>
<tr>
<td>D A 1 Fund of Spch &amp; Rdg 3</td>
<td>D A 2 Fund of Spch &amp; Rdg 3</td>
</tr>
<tr>
<td>D A 29 Stagecraft 3</td>
<td>D A 30 Stagecraft 3</td>
</tr>
<tr>
<td>Physical Ed 1</td>
<td>Physical Ed 1</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Elective 3</td>
<td>Music Elective 3</td>
</tr>
<tr>
<td>D A 55 Stage Lighting 3</td>
<td>D A 56 Stage Lighting 3</td>
</tr>
<tr>
<td>D A 75 Technical Prod 3</td>
<td>D A 76 Technical Prod 3</td>
</tr>
<tr>
<td>D A 85 Acting Tech 3</td>
<td>D A 86 Acting Tech 3</td>
</tr>
<tr>
<td>Physical Ed 1</td>
<td>Physical Ed 1</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

* The student enrolled in the College of Fine Arts must satisfy all Group Requirements as listed on p. 175. Electives are also to be used to meet departmental minor requirements. A minor may be selected from approved list shown on p. 160.

†† Student teaching may be divided between the 2 semesters of the senior year.
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 or 166, and 180; Dramatic Art 151 and 152. All course substitutions and the sequence in which all courses are to be taken shall follow a curriculum pattern established by the Department of Dramatic Art.

PUBLIC SCHOOL CERTIFICATION
(Curriculum leading to the degree of Bachelor of Fine Arts in Dramatic Art and meeting the requirements for provisional secondary teachers certificate in New Mexico.)

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Eng 1 Jr Wrtn W/Read in Expos</td>
<td>3 Engl 2 Jr Wrtn W/Read in Lit</td>
</tr>
<tr>
<td>Math or Natural Science</td>
<td>4 Math or Natural Science</td>
</tr>
<tr>
<td>D A 1 Fund of Spch &amp; Rdg</td>
<td>3 D A 2 Fund of Spch &amp; Rdg</td>
</tr>
<tr>
<td>D A 15 Theatre Apprec</td>
<td>2 D A 16 Theatre Apprec</td>
</tr>
<tr>
<td>D A 29 Stagecraft</td>
<td>3 D A 30 Stagecraft</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1 Physical Ed</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D A 75 Tech Prod</td>
<td>3 D A 76 Tech Prod</td>
</tr>
<tr>
<td>D A 55 Stage Lighting</td>
<td>3 D A 56 Stage Lighting</td>
</tr>
<tr>
<td>D A 85 Acting Tech</td>
<td>3 D A 86 Acting Tech</td>
</tr>
<tr>
<td>Psy 51 Gen</td>
<td>3 Psy 110 Ed or Psy 111 Child &amp; Adoles</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>1 Physical Ed</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Philos Elective</td>
<td>3 Engl 54 Survey of Engl Lit</td>
</tr>
<tr>
<td>Sec Ed 141 Founda of Sec Ed</td>
<td>3 Engl Elective in World Lit above 100</td>
</tr>
<tr>
<td>D A 105 Rehearsal &amp; Perform</td>
<td>3 D A 106 Rehearsal &amp; Perform</td>
</tr>
<tr>
<td>D A 185 Costume Design</td>
<td>3 D A 135 or 136 Theatre Hist</td>
</tr>
<tr>
<td>Engl 53 Surv of Engl Lit</td>
<td>3 Sec Ed 153 Mat &amp; Meth of Tchg in Sec Sch</td>
</tr>
<tr>
<td>Engl Elective in Cre or Inform Wrtg</td>
<td>3 Ed &amp; Ad Serv 115 (or equiv) Intro to Guid</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D A 161 Adv Rehearsal &amp; Perform</td>
<td>3 D A 162 Adv Rehearsal &amp; Perform</td>
</tr>
<tr>
<td>Spch 170 Spch Activ in Sch (or Ed Elect)</td>
<td>3 Sec Ed 156 Stu Tchg in Sec Sch</td>
</tr>
<tr>
<td>Engl 141 or 142 Shakespeare</td>
<td>3 Spch 130 Spch Crr in Schs (or Ed Elective)</td>
</tr>
<tr>
<td>D A 176 Scene Design</td>
<td>3 Engl or World Lit above 100</td>
</tr>
<tr>
<td>Math or Science</td>
<td>3</td>
</tr>
<tr>
<td>Other Electives</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>
It is strongly urged that the student broaden his field of study by choosing electives from the curricula of other colleges of the University, especially courses in the social sciences, so as to gain better insight into the problems of contemporary society.

Students who plan to teach drama in the secondary schools are urged to broaden their knowledge of forensic activities by selecting appropriate electives from the Department of Speech.

In addition to the planned course of study, students of the Department participate in all phases of production of three-act and one-act plays. So far as is possible, this work is correlated to class work.

In lieu of courses not offered during certain terms, substitution made with the advice of the Chairman of the Department will be accepted.

MUSIC

For curricula leading to the B.F.A. in Music, see below. For major studies in the Fine Arts Combined Curriculum, and for minor study requirements, refer to the "Courses of Instruction" section, p. 307.

A minor in creative dance and choreography is offered through the Department of Music. (See p. 307).

NASM MEMBERSHIP

The University of New Mexico is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the National Association of Schools of Music.

PROGRAM FOR FRESHMAN YEAR IN MUSIC DURING ENROLLMENT IN THE UNIVERSITY COLLEGE

Freshmen in all music curricula, except Music Education, should enroll for the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Each Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1, 2 Wrtng w/Rdgs in Expos &amp; Lit</td>
<td>10 hours each</td>
</tr>
<tr>
<td>Mus 5, 6, Music Theory</td>
<td></td>
</tr>
<tr>
<td>P. E.</td>
<td></td>
</tr>
<tr>
<td>One of the following:</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Mathematics or Science</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Each Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied music, instrumental</td>
<td>5 hours each</td>
</tr>
<tr>
<td>Music 1, 2 (major instrument)</td>
<td>semester</td>
</tr>
<tr>
<td>Ensemble</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Each Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied music, vocal</td>
<td>5 hours each</td>
</tr>
<tr>
<td>Music 1, 2</td>
<td>semester</td>
</tr>
<tr>
<td>Music 19, 20 (piano)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Each Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory and Composition</td>
<td>3 hours each</td>
</tr>
<tr>
<td>Music 19, 20 (piano)</td>
<td>semester</td>
</tr>
<tr>
<td>Music 155 (Orch Instrum) each semester</td>
<td></td>
</tr>
<tr>
<td>Ensemble each semester</td>
<td></td>
</tr>
</tbody>
</table>
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

Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1 Wrtng w/Rdgs in Expos</td>
<td>English 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>Math or Science</td>
<td>Math or Science</td>
</tr>
<tr>
<td>Mus 5 Music Theory</td>
<td>Mus 6 Music Theory</td>
</tr>
<tr>
<td>Applied Music Elective</td>
<td>Applied Music Elective</td>
</tr>
<tr>
<td>Ensemble Elective</td>
<td>Ensemble Elective</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>Physical Ed</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
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<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>16 + 1 PE</td>
<td>16 + 1 PE</td>
</tr>
</tbody>
</table>

FIELDS OF CONCENTRATION

THEORY AND COMPOSITION (132 hours)

Required subject areas (48 hours): English 1 and 2, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied music (14 hours): Piano 8 hrs.; orchestra instruments, 155, 4 hrs.; voice 2 hrs.; and completion of Mus 119.

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: 13 hours.

APPLIED MUSIC (PIANO) (132 hours)

Required subject areas (48 hours): English 1 and 2, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (34 hours): 32 hours in piano; 2 hours in orchestral instruments (155); and completion of Mus 152.

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.

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

Required subject areas (48 hours): English 1 and 2, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (38 hours): 32 hours in major instrument, 4 hours in piano, 2 hours in Music 155; and completion of Mus 152.

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.

Elective: 2 hours.

‡ Should include 6 hrs. music history and literature.
APPLIED MUSIC (VOCAL) (132 hours)

Required subject areas (48 hours): English 1 and 2, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (42 hours): Voice, 32 hrs.; piano, 4 hrs.; plus 129, 4 hrs., and 187, 2 hrs.; and completion of Mus 152.

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.

MUSIC LITERATURE (132 hours)

Required subject areas (48 hours): English 1 and 2, 6 hrs.; natural science or mathematics, 8 hrs.; social science, 6 hrs.; humanities and fine arts, 9 hrs.; additional hours chosen from fine arts, foreign languages, humanities, mathematics, natural science, psychology, speech and social science, 15 hrs.; physical education, 4 hrs.

Applied Music (8 hours): Piano, 4 hrs.; elective, 4 hrs.; and completion of Mus 119.

Theory (30 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110, 153, 155 (2 hrs.), 167.

History and literature (26 hours): 71, 72, 111, 112, 147, 149, 175, 177; other music literature or musicology, 10 hours.

Ensemble: 6 hours.

Electives: 14 hours.

CURRICULUM FOR STUDENT PREPARING TO TEACH MUSIC IN GRADES 1-12 (133 hours)

(Qualifies the graduate for the Music Certificate.)

Required subject areas (48 hours): English, 9 hrs.; Speech 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, 3 hrs.; Secondary Education 156-157, 6 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.

Students majoring in music education who wish also to obtain general certification in elementary education should inquire of their advisers. To complete requirements for both certificates requires more than a four-year program.

**PIANO PROFICIENCY**

Before graduation every candidate for the bachelor's degree must demonstrate proficiency at the piano by successfully passing an examination. This examination 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.

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† Student must complete 12 hours (or the equivalent) in any one, or combination, of these languages: French, German, or Italian.

* Must complete foreign language 52.

‡ Fine Arts elective to be chosen from art, drama.

** For Proficiency Examinations in Music Education, see p. 308.
THE GRADUATE SCHOOL


The degree of Doctor of Philosophy is offered in American Studies, Anthropology, Biology, Chemistry, Education, English, Geology, History, Ibero-American Studies, Mathematics, Physics, Psychology, and Spanish. The degree of Doctor of Science is offered in Engineering; the degree of Doctor of Education is offered in Education.

Prospective applicants should consult the chairman of the department concerned and the Dean of the Graduate School before registering.

ADMISSION

Graduates of any recognized college or university may apply for admission to the Graduate School. All communications regarding admission, as well as all inquiries concerning graduate study, should be addressed to the Dean of the Graduate School.

A formal application is required of all students, including graduates of The University of New Mexico, who seek admission to the Graduate School. Application blanks and the Graduate School Bulletin may be obtained by writing to the Dean of the Graduate School. Applicants from other institutions must have two transcripts of all undergraduate and graduate work sent directly to the Graduate Office from each institution previously attended. Even though a master transcript may carry records from other institutions, University regulations require that these records be sent from each institution. Transcripts in the possession of students will not be accepted for entrance purposes. In order to be assured of consideration for admission, students should have their applications, transcripts, and the $5.00 transfer application fee* on file in the Graduate Office at least two months in advance of the beginning date of the session in which they plan to enroll. The final deadlines for receipt of applications and all required credentials are: for Semester I, August 15; for Semester II, January 1; for the Summer Session, May 1. Failure to observe this requirement may result in indefinite delay in obtaining permission to register. No student is assured of admission until he has received an official certificate of admission from the Director of Admissions.

Although each application is reviewed individually, it may be observed that in general an over-all average of near B and a full B average in the preparation for the intended major field are required for admission to a degree status (pro-

* Not required of applicants who have attended The University of New Mexico in regular status.
visional or regular). For status categories, consult the Graduate School Bulletin. Any student may be refused admission if his previous scholastic record indicates inability to pursue advanced work satisfactorily. The Graduate School also reserves the right to refuse admission to any student for other than scholastic reasons.

EXTENSION AND CORRESPONDENCE COURSES

The University accepts no correspondence credit toward its advanced degrees. A minimum of extension credit from The University of New Mexico is acceptable, but no extension credit may be transferred from other institutions.

FELLOWSHIPS AND ASSISTANTSHIPS

A number of fellowships and assistantships are available for graduate students. Application blanks may be obtained from the Office of the Graduate School.

THE FORD FOUNDATION M-3 PROGRAM

For a description of this program, see p. 130.

INFORMATION

For further information regarding advanced work and the conditions under which higher degrees may be obtained, consult the Graduate School Bulletin or the Graduate Office.
SCHOOL OF LAW

THE STATE BAR of New Mexico having previously adopted a resolution to that end, and the Legislature of New Mexico having made financial provision, the Regents of The University of New Mexico, on March 31, 1947, as expressly authorized by Laws 1889, Ch. 138, Sec. 15, approved the establishment of a School of Law. The school admitted its first class in September, 1947.

ACCREDITATION

The School of Law has met the standards of the American Bar Association and of the Association of American Law Schools. It was approved by the American Bar Association on February 24, 1948. Membership in the Association of American Law Schools was granted in December, 1948. The school is fully accredited.

AIMS AND METHODS

The lawyer who functions in his profession, whether as private practitioner or as public servant, is an integral part of the system by which a democratic society governs itself. If he is properly to discharge the responsibilities of this role, his education for the profession must be both broad and intensive. In its breadth it must encompass a full understanding of and belief in the democratic respect for the individual personality and the democratic processes designed to allow the individual to develop and participate in a free, self-governing society. In its intensification it must impart a high degree of competence in the craftsmanship of the law—in those skills and insights essential to an adequate performance of the lawyer's function as advocate, counselor, judge, legislator, teacher, administrator, or civic leader.

Such education neither begins nor ends in the law school, and the School of Law is continually concerned not only with its own curriculum but also with the quality of prelegal education and with the continuing self-education which should be pursued by all members of the profession. In consequence, it is urged that students enter the school with as broad a cultural and educational background as it is possible for them to obtain. Accordingly, the basic requirement for admission is a baccalaureate degree from an approved college or university, although students with a better-than-average undergraduate record and a demonstrated aptitude for law study may be admitted upon completion of three-fourths of the work required for a baccalaureate degree and exceptional students may be permitted to enter upon a 6-year combined course of college and law school study leading to the acquisition of a B.A. or B.S. and the LL.B. degrees.

Under any method of admission, the student will spend the equivalent of six semesters of study in the law school in courses designed both to bring the teachings of history, philosophy, and the social sciences to bear upon the solution of legal problems and to develop the skills and insights essential to research, analysis, synthesis, criticism and exposition. Due to the low ratio of students to teacher (less than 15 to 1), substantially more individual and small group work is possible in the school than in most law schools.
FACILITIES

LAW BUILDING

The School of Law Building is of modified Pueblo Indian design and is colorfully decorated and furnished throughout. Facilities include a moot court room, student and faculty lounges, Natural Resources Journal offices, and Student Bar Association offices. The classrooms, library, and halls are soundproofed. The building was designed to accommodate comfortably 150 students. Built on the modular plan, it can be rearranged or expanded.

THE LIBRARY

The law library, housed separately with the law school, received an auspicious start through the donation of the Francis C. Wilson, Francis E. Wood, and other private law library collections. It contains approximately 58,000 accessioned volumes and is being augmented by approximately 250 volumes each month. The research value of the library is greatly enhanced by a collection of unbound pamphlets, appeal papers for the New Mexico Supreme Court and the U. S. Court of Appeals, Tenth Circuit, and micro-reproductions of the records and briefs of the United States Supreme Court and of other materials too rare or costly to be made available in the original form.

COURTS AND THE BAR

State and municipal courts and the United States District Court are convenient to the law school. All of these courts are very busy, and the students may not only visit them but are brought into contact with them through their work with the Legal Aid Society. Members of the bench and bar, both state and local, are very generous in giving their time to speak to the students and in serving as judges and lecturers.

JOHN FIELD SIMMS MEMORIAL LECTURES (1954) See p. 56, supra.

NATURAL RESOURCES JOURNAL

The School of Law publishes the Natural Resources Journal, a periodical designed to provide a forum for the interchange of ideas relating to resources development and conservation among lawyers, economists, scientists, engineers, planners and public administrators. The Journal also contains a New Mexico Section devoted to developments in state law and legal institutions whether or not related to natural resources.

One member of the faculty serves as editor of the Journal. Selected students of superior ability make up a student editorial board to aid in the editing and publishing of the Journal and to contribute to the New Mexico Section.

ADMISSION

TESTS

All applicants for admission to the School of Law are required to take the Educational Testing Service's Law School Admission Test (LSAT) and the Iowa Legal Aptitude Test (LAT).
The LSAT is administered at this University and at numerous other places throughout the United States in February, April, August and November of each year. To avoid delay on applications, this test should be taken no later than April preceding the fall semester for which application is made and an application to take the test should be filed with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey, at least two weeks in advance of the scheduled testing date. Application blanks and information as to precise testing dates can be obtained from the Educational Testing Service.

The LAT is administered by arrangement at this University. An applicant may also arrange to have the test administered by testing authorities of an institution more convenient for him by writing to the Director of Counseling and Testing at this University. Letters to the Director should specify the name, title and institution of the person who is to administer the test. Here again, delay on applications may be avoided by arranging to take the test no later than April preceding the fall semester for which application is made.

Beginning and transfer students may also be required to take speech, hearing, interest, and other tests after their entrance into the school.

BEGINNING STUDENTS

The normal requirement for admission to the law school is a baccalaureate degree from an accredited college or university. The minimum qualitative requirement is a cumulative average of C on all previous college work. At least 3 years of the work allowed for the baccalaureate degree must have been done in residence.

Students who have completed at least 3 years of study constituting three-fourths of the work acceptable for the baccalaureate degree in residence at an accredited college or university are eligible to apply for admission. This will usually mean 96 hours of credit acceptable for the baccalaureate degree and may not include more than 10% of non-theory courses in military science, hygiene, home economics, physical education, vocal or instrumental music, or courses without substantial intellectual content. The minimum qualitative requirement for such students normally is a cumulative average of 2.5 (C = 2) on all previous college or university work, or such higher cumulative average as is required for graduation at the institution last attended.

Final selection of applicants with a baccalaureate degree or with 3 years of undergraduate work completed will be made on the basis of total scholastic record in all college or university work attempted, scores in required aptitude tests, and such personal interviews as the law school may require.

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

Students of exceptional qualifications who are eligible to enter The University of New Mexico College of Arts and Sciences may be permitted to enter upon a combined course of college and law school study leading to the acquisition of a B.A. or B.S. degree in Arts and Sciences and the LL.B. degree. For the student entering this program at the beginning of his sophomore year in the University, an additional 5 years will normally be required to complete the combined course. Students with more than 30 semester hours' credit are not encouraged to apply.
for admission to the combined course, and students who have completed more than 60 semester hours are not eligible to enter the combined program. Applicants for permission to take the combined course should arrange to take, and to have the School of Law advised of their scores in, the Iowa Legal Aptitude Test and the Law School Admission Test (see "Tests," p. 187, supra). Permission to pursue the combined course will be based upon the student's total scholastic record in all college work attempted, upon his scores in the above-mentioned tests and upon such oral interviews as the School of Law may require in each case. Students planning to apply for the combined course should take the tests and file their requests for permission with the School of Law no later than August 15 of the calendar year in which they wish to begin the combined course.

All students pursuing the combined course will be required to take a B.A. or B.S. degree in Arts and Sciences prior to or simultaneously with the receipt of the LL.B. degree. For this purpose, they may credit against the B.A. or B.S. degree a minor in Law as defined on p. 293, infra. In all other respects, they must meet the normal degree requirements of the College of Arts and Sciences. Such students will take, during their sophomore and/or junior years, two or three introductory courses in the law school. In those years, also, they will be advised, with respect to major and group requirements for the B.A. or B.S. degree, by the faculty of the College of Arts and Sciences and, with respect to the selection of a major, minor requirements and electives for such degree, by the faculty of the School of Law.

All correspondence regarding law work and entrance, all applications for admission, and all transcripts should be addressed to the School of Law, The University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the School of Law. A $5 transfer application fee is required with the application except in the case of students who have formerly attended this University in degree status.

Applications will be processed upon the receipt of scores on required tests (see "Tests," p. 187, supra) and required official transcripts from each institution attended, showing courses and grades for all academic work. Such transcripts should be forwarded to the School of Law directly by the institution certifying the transcripts.

Applications and transcripts should be filed not later than August 15 in order to afford time for evaluation and, if necessary, supplementation and correction.

TRANSFER STUDENTS

A student may transfer from an accredited law school if he is in good standing at that school (i.e., not on probation or under suspension) and if his scholastic record is such that, had it been made at this school, he would be in good standing here. (The requirements for good standing in this school are set out under "Probation and Suspension," p. 191, 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 work done here (see "Scholarship Index," p. 105, supra).

A student transferring to the School of Law will not be given credit toward the law degree for credit earned at a school not a member of the Association of American Law Schools or provisionally approved by the American Bar Association, except that credit earned within 3 calendar years of provisional approval by the American Bar Association may be accepted. Time during which a person was in active military service will be disregarded in computing the 3-year limitation.

Credit earned at law schools located in other countries may be accepted with certain limitations.

Transferring students who have not previously taken the Iowa Legal Aptitude Test and the Educational Testing Service's Law School Admission Test will be required to do so. (See "Tests," p. 187, supra).

All correspondence regarding admission as a transfer student with advanced standing, all applications for such admission, and all transcripts should be addressed to the School of Law, The University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the School of Law. A $5 transfer application fee is required with the application, except in the case of students who have formerly attended this University in degree status.

Applications will be processed upon receipt of required test scores, required official transcripts, and required letter from the dean of the law school from which the student is transferring. The transcripts should be forwarded to the School of Law directly by the institution certifying such transcripts.

Transfer students may be admitted in either the fall or the spring semester. Applications for transfer, together with required test scores, letters and transcripts should be filed not later than August 15 for fall semester registration and not later than January 1 for spring semester registration.

THE DEGREE

To secure the bachelor of laws degree from The University of New Mexico, a candidate for such degree must:

1. Have met fully all prelegal requirements.

2. Have spent at least 3 full academic years in resident study of law in accredited law schools. Resident study means that a student has been enrolled in a
schedule of work represented by a minimum of 10 class hours a week and has passed a minimum of 9 such class hours. In case a student fails to pass work equal to 9 class hours a week, he will not receive residence credit in excess of the ratio that the hours passed bear to 9. A student enrolled in a schedule of less than 10 class hours a week will receive residence credit in the ratio that the hours passed bear to 10. Both subject credit and residence, or time, credit are required. A student cannot earn additional residence credit by earning extra subject credit. At least one year of resident study must be done at The University of New Mexico, and if but one year is done here, it must comprise not less than 12 semester hours of law credit each semester.

3. Have secured during such 3 or more years of resident study, not less than 83 semester hours of credit in prescribed courses of law study with a C average on all work attempted for law credit. (For specific grade requirements on certain required courses, see p. 192, infra).

THE DEGREE WITH HONORS. For requirements for graduation honors in the School of Law, see p. 116, supra.

PART-TIME STUDENTS AND OUTSIDE WORK

No student will be permitted to register for fewer than 10 credit hours in the law school in any semester, or to reduce his registration to fewer than 10 credit hours, without the approval of the Dean.

If a student spends more than 19 hours a week in outside work, he will normally be required to drop one semester hour of law study for each 3 hours of outside work in excess of 19 hours per week. A corresponding or greater reduction may be required for any student spending 19 hours or fewer per week in outside work whose cumulative grade average in the law school falls below 2.2 (C = 2).

PROBATION AND SUSPENSION

A student enrolled in the School of Law is placed on probation at the end of any semester in which his cumulative grade average on all law courses taken at the University, and on all non-law courses taken after enrollment in the School of Law in which he receives a grade below C, falls below 2.0 (i.e., a C average), regardless of the number of credit hours for which he is currently enrolled. If at the end of his next semester in the law school he has not qualified for removal from probation status, he is subject to suspension. A student who has been suspended is not eligible to apply for readmission for a period of one calendar year from the date of suspension. The readmission of a suspended student after the expiration of the suspension period is contingent upon the approval of the faculty of the School of Law, which approval will be granted only if there is good reason to believe that his prior record was not the result of lack of capacity for law school work and that the prior record was occasioned by factors which would not be present on readmission.
BAR EXAMINATIONS

The degree in law from this University will not confer the privilege of practicing law in New Mexico or elsewhere. The degree will satisfy the requirement of graduation from a law school which is a member of the Association of American Law Schools or which is approved by the American Bar Association, as a prerequisite to completing other requirements for bar admission. The curriculum of the School of Law has been registered in full with the Department of Education of the State of New York. Information concerning the New Mexico bar examinations can be obtained from the Secretary, State Board of Bar Examiners, Supreme Court Building, Santa Fe, New Mexico.

CURRICULUM

LAW SCHOOL COURSES

The course of study, casebooks and other study materials, class schedules and the like will be determined by the faculty and may be changed at any time. Attendance at special lectures and the performance of special services may be required although not listed as courses.

Legal Analysis, Legal Research, Legal Writing, and two seminars as offered, must be taken and passed. All first-year subjects must be taken, but, except as indicated in the preceding sentence, a passing grade in each course is not essential to graduation unless the faculty so rules in a particular case. A satisfactory performance in Legal Aid and The Legal Profession is also required although no grades are given in these courses. All other subjects are elective, but not all courses can be so scheduled as to make election feasible for all students. The faculty may refuse to permit or may require any course to be retaken if failed.

BAR EXAMINATION REVIEW

No instruction designed as a review course for bar examinations is offered under law school auspices.

ELECTIVES IN OTHER COLLEGES

Not to exceed 11 credits in 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.
STUDENT AIDS

SCHOLARSHIPS

(All applications for scholarships should be filed with the office of the Dean of the School of Law by August 15).

Sam and Frances Joy Dazzo Scholarship Fund. The income from a trust fund of $5,000, established by Sam and Frances Joy Dazzo in recognition of the splendid service given to The University of New Mexico School of Law by Dean A. L. Gausewitz. Awarded annually to a student in the School of Law who is in need of financial assistance and who 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.

Dona Ana County Bar Association Law Scholarship. A scholarship of $120 per semester, to be awarded primarily on the basis of financial need, to a student in the School of Law who has been a resident of the State of New Mexico for five years, and who enters the School with or thereafter achieves in the School a C average. First priority will be given to students from Dona Ana County, second priority to students who did their undergraduate work at New Mexico State University, and third priority to other students in the School of Law. Applicants who are not from Dona Ana County or from New Mexico State University must have successfully completed their first year at this or some other law school approved by the New Mexico State Board of Bar Examiners.

Lt. John D. Gamble Memorial 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 Memorial Scholarship. A scholarship established by the Albuquerque Bar Association and other friends and admirers of Alfred L. Gausewitz, first Dean of the School of Law, who died May 31, 1960. Awarded annually on the basis of merit and need to a deserving second- or third-year law student selected by the faculty of the School of Law.

Graduate Tuition Scholarships

(a) Three tuition scholarships per semester, awarded on the basis of ability and need, for resident law students with a baccalaureate degree.

(b) Two tuition scholarships per semester, awarded on the basis of ability and need, for non-resident students with a baccalaureate degree.

(Resident students without a baccalaureate degree may apply to the office of the University Dean of Men for tuition assistance.)

Hoshour Memorial Scholarship Fund. One or more scholarships of about $50 each are awarded each year from the income from a fund established in memory of Harvey Sheely Hoshour, distinguished lawyer and scholar and courageous humanitarian, a professor of law at The University of New Mexico, who died October 9, 1951. These scholarships are awarded on the basis of scholarship, active and effective interest in law school affairs, with some consideration of need.

Law School Alumni Fund Scholarship. The income from a trust fund of $2,500, contributed by the alumni of the law school. Awarded annually on the basis of merit and need.

The Abraham Lincoln Mitchell Scholarship. See p. 89, supra.

Rocky Mountain Mineral Law Foundation Research Scholarship. The sum of $200 will be made available annually by the Rocky Mountain Mineral Law Foundation to be awarded to a student of above average scholastic standing who has taken or is taking at least one course in oil and gas or solid mineral law, who has demonstrated superior ability, and who has written a casenote or brief article upon some phase of mineral law or a recently decided case or a research paper upon some topic of mineral law.

Soroptimist's Law Scholarship for Women. A $200 scholarship, payable $100 each semester, to a woman law student who gives promise of completing her legal education and of becoming a respected and useful citizen who will contribute to the civic life of her community and her state, preferably New Mexico, in some field of law or public service.

State Bar of New Mexico Scholarship. The income from a trust fund of $5,000, established by members of the State Bar of New Mexico. Awarded annually on the basis of merit and need.

The Alexander Verner Wasson Scholarship in Law. Established by The First National Bank of Santa Fe in honor of Alexander Verner Wasson, President of that institution, 1952-1962. The scholarship of $750 is awarded by the law faculty to a third-year student on the basis of scholarship, character, and professional achievement during the first two years of study in the School of Law.
PRIZES AND AWARDS

American Jurisprudence Prizes. These prizes, joint gifts of the Bancroft-Whitney Company of San Francisco and The Lawyers Co-operative Publishing Company of Rochester, New York, consist of specially-bound titles from American Jurisprudence and are awarded to the students receiving the highest grades in various law courses.

Bureau of National Affairs Award. A year's subscription to the United States Law Week in recognition of the most satisfactory scholastic progress in the field of law made during the final school year.

Nathan Burkan Memorial Competition. Prizes of $150 and $50 provided by the American Society of Composers, Authors and Publishers are awarded annually to seniors in the School of Law for papers in copyright law.

College of Trial Lawyers Moot Court Award. An award of $100 presented to the winning team in the annual University of New Mexico Moot Court Competition by the New Mexico Fellows of the College of Trial Lawyers.

Corpus Juris Secundum Award. One selected title of the legal encyclopedia, Corpus Juris Secundum, which is awarded to the students in the first, second, and third year classes making the most significant contribution to legal scholarship.

Margaret Keiper Dailey Memorial Award in Law. The income from a fund established in memory of Margaret Keiper Dailey, a member of the class of 1951, General Counsel of the Legal Aid Society of Albuquerque for eight years, and Director of Legal Aid on the law faculty, who died June 17, 1959, provides book awards for one or more students in the School of Law. These awards will be made on the basis of satisfactory scholarship, character, and those qualities of heart and mind that distinguished Mrs. Dailey's personal and professional life: awareness of social problems, concern for people in trouble, and dedication to the professional responsibility to provide equal justice for all.

Lawyers Title Award. A prize of $100 and a certificate awarded annually by the Lawyers Title Insurance Corporation of Richmond, Virginia, to the senior law student found most proficient in the law of real property.

Joseph W. Meek Memorial Plaque of Honor Graduates, upon which is inscribed each year the name of the Honor Graduate in the School of Law.

Joseph W. Meek Prize in Taxation and Commercial Law. An award in a form to be selected by the faculty to a senior student for superior work in the fields of taxation and commercial law.

Pearce C. Rodey Memorial Prize in Law. An annual prize of $75 established by Mrs. William Calhoun Witte in memory of Pearce C. Rodey, divided between two students for excellence in legal writing.

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

Allen Smith Company Awards. Certificates for the purchase of law books awarded to the three senior students with the best cumulative scholastic averages.

Wall Street Journal Award. An engraved medallion and one year's subscription to the Wall Street Journal, awarded for outstanding work in Business Units.

West Publishing Company Book Prizes. Awarded to the students in the first, second and third year classes with the best cumulative scholastic averages.

LOAN FUNDS

State Bar of New Mexico Law Student Loan Fund. With the approval of J. D. Weir, Las Cruces, then President, and other officials of the State Bar, a loan fund sponsoring committee was set up under the chairmanship of Sam G. Bratton, Chief Judge of the United States Court of Appeals, Tenth Circuit. Responses by members of the bar to solicitations from this committee and from a committee of alumni of the School of Law have been most generous and have demonstrated a sincere interest in legal education and in this School. The fund is administered by a committee made up of three members of the faculty, one of whom serves as Loan Fund administrator, and two members of the bar, the Honorable Augustus T. Seymour, former justice of the Supreme Court of New Mexico, and Mr. Jackson G. Akin, both of whom are members of the Albuquerque Bar and active in practice.
OTHER UNIVERSITY SCHOLARSHIPS AND LOAN FUNDS

In addition to the above Scholarships and Loan Funds administered by the School of Law, law students may be eligible for general University Scholarships and Loan Funds administered by the Office of the University Dean of Men. See the section on "Financial Aid" in this catalog.

LEGAL AID

Seniors in the School of Law serve in the office of the Legal Aid Society of Albuquerque. Schedules are made up in advance, and one student reports for Legal Aid work each week. The Legal Aid Society, a Community Chest Agency serving the city and county, was incorporated March 16, 1950 and opened its office in the County Courthouse on August 1, 1950. The office is under the supervision of Mary Dunlap, General Counsel of the Society.

STUDENT BAR ASSOCIATION

All students registered in the School of Law become members of The University of New Mexico Student Bar Association. Through this organization they perform their part in the work and life of the school and assume a substantial measure of responsibility both for its administration and for the course and method of study. An Honor Code administered by the students has been in operation since the establishment of the school.
SCHOOL OF MEDICINE

A SCHOOL OF MEDICINE for The University of New Mexico was approved in 1960, and a grant for the initial development of the school was made available by the Kellogg Foundation in the same year. The New Mexico Legislature at its 1961 session made a token appropriation toward support of the school. It is expected that the School of Medicine will be open to receive students not earlier than the fall of 1964.

FACILITIES

A medical science building will be constructed on the campus, the most likely site being adjacent to the Bernalillo County-Indian Hospital. It is expected that this hospital, together with the Albuquerque Veterans Administration Hospital, will provide the primary resources for introductory student experience in clinical medicine.

PROGRAM

Initially the program will be for 2 years only and candidates for the Doctor of Medicine degree will transfer to 4-year schools of medicine to complete their final 2 clinical years. The school will emphasize graduate education and research so there will also be an opportunity for students to continue their education towards a Ph.D. in the basic medical sciences.

The details of the curriculum have not yet been specified. In general, the program will provide experience in the biological science areas basic to medicine: anatomy, biochemistry, physiology, microbiology, pathology, pharmacology, clinical laboratory medicine, and an introduction to clinical medicine and to history-taking and physical diagnosis. The school will plan its program to take advantage of recent advances in medical education, including increased flexibility, emphasis on small-group or individual teaching, early involvement of the student in research, and multi-disciplinary approaches when appropriate.

ADMISSION

Present plans call for an eventual class size of approximately 50 students. The requirements for admission will parallel those of most approved medical schools in this country. It is probable that a special admission plan will be developed for exceptionally talented students at The University of New Mexico who wish to identify themselves early in college with a career in the area of human biological science or medicine.

In general, the admission requirements will include a bachelor's degree from an accredited institution with a major field of concentration in an academic discipline within the arts and science college. Students who major in the humanities or social sciences will be given equal consideration with those who major in the sciences, providing, of course, they have shown the ability to handle scientific material effectively.
In addition to the general requirements indicated above, the following specific courses must be taken:

General Chemistry, including laboratory, one year;
Organic Chemistry, including laboratory, one year;
General Biology, including laboratory, one year;
General Physics, including laboratory, one year;
College Mathematics, one year. Mathematics through calculus is strongly recommended.

The courses taken to fulfill the specific requirements listed above should be those required of students majoring in the respective fields.

Applicants will be required to take the Medical College Admissions Test, and in most instances an interview with the Committee on Admissions of the School of Medicine will be necessary.

Exceptions to the general requirements outlined above may be made for special program students, for qualified students who wish to enter medical school after only 3 years of college, and at the discretion of the Committee on Admissions.

Preference for admission will be given to qualified applicants who are residents of New Mexico or of regional states which do not have their own medical schools and which participate in the Western Interstate Commission on Higher Education student exchange program.

INFORMATION REQUESTS

Inquiries are welcome and interested students may write or call at the Office of the Dean, School of Medicine.
COLLEGE OF NURSING

THE PURPOSE of the College of Nursing is to provide opportunities for students to acquire the basic knowledge and skills which they will use as professional nurses in giving nursing care, in helping individuals and families to understand their responsibilities for the maintenance of health and the prevention of disease, and in working with members of other health professions toward the goal of health for individuals and communities.

METHODS

The purpose of the College of Nursing is achieved through general liberal arts courses which contribute to the cultural development of students, through professionally-related courses in the natural sciences and the social sciences which provide a foundation for professional courses, and through professional courses which incorporate specific nursing content.

Beginning in the sophomore year and increasing in the junior and senior years, students have opportunities to correlate and apply their cumulative knowledges and skills as they are supervised in the nursing care of individuals and families in hospitals, homes, and clinics.

ACCREDITATION

The basic program in nursing was fully accredited by the National League for Nursing in December 1959. The accreditation includes approval of preparation in public health nursing.

LICENSURE OF GRADUATES

Graduates of the College of Nursing are eligible to take the State Board Examinations which provide the legal basis for becoming registered nurses.

OPPORTUNITIES IN NURSING

In New Mexico and throughout the country, there is urgent need for professional nurses in all categories of service. The continuing expansion of hospital facilities and public health programs demands increasing numbers of staff nurses, head nurses, supervising nurses, nursing administrators, and teachers of nursing.

Graduates of the College of Nursing will be prepared to accept beginning staff positions in hospitals, out-patient departments, health departments, visiting nurse associations, industries, schools, and the military services. Graduates may also become head nurses in hospitals after suitable experience.

Supervisory, administrative, and teaching positions in hospitals, health departments, and schools of nursing require advanced preparation. Those graduates of the College of Nursing who wish preparation beyond the baccalaureate program will be qualified to seek the master's degree in the special nursing field of their choice.
ADMISSION

All students seeking admission to the College of Nursing must meet requirements for admission to the University.

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

ADMISSION FROM UNIVERSITY COLLEGE

Transfer from the University College to the College of Nursing requires:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted;
   or
   (b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Each student must make a satisfactory score on the English Proficiency Examination (administered by The University of New Mexico), or make a grade of C or better in English A, a non-credit course offered by the Department of English.
4. Each student must make a satisfactory score on the Mathematics Placement Test (administered by The University of New Mexico), or make a grade of C or better in Mathematics A, a non-credit course offered by the Department of Mathematics.

TRANSFERS

Students seeking to be accepted as transfer students must meet requirements for admission to the University.

Students seeking to transfer from other degree-granting colleges in the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a scholastic index of 2.0 or better on all work attempted while enrolled in the other degree-granting colleges or other collegiate institutions.

Every new student is required to take the scholastic aptitude, the English Proficiency, and the Mathematics Placement examinations.

Registered Nurses. Graduates of approved diploma or associate degree schools of nursing may apply for admission as transfer students. Applicants may be granted up to 35 semester hours advanced standing (subject to validation) upon the attainment of satisfactory scores on the Graduate Nurse Examination, Plan C, of the National League for Nursing. Where it seems proper, special examinations administered by the University may be used to establish or validate credit.

GENERAL INFORMATION

In general, students in the College of Nursing follow the procedures outlined under "Admission and Registration" and are governed by the scholastic regula-
tions described under "General Academic Regulations." (See sections, this catalog.) Students enrolled in the College of Nursing are expected to be progressing toward the Bachelor of Science in Nursing degree.

ACADEMIC REGULATIONS

Students are required to maintain an average of C or better for all courses** attempted while registered in the College of Nursing. No student will be permitted to enroll in the professional courses of the senior year unless the scholastic index is 2.0 or better.

DEPARTMENTAL HONORS PROGRAM

A Departmental Honors program is available to qualified students in the College of Nursing.

The purposes of the Departmental Honors program are: (1) to intensify and deepen the student's knowledge in nursing; (2) to put this specialized knowledge into better relationship with knowledge in related fields and in the larger general area of nursing; (3) to bring the student under closer guidance of, and into closer acquaintance with, teachers in nursing. The student enters the program during the junior year. Qualifications include a scholastic index of 3.2 on all work taken and on all nursing courses. Transfer students must have earned at least 15 semester hours at the University.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all scholastic index of 3.2; (b) 3 hours each in Independent Study and in Senior Thesis in addition to the usual requirements for the degree; (c) at least 60 earned credits at the University. The level of honors at which the candidate shall be graduated is at the discretion of the faculty of the College of Nursing.

CLINICAL FACILITIES

Facilities for clinical instruction include: Bernalillo County-Indian Hospital, Bataan Memorial Methodist Hospital, Nazareth Hospital, Bernalillo County Health Department, and the Visiting Nursing Service, Inc. All facilities are in greater Albuquerque.

UNIFORMS

Students are required to purchase the uniforms which are worn in nursing practice periods. Orders are placed at the time of registration.

BOARD AND ROOM

Students are responsible for their living arrangements and costs. They must comply with the University regulations as stated in the "Student Housing" section of this catalog.

HEALTH SUPERVISION

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

**Exclusive of hours in nonprofessional physical education and ensemble music.
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 present their immunization records on the registration date of the semester in which the student first enrolls in a nursing practice course. Usually, this is Nursing 51L, Fundamentals of Nursing. The record must show evidence of immunizations for diphtheria, tetanus, typhoid fever, and smallpox. The record should also give evidence of freedom from tuberculosis as determined by a medical evaluation. Such tests as the Mantoux or X-ray may be used.

**REQUIREMENTS FOR GRADUATION**

The degree of Bachelor of Science in Nursing is granted to basic and registered nurse students on fulfillment of the following requirements:

1. Completion of 127 semester hours of course work including the prescribed curriculum.
2. Completion of 4 semester hours of physical education in accord with the University requirement.
3. Completion of at least 65 semester hours of upper-division course work. Such courses are numbered above 100.
4. Completion of the Graduate Record Examination.
5. For minimum residence requirements, see "Degree Requirements" in the section of this catalog entitled "General Academic Regulations."
6. Completion of Liberal Education Group Requirements described below.

**LIBERAL EDUCATION GROUP REQUIREMENTS**

Students should select elective courses from the suggested groups to meet requirements listed in the prescribed curriculum. Foreign language is an acceptable substitution. The group requirements are as follows:

I. Anthropology; History; Government.
II. Sociology 56 Social Problems, 75 Structure and Functions of the Family.
III. English 55 Vocabulary Building, 64 Informative Writing; Philosophy; Speech 55 Public Speaking.
IV. Psychology 101 Social Psychology, 102 Psychology of Personality, 111 Child and Adolescent Psychology, 113 The Psychology of Exceptional Children; Anthropology 101 The Individual in His Society.
V. English 120 Advanced Technical Writing; Literature (UD).
VI. English (UD); Sociology 180 Occupations and Professions.

Students who participate in the General Honors program may apply General Studies seminars to satisfy appropriate elective requirements upon approval by the Dean, College of Nursing.

**CURRICULUM**

Descriptions of the courses offered will be found, listed by departments, in the catalog section "Courses of Instruction." Prerequisites are included in the course descriptions.
Students planning to complete degree requirements within the time allotted will, while freshmen, complete the courses outlined for the freshman year.

Required: 6 semester hours of English.

The sequence of selected courses may be changed provided prerequisites are met.

Students may take electives to meet requirements of a minor or may select a program of broad studies.

Students who wish to make substitutions in the program are required to present their plans in writing.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
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<tr>
<td>Anthropology</td>
<td>Biol 36 Human Anat &amp; Physiol</td>
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<tr>
<td>Nurs 21 Nursing and Society</td>
<td>Biol 39L Human Anat &amp; Physiol Lab</td>
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<tr>
<td>Soc 2 Intro to</td>
<td>Elective from Group I</td>
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<td>Physical Ed</td>
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<th>Sophomore Year</th>
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<tbody>
<tr>
<td>Biol 93L Gen Bacteriology</td>
<td>Pharmacology 66 Prin of</td>
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<tr>
<td>Home Ec 138L Child Care and</td>
<td>Pharmacology 68L Prin of Lab</td>
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<tr>
<td>Development</td>
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<tr>
<td>Nurs 51L Fund of</td>
<td>Home Ec 104 Nutrition</td>
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<td>Psychology</td>
<td>Nurs 52L Fund of</td>
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<td>Physical Ed</td>
<td>Elective from Group III</td>
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<td>1 Physical Ed</td>
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<tr>
<th>Junior Year</th>
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<tbody>
<tr>
<td>Nurs 103L Medical-Surgical Nursing</td>
<td>Nurs 123L Maternal-Child Nursing</td>
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<tr>
<td>Elective from Group IV or V</td>
<td>Psych 103 Abnorm Psych</td>
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<tr>
<td>Elective</td>
<td>Elective from Group IV or V</td>
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<tr>
<th>Senior Year</th>
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<tbody>
<tr>
<td>Nurs 151L Psychiatric Nursing</td>
<td>Nurs 163L Problems in Clinical Nursing</td>
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<tr>
<td>Nurs 152L Public Health Nursing</td>
<td>Nurs 182 Seminar: Issues in Nurs</td>
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<td>Elective from Group IV, V, or VI</td>
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REGISTERED NURSES

Students who are already registered nurses follow the plan of the curriculum, as outlined, to complete degree requirements. Students with appropriate advanced standing and prerequisites are admitted to upper-division nursing courses.
COLLEGE OF PHARMACY

It is the primary purpose of the College of Pharmacy to prepare its students so that they may not only achieve success in the practice of the profession but may also effectively assume their responsibilities as educated citizens. In addition to providing the opportunity to acquire the necessary knowledge, the College also purposes to inculcate in its students those habits of industry and thoroughness and the qualities of loyalty and ethical behavior which the profession demands of its practitioners.

The College of Pharmacy also provides a consultant service to the profession in the State of New Mexico in connection with unusual prescriptions and other aspects of pharmaceutical practice.

In addition, the two-year certificate program in Dental Hygiene is administered by the College of Pharmacy. (See p. 208.)

OPPORTUNITIES IN PHARMACY

The profession of pharmacy offers, to properly trained individuals, a wide variety of opportunities for service in interesting and satisfying positions. Most of the graduates of colleges of pharmacy enter the retail field. Many, however, occupy positions as manufacturing pharmacists, sales representatives, hospital pharmacists in civilian and governmental hospitals, analysts for state and federal food and drug departments, and as pharmacists in the Army, Navy, Air Force, Public Health Service, and Veterans Administration. Limited numbers are engaged in editing or writing for pharmaceutical publications and as managing officers of local, state, and national pharmaceutical organizations. Positions as research workers in manufacturing plants and as teachers in colleges of pharmacy are open to those who prepare themselves by pursuing graduate work toward advanced degrees.

RECOGNITION

The College of Pharmacy is accredited by the American Council on Pharmaceutical Education, the national accrediting agency in pharmaceutical education, and holds membership in the American Association of Colleges of Pharmacy.

SCHOLARSHIPS AND LOANS

The College of Pharmacy annually grants freshman scholarships to a number of deserving graduates of New Mexico high schools who follow the freshman Pharmacy program in the University College. They are normally awarded for one semester but may be renewed for a second semester if the student maintains a satisfactory grade average. Other scholarships and loans are available to those who qualify. For information apply to the Dean, College of Pharmacy.

LAWS RELATING TO LICENSURE AS A PHARMACIST

The laws relating to the requirements for licensure as a registered pharmacist by examination in the State of New Mexico are presented below in simplified form.
Persons of good moral character who have satisfactorily completed not less than 30 semester hours in an approved college of pharmacy shall, upon application and payment of the required fee, be issued a certificate of registration as a pharmacy intern.

An applicant for examination for licensure as a registered pharmacist by the New Mexico State Board of Pharmacy must be a graduate of a recognized college of pharmacy, must be not less than 21 years old, of good moral character, and not addicted to the use of narcotic drugs or alcoholic beverages. However, before he can receive a certificate as a registered pharmacist he must have had not less than 1 year of pharmaceutical experience under the direction of a qualified pharmacist. Further information regarding licensure as a pharmacist may be obtained from the Secretary of the New Mexico State Board of Pharmacy whose address is available in the office of the College of Pharmacy.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE. The minimum requirements for transfer from the University College to the College of Pharmacy for the study of pharmacy are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 2.0 on all hours attempted; or
   (b) A scholarship index of at least 2.0 on all hours attempted in the previous 2 semesters of enrollment; provided that, if fewer than 26 hours were attempted in the previous 2 semesters, a scholarship index of at least 2.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.

In addition to the foregoing minimum requirements, the student who wishes to transfer to the College of Pharmacy from the University College should have completed Chemistry 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.

(For admission requirements for students of Dental Hygiene, see p. 209.)
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 (excluding 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 not including required physical education courses.

ACADEMIC ADVISEMENT

In order to provide proper assistance to students in the election of courses and other academic matters, the College of Pharmacy has established a system of academic advisement. Each class is assigned to a faculty adviser who is authorized
to act in all academic matters which do not require the approval of the Dean. The faculty advisers assist students in planning their programs, approve all elections of courses, authorize changes in programs, and furnish advice on other academic matters. Students are urged to consult with their advisers regularly.

AFROTC AND NROTC

The courses in Air Science and Naval Science are acceptable as elective courses in the Pharmacy curriculum.

MINIMUM RESIDENCE REQUIREMENT

Students entering the College of Pharmacy with advanced standing from non-pharmacy colleges are required to complete not less than 6 semesters of full-time resident study before they will be recommended for the degree of Bachelor of Science in Pharmacy. Those transferring from other colleges of pharmacy may be given credit for more than 2 years of work provided the courses and credit are applicable to the work outlined in the curriculum of this College.

REQUIREMENTS FOR GRADUATION

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 29 elective hours, the student may not elect more than a total of 14 hours of course work in the professional and/or basic science areas; he must elect at least 15 hours in any combination of courses offered in the Colleges of Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, and Nursing, the School of Law, or the Departments of Air Science or Naval Science, as approved by his academic adviser.

2. Complete a total of not less than 160 semester hours plus 4 semester hours of physical education or its equivalent.

3. Maintain a grade average of 2.0 on all hours attempted* in satisfying the scholastic requirement of the University for the bachelor's degree.

4. Receive grades of C or better in all the required courses in the fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology, except that a candidate who has received grades of D in no more than a total of three such required courses may, upon written petition to the faculty of the

* Exclusive of hours in nonprofessional physical education and ensemble music.
College of Pharmacy, be granted credit toward graduation for the work in such courses. (For the purposes of administering this exception, each semester of a course which runs throughout the year shall be considered as a separate course.)

5. Satisfy the minimum residence requirement.

6. Complete the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or obtain a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.

7. Be unanimously recommended for the degree by the faculty of the College of Pharmacy.

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."

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<thead>
<tr>
<th>First Year</th>
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<tr>
<td>(Preprofessional Year)</td>
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<tr>
<td>(Program recommended for Freshmen in the University College)</td>
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<table>
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<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<td><strong>Chem 1L</strong> Gen</td>
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<td><strong>Biol 1L</strong> Gen</td>
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<td><strong>Math 15</strong> Coll Alg</td>
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<td><strong>Physical Ed</strong></td>
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<td><strong>Total</strong></td>
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The above is the recommended freshman Pharmacy program for University College students who wish to enter the College of Pharmacy. At the time of their first enrollment, such students will be assigned to an adviser from the College of Pharmacy. See p. 204 for specific requirements for admission to the College of Pharmacy.

PROFESSIONAL CURRICULUM

<table>
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<td><strong>Chem 101 Organic Chem</strong></td>
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<td><strong>Chem 103L Organic Lab</strong></td>
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<td><strong>Physics 11 &amp; 13L Gen</strong></td>
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<td><strong>Biol 93L Bacteriology</strong></td>
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Third Year

(Second Professional Year)

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<td><strong>Chem 53L Quant Analysis</strong></td>
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<tr>
<td><strong>Phmcol 191L Biol Med</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Biol 129L Cellular Physiol</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Elective</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>
DENTAL HYGIENE PROGRAM

The Dental Hygiene Program is a 2-year curriculum leading to a Certificate in Dental Hygiene. It is open to those who meet the admission requirements and are selected by the Admissions Committee of the Program.

OPPORTUNITIES IN DENTAL HYGIENE

Dental Hygiene is a health service profession with the emphasis on prevention of dental diseases. A dental hygienist is trained and licensed to provide dental services to patients under the supervision of a dentist. These services include: cleaning patients' teeth, teaching patients how to care for their mouths, examining patients' teeth and charting findings for the dentists' inspection, taking and developing dental x-rays, assisting the dentist with routine office duties, speaking on dental health to groups, applying topical fluoride, helping in community health programs.

Students receive practical training in a 20-chair clinic in the Dental Programs Building on the University of New Mexico campus.

The demand for the services of dental hygienists is great in private dental office practice, clinics, and institutions. The 2-year curriculum prepares the student for these services. Additional training is required for dental hygienists who choose to teach or serve in public health capacities. The financial rewards vary with the type of employment, community standards, and the hygienist's education but compare favorably with those in similar professions.

QUALIFYING TO PRACTICE

Upon successful completion of the prescribed curriculum, the University confers a Certificate in Dental Hygiene. This certificate entitles the recipient to take the state board examination in dental hygiene in all 50 states, the District of Columbia, and Puerto Rico.

STUDENT LOANS

Student loans to dental hygienists are available from the New Mexico Dental Association. Recipients of loans must have been residents of New Mexico for 10 years and must be enrolled in the Dental Hygiene Program at the time application for loans is made.
ADMISSION

The total class enrollment in dental hygiene at The University of New Mexico is restricted to 20 students. They are admitted only in the fall semester. Students will be accepted on the basis of scholarship, aptitude, and interest. Dental hygiene students should be capable of maintaining high scholastic standards. If a dental hygiene student withdraws from the program, that place in the class cannot be filled by a transfer student from some other field of study.

Requirements for admission are:

1. Admissibility to The University of New Mexico as described in bulletin (refer to "Admission"); completion of the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or a grade of C or better in Remedial English; eligibility for Mathematics 15 on basis of placement test.
2. Personal interview.
3. Satisfactory scores in Dental Hygiene Aptitude Test.

There is no time during the 2-year period to remove high school deficiencies. Anyone with such a deficiency must remove it before making application to the Dental Hygiene Program.

The American Dental Hygienists' Association, in cooperation with the Council on Dental Education of the American Dental Association, conducts an aptitude testing program for applicants to dental hygiene schools. Testing periods are in February, May, and November of each year. There are various testing centers in the Western States, one of which is Albuquerque. An application for the test can be obtained from the American Dental Hygienists' Association, 304 East 45th Street, New York 17, New York or from the office of the Dental Programs. Reports on test scores are sent directly to the dental hygiene schools indicated by the applicant.

The deadline date for receipt of applications and credentials required for the Dental Hygiene Program is April 1. All requirements for admission must be fulfilled by this date. Communications regarding entrance to the Dental Hygiene Program should be addressed to the Director of Admissions of The University of New Mexico. The applicant should make an appointment directly with the Director of the Dental Hygiene Program for a personal interview before the deadline date. The Admissions Committee of the Dental Hygiene Program selects the class for the following September during the month of April. The Office of Admissions of the University notifies the applicant of acceptance or non-acceptance.

Freshman students with no previous college work will be admitted to the University College for the first year's work in dental hygiene. Students with 26 hours or more of acceptable college-level work will be admitted to the College of Pharmacy. No transfers from other schools of dental hygiene can be accepted.

EXPENSES

In addition to tuition, housing, and school supplies, students in the Dental Hygiene Program are required to purchase instruments, clinical supplies, and uniforms. The approximate cost of these expenses is $350 for the two-year period; most of this expense is in the first year.
The Dental Hygiene Program at The University of New Mexico participates in the Student Exchange Program operated by the Western Interstate Commission for Higher Education, under which legal residents of Western States without a professional school in this field pay the same tuition and fees at this institution as residents of the State of New Mexico. To be certified as eligible for this program, the student must write to the WICHE certifying officer in his home State, who will send the proper application forms. State eligibility requirements vary, and the number of students included from each State depends upon appropriations by the State legislature. For addresses of State certifying officers, write to the Western Interstate Commission for Higher Education, Fleming Law Building, Boulder, Colorado.

REQUIREMENTS FOR THE CERTIFICATE IN DENTAL HYGIENE

The candidate for the Certificate in Dental Hygiene must:

1. Complete all of the work outlined in the curriculum in dental hygiene.
2. Maintain a grade average of at least 2.0 on all college-level work* attempted at The University of New Mexico.
3. Complete the English Proficiency Examination (administered by The University of New Mexico) with a satisfactory score or obtain a grade of C or better in the remedial English course offered on a non-credit basis by The University of New Mexico English Department.
4. Be unanimously recommended by the full-time Dental Hygiene Program staff.

CURRICULUM LEADING TO THE CERTIFICATE IN DENTAL HYGIENE.

(Descriptions of the courses offered will be found, listed by departments, in the Catalog section “Courses of Instruction.”)

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl 1 Wrtng w/Rdgs in Expos</td>
<td>Engl 2 Wrtng w/Rdgs in Lit</td>
</tr>
<tr>
<td>Spch 55 Pub Spkg</td>
<td>Biol 36 Human Anat &amp; Physiol</td>
</tr>
<tr>
<td>PE 64 First Aid</td>
<td>Biol 39L Human Anat &amp; Physiol Lab</td>
</tr>
<tr>
<td>DH 1L Preclin Dent Hyg</td>
<td>DH 2L Clin Dent Hyg</td>
</tr>
<tr>
<td>DH 11L Oral Anat</td>
<td>DH 55L Oral Radiography</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>Physical Ed</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th></th>
<th>Soc 2 Intro to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol 93L Gen Bacteriology</td>
<td>Pharmacology 66 Prin of</td>
</tr>
<tr>
<td>PE 72 Health Ed</td>
<td>DENT 52L Clin Dent Hyg</td>
</tr>
<tr>
<td>Psych 51 General</td>
<td>DENT 62L Gen &amp; Oral Pathol</td>
</tr>
<tr>
<td>DH 51L Clin Dent Hyg</td>
<td>DH 66 Dent &amp; Pub Health Ed</td>
</tr>
<tr>
<td>DH 53L Histology</td>
<td>DH 57 Nutrition</td>
</tr>
<tr>
<td>DH 84L Dent Materials &amp; Tech</td>
<td>DH 82 Dent Ethics, Econ, Off Mgt</td>
</tr>
<tr>
<td>Physical Ed</td>
<td>Physical Ed</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

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

DENTAL ASSISTING PROGRAM Refer to p. 213. (An Extension Division program.)
OTHER DIVISIONS OF THE UNIVERSITY

TELEVISION PROGRAMMING

The University offers instruction via television in a number of courses selected from residence offerings. These courses are selected by the University Television Committee and are recommended to the Administration through the office of the Academic Vice President.

Like all other residence course offerings, courses taught via television receive residence credit, applicable to undergraduate degree programs of the University. These telecourses are broadcast over Channel 5—KNME, which is owned and operated jointly by The University of New Mexico and the Albuquerque Public Schools.

The University’s academic course offerings in television production are coordinated with Channel 5. Students enrolled in television production courses observe, and participate to a limited degree in, on-the-air broadcast activities of Channel 5.

DIVISION OF EXTENSION, SUMMER SESSION, AND COMMUNITY SERVICES

EXTENSION

The Division of Extension of the University was established as a separate unit with a full-time director in 1928, and has been conducting instruction by correspondence and extension class continuously since that date. On May 7, 1930, the Extension Division of The University of New Mexico became a member of the National University Extension Association, the acknowledged accrediting agency for institutions which offer instruction by correspondence or extension class.

Extension and correspondence courses allow many people who are unable to attend classes in residence to pursue their educational programs. A special correspondence bulletin is issued periodically giving regulations and information concerning courses offered by the Division of Extension. For a copy of the Correspondence Bulletin and further information address the Director 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. 106.

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, subject to the approval of the dean of the college in which the student is enrolled. (See additional regulations on p. 113.)
SUMMER SESSION

A summer session of 8 weeks is conducted each year on the campus. (For dates, see the Calendar.) Every attempt is made to meet specialized needs of the particular student group of the session. Emphasis is placed on advanced and graduate work. A special program is offered for teachers and school administrators. The summer climate is warm but delightful; nights are cool. The residential halls are regularly operated during the Summer Session. 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. 68 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
The Dental Assisting Program at The University of New Mexico is a 2-semester course which starts each year in the fall semester only.

The curriculum in Dental Assisting is specific. A student must take all the courses and in the sequence listed in the curriculum. Only courses offered by the regular academic departments of the University earn credit for the student. All the technical courses related to dental assisting are non-credit courses and cannot be used in fulfilling requirements for any other course of study. On satisfactory completion of the dental assisting training the student will be awarded a Certificate of Proficiency in Dental Assisting from the Division of Extension of The University of New Mexico. This certificate shows that the student has been formally trained. This training fulfills the educational requirements for later certification by the Certifying Board of the American Dental Assistants' Association.

Students applying for Dental Assisting are admitted to the University in non-degree status. Application blanks and information on the program may be obtained from the Director of Dental Programs, Building B-2, The University of New Mexico, Albuquerque.

DENTAL HYGIENE PROGRAM. Refer to p. 208. (An offering of the College of Pharmacy.)
AIR FORCE RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Air Force under rules promulgated by the Department of the Air Force and The University of New Mexico.

The purpose and mission of the Air Force ROTC is to select and train students who possess the character, intelligence, desire, and sense of duty to become Air Force officers 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. 57 in this bulletin.)

DEPARTMENT OF AIR SCIENCE

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Air Science 1)</td>
<td>Selected and approved University courses</td>
</tr>
<tr>
<td>First Semester</td>
<td></td>
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<tr>
<td>Air S 12 (2)</td>
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</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Air Science 2)</td>
<td></td>
</tr>
<tr>
<td>Selected and approved University courses</td>
<td></td>
</tr>
<tr>
<td>Air S 51 (2)</td>
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</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Air Science 3)</td>
<td></td>
</tr>
<tr>
<td>Air S 101 (4)</td>
<td>Air S 102 (4)</td>
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<table>
<thead>
<tr>
<th>Senior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Air Science 4)</td>
<td></td>
</tr>
<tr>
<td>Govt 53 (3)</td>
<td>Air S 152 (4)</td>
</tr>
<tr>
<td>Air S 151 (1)</td>
<td></td>
</tr>
</tbody>
</table>

Juniors and seniors should note that Air Science 3 and 4 are offered in alternate years (Air Science 4 in academic year 1964-65 and Air Science 3 in 1963-64, etc.). Government 53 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.

Note: There is a possibility that a new, shortened AFROTC program may be inaugurated in the fall of 1963. Interested persons should check with their academic advisers or with the Professor of Air Science.
NAVAL RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Navy and Marine Corps under rules promulgated by the Navy Department.

The mission of the NROTC is to provide, by a permanent system of training and instruction in essential naval subjects at The University of New Mexico, a source from which qualified officers may be obtained for the Navy and Marine Corps, and for the Naval Reserve and Marine Corps Reserve.

DEPARTMENT OF NAVAL SCIENCE

Students enrolled in the NROTC Unit may be enrolled in most colleges in the University. Completion of the Naval Science requirements will constitute completion of a minor study in the College of Arts and Sciences.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Sophomore Year

<table>
<thead>
<tr>
<th>NS 51. Naval Weapons</th>
<th>Psy 51. General Psy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
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Junior Year

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<tbody>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Senior Year

<table>
<thead>
<tr>
<th>NS 151. Naval Engineering</th>
<th>NS 152. Prin and Probs of Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS 101M. Evolution of the Art of War Part I</td>
<td>NS 102M. Evolution of the Art of War Part II, Modern Basic Strategy and Tactics</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Senior Year

<table>
<thead>
<tr>
<th>NS 151M. Amphibious Warfare Part I</th>
<th>NS 152M. Amphibious Warfare Part II, Leadership, and Military Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

Symbols used in course descriptions:

*—course allowed for graduate credit to students enrolled in the Graduate School
[ ]—former course number or title
L—part of the course is laboratory work
F—course is given in field session
SS—course offered in summer session only
Yr—course offered throughout two semesters and credit for the first semester's work is suspended until the entire course is completed
( )—semester hours' credit; credit hours separated by a hyphen (1-3) indicates variable credit in the course.

When a prerequisite course number is not preceded by a department designation, reference is to the department under which the prerequisite statement appears.

A schedule of course offerings, including hours of meeting, is issued at the opening of each session. The University reserves the right to cancel any listed course or to make a substitution in instructors when necessary.

The departments and fields of study are arranged in alphabetical order in accordance with the table below:

<table>
<thead>
<tr>
<th>Accounting (See Business Administration)</th>
<th>Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Science</td>
<td>Business Administration</td>
</tr>
<tr>
<td>American Studies</td>
<td>Business Education (See Business Administration)</td>
</tr>
<tr>
<td>Anthropology</td>
<td>Chemical Engineering (See Engineering, Chemical)</td>
</tr>
<tr>
<td>Architecture</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Art</td>
<td>Chemistry, Pharmaceutical (See Pharmacy)</td>
</tr>
<tr>
<td>Art Education (See Education, Art)</td>
<td>Civil Engineering (See Engineering, Civil)</td>
</tr>
<tr>
<td>Astronomy (See Physics &amp; Astronomy)</td>
<td>Classical Languages (See Modern &amp; Classical Languages)</td>
</tr>
<tr>
<td>Basic Language (See Modern &amp; Classical Languages)</td>
<td>Comparative Literature</td>
</tr>
<tr>
<td>Biology</td>
<td>Dental Hygiene</td>
</tr>
<tr>
<td>Business Administration</td>
<td>Dramatic Art</td>
</tr>
<tr>
<td>Business Education (See Business Administration)</td>
<td>Economics</td>
</tr>
<tr>
<td>Chemical Engineering (See Engineering, Chemical)</td>
<td>Economics-Philosophy</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Education, Art</td>
</tr>
<tr>
<td>Chemistry, Pharmaceutical (See Pharmacy)</td>
<td>Education, Business (See Business Administration)</td>
</tr>
<tr>
<td>Civil Engineering (See Engineering, Civil)</td>
<td>Education, Educational &amp; Administrative Services</td>
</tr>
<tr>
<td>Classical Languages (See Modern &amp; Classical Languages)</td>
<td>Education, Elementary</td>
</tr>
<tr>
<td>Comparative Literature</td>
<td>Education, Health, Physical Education, and Recreation</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>Education, Home Economics</td>
</tr>
<tr>
<td>Dramatic Art</td>
<td>Education, Industrial Arts</td>
</tr>
<tr>
<td>Economics</td>
<td>Education, Library Science</td>
</tr>
<tr>
<td>Economics-Philosophy</td>
<td>Education, Music</td>
</tr>
<tr>
<td>Education, Art</td>
<td>Education, Psychology (See Psychology)</td>
</tr>
<tr>
<td>Education, Educational &amp; Administrative Services</td>
<td>Education, Secondary</td>
</tr>
<tr>
<td>Education, Elementary</td>
<td>Electrical Engineering (See Engineering, Electrical)</td>
</tr>
<tr>
<td>Education, Elementary</td>
<td>Elementary Education (See Education, Elementary)</td>
</tr>
<tr>
<td>Education, Health, Physical Education, and Recreation</td>
<td>Engineering</td>
</tr>
<tr>
<td>Education, Home Economics</td>
<td>Engineering, Chemical</td>
</tr>
<tr>
<td>Education, Industrial Arts</td>
<td>Engineering, Civil</td>
</tr>
<tr>
<td>Education, Library Science</td>
<td>Engineering Electrical</td>
</tr>
<tr>
<td>Education, Music</td>
<td>Engineering, Mechanical</td>
</tr>
<tr>
<td>Education, Psychology (See Psychology)</td>
<td>English</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>English-Philosophy</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Fine Arts</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Folklore (See Modern &amp; Classical Languages, and English 161)</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>French (See Modern &amp; Classical Languages)</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>General Studies</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Geography</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Geology</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>German (See Modern &amp; Classical Languages)</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Government &amp; Citizenship</td>
</tr>
<tr>
<td>Education, Secondary</td>
<td>Greek (See Modern &amp; Classical Languages)</td>
</tr>
</tbody>
</table>
Health, Physical Education, and Recreation (See Education, Health, Physical Education, and Recreation)

History

Home Economics (See Education, Home Economics)

Ibero-American Studies

Industrial Arts (See Education, Industrial Arts)

Italian (See Modern & Classical Languages)

Journalism

Latin (See Modern & Classical Languages)

Law

Library Science (See Education, Library Science)

Mathematics

Mechanical Engineering (See Engineering, Mechanical)

Modern & Classical Languages

Music

Music Education (See Education, Music)

Naval Science

Nursing

Paleoecology

ACCOUNTING

See Business Administration.

AIR SCIENCE

William C. Naylor, Major, USAF (Chairman), Professor of Air Science; Assistant Professors Arnold Wood Brown, Major USAF; Kenneth O. Johnson, Captain, USAF.

CURRICULUM†

See p. 214

Note: Government 53 must be completed prior to graduation.

11. Air Science 1—Foundations of Aerospace Power. (2)
   Introductory examination of the factors of aerospace power, major ideological conflicts, requirements for military forces in being, responsibilities of citizenship development and traditions of the military profession, role and attributes of the professional officer in American democracy, organization of the armed forces as factors in the preservation of national security, and the United States Air Force as a major factor in the security of the free world.

12. Air Science 1. (2.3)
   Selected and approved courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities, or social sciences.

51. 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.

   Introductory survey of aerospace missiles and craft, and their propulsion and guidance systems; target intelligence and electronic warfare; nuclear, chemical, and biological warfare agents; defensive, strategic, and tactical operations; problems, mechanics, and military implications of space operations; and a survey of contemporary military thought.

101-102. Air Science 3—Air Force Officer Development. (4, 4)
   Staff organization and functions, and the skills required for effective staff work, including oral and written communication and problem solving; basic psychological and sociological principles of leadership and their application to leadership practice and problems; and an introduction to military justice.

† There is a possibility that a new shortened AFROTC program may be inaugurated in the fall of 1963. Interested persons should check with their academic advisers or with the Professor of Air Science.
151-152. Air Science 4—Global Relations. (4, 4)
An intensive study of global relations of special concern to the Air Force officer, with emphasis on international relations and geography. Also includes weather, navigation, and briefing for commissioned service.

AMERICAN STUDIES

Committee in Charge: Professors G. W. Arms (English), Chairman; C. B. Judah (Government), F. D. Reeve (History), G. W. Smith (History), E. W. Tedlock, Jr. (English), P. A. F. Walter, Jr. (Sociology); Associate Professor Bainbridge Bunting (Art); Assistant Professor (History), Undergraduate Adviser.

Two interdepartmental programs in American Studies are offered, a graduate major leading to the degree of Doctor of Philosophy and a distributed minor for undergraduates majoring in certain departments of the College of Arts and Sciences.

Requirements for the doctor’s degree in American Studies are listed in the Graduate School Bulletin. The program presupposes a Master of Arts degree in a major such as history, English, education, sociology, government, philosophy, or economics.

An American Studies minor may be elected by undergraduate students majoring in the departments of Anthropology, Economics, English, Government, History, or Sociology.

MINOR STUDY

The requirement is 24 hours, including 9 hours in American Studies courses (English 85; American Studies 101, 102) and 15 hours in approved courses in literature, history, or social science. With the approval of the chairman of the major department, options within the major may permit the election of additional courses in the American area. Since courses counted toward a major cannot also be counted toward a minor, requirements vary somewhat according to the student’s major department. In addition to 9 hours in American Studies, approved courses are as follows:

For majors in Anthropology, Economics, Government, or Sociology:

6 hours in literature or history (normally chosen from English 132, 135, 167, 168, 169, 170; History 151; 171 through 191); 6 hours in a social science other than the major (normally from Anthropology 101, 102, 104, 105, 157, 158; Economics 141, 152, 159; Government 106, 107, 168, 175; Sociology 130, 140, 150); 3 hours in Philosophy 132 or Art 141.

For majors in English:

9 hours in history (as above); 6 hours in a social science (as above).

For majors in History:

6 hours in literature (as above); 6 hours in a social science (as above); 3 hours in Philosophy 132 or Art 141.

101, 102. Interdepartmental Studies in the Culture of the United States. (3) Nash
Subjects, varying from year to year, will be topical in 101 (as “Crises in American History,” “Individualism in the United States”) and chronological in 102 (as “The Age of Jackson”). Offered in alternate years.
201. Interdepartmental Seminar in the Culture of the United States. (3) Arms, Bunting, Judah, G. Smith, Tedlock, Walter. Religious backgrounds in the United States during the 19th century; architecture and culture of 19th century America; Jacksonian politics; American society, 1860-1900; the influence of radical politics on art and literature, 1918-1939; American society in transition; and similar topics.

400. Dissertation.

ANTHROPOLOGY

Professors W. W. Hill (Chairman), H. W. Basehart, F. H. Ellis, F. C. Hibben, S. S. Newman; Assistant Professor P. K. Bock; J. J. Brody, Curator.

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, Bock, Hibben
2. General Anthropology: Development of Culture. (3) Basehart, Bock, Ellis, Hill, Newman

60L. Beginning Museum Techniques and Methods. (3) Brody
Museum administration, publicity, exhibits and curatorial techniques. 1 lecture, 5 hrs. lab.

66F. Archaeologic Field Method. (2) Brody
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.

*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) Bock

*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. Linguistic Field Methods. (3) Newman
   2 lectures, 2 hrs. lab.

*117L. Phonetics and Phonemics. (3) Newman
   2 lectures, 2 hrs. lab.

*118L. 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 archaeologic 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) Brody
   Specialized work and highly technical training in one area of anthropology, art, or folk art.
   1 lecture, 5 hrs. lab.

Topical:

*101. The Individual in His Society. (3) Ellis
   A comparative study of the cultures (form and process) and their relationship to the in-
   dividual 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, scien-
   tific, 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, Bock, Hill

*214. Seminar: South American Archaeology. (2)

*216. Seminar: European Prehistory. (2) Hibben

*251-252. Problems. (2,2) Basehart, Bock, 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


ARCHITECTURE

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

CURRICULUM
See p. 176.

21. Architectural Appreciation. (2)
Introduction to architecture and a survey of past and present masters and masterpieces.

61. History of Ancient and Medieval Architecture. (3)


Design, space, form, structures, and study in urban environment. The development of the design process and drafting skills through the use of models and drawings by means of individual solutions. Not open to freshmen. 15 hrs. lab.

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. Not open to freshmen.

111. [Art 111] The Sources of Modern Architecture in Europe and the Americas. [The Sources of Modern Architecture] (2)

112. [Art 112] Contemporary Architecture in Europe and the Americas. (2)
131L. Architectural Design. [Architectural Design III] (5)
Includes problems in environmental design. Team and individual projects include research, programming, planning, and presentation through drawings and models. Not open to students enrolled in the University College. Prerequisites: 82L, Physics 60. 15 hrs. lab. May be repeated to a maximum of 10 hours credit.

181L. Architectural Design. [Architectural Design V] (5)
A continuation of 131L. Prerequisites: 10 hours credit in 131L, Civil Engineering 60L. 15 hrs. lab. May be repeated to a maximum of 10 hours credit.

190. Interdepartmental Proseminar (3) Honors Staff.
(Same as Fine Arts 190.)

A continuation of 181L and the solution of the architectural problem chosen in 197. Prerequisites: 10 hours credit in 181L, 197, Civil Engineering 121. 15 hrs. lab. May be repeated to a maximum of 10 hours credit.

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. Program Writing. (1)
Preparation of comprehensive written report based upon a program of research on a major architectural problem, chosen by the student and approved by the architecture faculty. Prerequisite: 10 hours credit in 181L.

*198. Seminar. (2) Benson, Schlegel
Discussion of, and oral and written reports on, the theory and creative process of architectural design and related fields. Prerequisite: senior standing.

199L. Architectural Thesis. (7)
A continuation of 191L and the solution of the architectural problem chosen in 197. Prerequisites: 191L, Fine Arts 190.

ART

Professors L. L. Haas (Chairman), C. Adams, A. S. Masley, J. Tatschl; Associate Professors B. Bunting, V. D. Coke, C. E. Paak, S. D. Smith; Assistant Professors W. Kuhlman, R. W. Lewis, W. H. Thonson; Instructor R. L. Grow, Staff †; and Visiting Artist H. Goldman.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts, a 60-hour major is offered leading to the degree of B.F.A. in Art. (See curricula, p. 177).

2. For the student enrolled in the College of Fine Arts and pursuing the Combined Curriculum (see, p. 176), a 45-hour major is offered. This consists of 21 hours Studio including Art 3, 6, and 53; 12 hours of Art History and Criticism including Art 30, 71 and 72; and 12 hours of art electives in a field of specialization. Of these, 15 hours at least must be taken in courses numbered above 100.

3. For the student enrolled in the College of Arts and Sciences, a 32-hour major may be taken in one of two fields of specialization: Studio, or Art History and Criticism.

† New appointments to be made effective July 1, 1963.
Of these 32 hours, at least 12 must be in courses numbered above 100. Those specializing in Studio take the following:

- 6 hours chosen from Art 1, 3, 6, or 53.
- 8 hours Art History and Criticism including Art 71 or 72.
- 18 hours additional in the field of specialization.

Those specializing in Art History and Criticism take the following:

- 12 hours Studio including Art 3 and 6.
- 20 hours of Art History and Criticism 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. An Art adviser shall be appointed by the Art Department, and the program approved by him.

MINOR STUDY

The minor consists of 20 credit hours including at least 6 in courses numbered above 100. The student minoring in Art is expected to specialize in a single field (such as the crafts, history of art, graphic design, painting, photography, etc.) but he should also take one or more of the general introductory courses offered by the department. Prerequisite courses shall be taken. The student must consult an Art Department adviser regarding his minor, and the advised program in his minor must be approved by his major department.

MATERIALS AND STUDENT WORK

Students enrolling in Art courses furnish their own material except certain studio equipment provided by the University.

ALL WORK when completed is under the control of the department until after the exhibitions of student work. Each student may be required to leave one or several pieces of original work with the department.

CREDIT

For 1 semester hour of credit it is expected that the student do 3 clock hours' work per week through the semester. This includes time spent in recitation, preparation and studio. If full studio hours are not assigned in the schedule, outside assignments will be given by the instructor.

GENERAL

1. Art Appreciation. (3)
   Introduction to the visual arts; acquaints the general student with various fields, media, and masterpieces.

190. Interdepartmental Proseminar. (3) Honors Staff
   (Same as Fine Arts 190.)

STUDIO

3. Two Dimensional Design. (3)
   The elements and principles of composition. No prerequisite.

6. Beginning Drawing. (3)
   Pictorial interpretation of form. No prerequisite.

53. Three Dimensional Design. (3)
   The organization of forms in space. Prerequisites: 3, 6.

57. Beginning Jewelry and Metalwork. [Beginning Jewelry] (3) Lewis
   The handworking of various metals. Prerequisite: 53. May be repeated for credit.†

† Instructor and department chairman must approved all cases of repetition in this course.
58. Beginning Textiles. (3)
   An experimental approach to textile design. Prerequisite: 3. May be repeated for credit.†

63. Beginning Oil Painting. [Painting and Design] (3) Haas, Kuhlman, Smith
   Technique and concepts. Prerequisites: 3, 6. May be repeated for credit.†

68. [97] Beginning Ceramics. (3) Grow, Lewis, Paak
   Ceramic techniques. Prerequisite: 53. May be repeated for credit.†

77-78. Beginning Graphic Design. [General Commercial Art] (3, 3) Thonson
   The problems of graphic design and communication. Prerequisites: 3, 6; corequisite: 53.

87-88. Photography. (2, 2) Thonson
   Introductory study in photographic techniques. (An adequate camera is necessary for this course.) Prerequisite: 3.

93. Watercolor Rendering. (2) Lewis, Smith
   Fundamentals of watercolor with emphasis on its use as a means of illustration. Prerequisites: 3, 6. May be repeated for credit.†

113. [89] Sculpture. (3) Grow, Tatschl
   Sculptural techniques in various media. Prerequisite: 53. May be repeated for credit.†

116. [65] Intermediate Drawing. [Drawing] (3) Kuhlman, Lewis, Smith, Tatschl
   Understanding of form through a proficiency in drawing. Prerequisite: 6. May be repeated for credit.†

118. Intermediate Graphic Design. (3) Thonson
   Experimental use of technique and material in solving problems of graphic design. Prerequisite: 78; or corequisite, 88. May be repeated for credit.†

123. Intermediate Oil Painting. (3) Haas, Kuhlman, Lewis, Smith
   The concepts of painting; leading toward a proficiency in the technique of oil painting. Prerequisite: 63. May be repeated for credit.†

128. Intermediate Ceramics. (3) Grow, Lewis, Paak
   Experimental approaches to ceramic design. Prerequisite: 68. May be repeated for credit.†

134. [67] Printmaking. (3) Tatschl
   Techniques and methods of etching, lithography, and woodcut. Prerequisite: 116. May be repeated for credit.†

*143. [103] Advanced Landscape Painting. [Landscape] (2) Haas, Kuhlman, Lewis, Smith
   Landscape painting in various media. Prerequisites: 116, 123. May be repeated for credit.†

   Experimental use of metal-working processes. Prerequisite: 57. May be repeated for credit.†

*158. [147] Advanced Textiles. (4)
   Experimental use of materials and techniques in textile design and weaving. Prerequisite: 58. May be repeated for credit.†

*166. Drawing Technique. (3) Smith, Tatschl
   Techniques of drawing in various media. Prerequisite: 116. May be repeated for credit.†

*173. [189] Advanced Sculpture. (4) Grow, Tatschl
   Continuation of 113. May be repeated for credit.†

*174. [167] Advanced Printmaking. (3) C. Adams, Tatschl
   Continuation of 134. Prerequisites: 134, 166. May be repeated for credit.†

   Drawing as a foundation for painting. Prerequisite: 116. May be repeated for credit.†

178. Advanced Graphic Design. [Commercial Art Problems] (3) Thonson
   Continuation of 118. May be repeated for credit.†

   Development of concepts and ideas as related to an individual approach to painting. Prerequisites: 123, 176. May be repeated for credit.†

† Instructor and department chairman must approve all cases of repetition in this course.
184. Materials and Techniques of Painting. (3) Haas
Experimental study and application of traditional and contemporary techniques and materials. Prerequisites: 123, 176.

188. Advanced Ceramics. (4) Grow, Lewis, Paak
Experimental approach to ceramic design based on a thorough knowledge of processes. Prerequisite: 128. May be repeated for credit.

199. Senior Thesis. (3)
Directed study in the major field, culminating in a written thesis or exhibition. Open to students by faculty invitation only.

251-252. Problems. (2-3 hrs. each semester) Graduate Staff
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.

273. Seminar in Painting. (2, 2) Graduate Staff
May be repeated for credit.

300. Master's Thesis. (6) Graduate Staff

ART HISTORY AND CRITICISM

30. Contemporary Art. (3) Haas
Current directions in art. 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.

120. Primitive Art. (3) Haas
Art of Africa and Oceania. No prerequisites.

130. American Indian Art. (3) Haas
Prehistoric and historic art forms of the Indians of North America. 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.

140. Hispanic Art. (3) Bunting
Survey of Hispanic art in Europe and the New World. 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.

150. 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.

161. Medieval Art. (3) Bunting
A survey of architecture, painting and sculpture from the dissolution of the Roman empire to the 16th century, with emphasis on the religious art forms of the 12th and 13th centuries. No prerequisites.

170. Renaissance Painters. (3) Bunting
An analytical study of the painters of the Italian Renaissance. No prerequisites.

181. 19th Century Art. (3) Coke
History of painting and sculpture from Neo-Classicism to Post-Impressionism. No prerequisites.

182. 20th Century Art. (3) C. Adams, Haas
History of painting and sculpture from Post-Impressionism to the present day. No prerequisites.

† Instructor and department chairman must approve all cases of repetition in this course.
199. Senior Thesis. (3)
Directed study in the major field, culminating in a written thesis. Open to students by faculty invitation only.

*251-252. Problems. (2-3 hrs. each semester) Bunting, Coke, Haas
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.

*281. Seminar in the History of Contemporary Art. (2, 2) C. Adams, Coke, Haas
May be repeated for credit.†

*291. Seminar in the History of Art. (2, 2) Bunting
May be repeated for credit.†

*300. Master's Thesis. (6) Bunting, Haas

ART EDUCATION
See Education, Art

ASTRONOMY
See Physics and Astronomy

BASIC LANGUAGE
See Modern and Classical Languages.

BIOLOGY
Professors L. D. Potter (Chairman), H. J. Dittmer, M. W. Fleck, C. C. Hoff, W. J. Koster; Associate Professor J. S. Findley; Assistant Professors W. G. Degenhardt, W. C. Martin, M. L. Riedesel, W. K. Schoenholz.

MAJOR STUDY
Biology 1L, 2L, 71L, 72L, 93L, 109, 129L or 178L, and 12 additional hours. Courses 36, 39L, 48, 126L, 133L, and 134L are not accepted toward a major. Chemistry 2L and Mathematics 15, both with "C" grades or better, 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.

MINOR STUDY IN PALEOECOLOGY
See p. 314.

CURRICULA PREPARATORY TO DENTISTRY, FORESTRY, MEDICAL TECHNOLOGY, OR MEDICINE
See pp. 125-127.

Note: Credit will not be allowed for both 12L and 1L-2L; or for 36-39L and 129L or 130L; or for 48 and 109.

1L. General Biology. (4) Yr. Degenhardt, Dittmer, Fleck, Koster
The fundamental structures and functions of higher plants and animals with emphasis on principles and the unity, rather than the diversity, of phenomena. Credit suspended until 2L is completed. 3 lectures, 3 hrs. lab.

† Instructor and department chairman must approve all cases of repetition in this course.
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) Degenhardt, Fleck, Hoff
The fundamental structures and functions of the vertebrates, and a review of the animal kingdom. Open to majors in P. E. and Home Economics only. 3 lectures, 3 hrs. lab.

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. 3 hrs. lab.

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. Prerequisites: 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)

88. Vertebrates of the Past. (3) Findley
A survey of vertebrate faunas of past geologic periods, their evolution and environments. One weekend field trip. Prerequisite: 2L or Geology 2. (Offered in alternate years.)

93L. General Bacteriology. (4) Schoenholz
Taxonomy, anatomy, physiology, and ecology of bacteria; principles of bacteriological technics, sterilization, and host-parasite relationships. Prerequisites: 2L, Chemistry 2L. 2 lectures, 6 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

*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. Prerequisites: 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) Schoenholz
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.

126L. Physiology of Exercise. (3) Fleck, Riedesel, and Assistants
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
Prerequisites: 2L, Chemistry 2L, Mathematics 15. 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 178L, Chemistry 2L, Mathematics 15. 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.

*134L. Comparative Physiology. (4) Riedesel
A comparison of physiological processes with emphasis on the invertebrates. Osmoregulation, nutrition, and metabolism are stressed. Prerequisites: 71L, 129L or 178L, Chemistry 2L. Organic chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)

*143L. 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.

*147. Endocrinology. (2) Riedesel
The glands of internal secretion with special reference to the vertebrates. Emphasis on hormones associated with metabolism. Prerequisite: 129L or 130L.

*154L. Pathogenic Bacteriology. (4) Schoenholz
The properties and characteristics of disease-producing bacteria and their relationship to disease. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)

*155L. Teaching of Biology in Secondary Schools. (3) Degenhardt
(Same as Secondary Education 155L.) Prerequisite: 2L. (Offered in alternate years.)

*156L. Immunity and Serological Methods. (4) Schoenholz
Mechanisms of resistance to disease; hypersensitivity, and serologic procedures. Prerequisite: 154L. Chemistry 102-104L and Biology 123L recommended. 2 lectures, 4 hrs. lab. (Offered in alternate years.)

*157L. Virology. (4) Schoenholz
Plant, animal, and bacterial viruses; rickettsias; tissue culture. Prerequisites: 93L, Mathematics 15; 123L recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)

*158L. Biochemical Genetics. (4) Schoenholz
The influence of the genotype and environment on the phenotype of organisms. Considered at biochemical level. Prerequisites: 93L, 109, 123L; Mathematics 15. 2 lectures, 4 hrs. lab.

*163L. Flora of New Mexico. (4) Martin
Identification, classification, and nomenclature of vascular plants. Field trips required. Prerequisite: 2L. 2 lectures, 4 hrs. lab.

*169L. 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.

*170L. 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. Prerequisite: 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, 6 hrs. lab.

** Credit for undergraduate teaching majors and graduates in Education only.
*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 on 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.)

*188L. Herpetology. (4) Degenhardt
Classification, phylogeny, natural history and literature of reptiles and amphibians. All-day field trips required. Prerequisite: 2L or 12L. 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. (3) Degenhardt, Martin, Riedesel
The preparation for microscopic examination of plant and animal structures, tissues, and cells. Additional emphasis on topics of special interest to individual students. Prerequisites: 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 178L, Physics 11 and 13 L. 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 178L; pre- or corequisite: Physics 12 and 14L. 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) Graduate Staff

*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.)

*204. Environmental Physiology. (3) Riedesel
Principles of physiological limits and adaptations in relation to environmental stresses. Prerequisites: 130L; Mathematics 15, 16; Physics 11 and 13L; or permission of instructor.

*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) Graduate Staff

*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) Graduate Staff

*400. Dissertation. Graduate Staff

BUSINESS ADMINISTRATION

CURRICULA AND CONCENTRATIONS
See pp. 134-140.

For Business Education, see p. 151.

5-6. Principles of Accounting. (3, 3)
   Introductory accounting: statements, accounts, journals, adjusting and closing entries, the
   worksheet; the voucher system; accounting for proprietorship, partnership, and corporate
   equities; cost allocation devices, managerial approach to statement analysis and controls.
   The second semester (6) emphasizes the function of accounting in reporting data for man­
   agement planning and for general evaluation of the firm. Credit in 5 can be obtained with­
   out continuing in 6. Open to students of sophomore status or to freshmen eligible to enroll
   in Mathematics 47 or higher level courses, and to Non-degree students with the permission
   of the Bus. Adm. adviser.

§11. Beginning Typewriting. (2) Glaesse, Park, Reva
   The learning of the keyboard by the touch system; reconstruction of basic skills. Students
   who have had typewriting in high school or business school will not receive credit in 11.

§12. Intermediate Typewriting. (3) Glaesse, Park, Reva
   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) Glaesse, Park, Reva
   Gregg theory and essentials of writing; speed goal: 50 wpm minimum 14: Review of theory;
   introduction of transcription; speed goal: 80 wpm minimum. Students who have had short­
   hand 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.

17. Office Machines and Filing. (2) Park, Reva
   Laboratory work in filing, transcription from recorded dictation, mimeograph, direct process
   duplicators, listing and non-listing calculators. Prerequisite: 12.

51-52. Principles of Economics. (3, 3)
   (Same as Economics 51, 52.)

§53-54. Transcription; Speed Dictation. (3, 3) Glaesse, Park, Reva
   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.

† Effective July 1, 1963.

** New appointment to be made, effective July 1, 1963.

§ 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.
62. Advanced Typewriting. (3) Glaese, Park, Reva
Production, with efficiency and accuracy, of business letters, reports, manuscripts, tabulation, rough drafts, corporation reports, legal documents; study of skill performance problems from point of view of teacher and/or office supervisor. Individual speed goals. Prerequisite: 12.

63. Intermediate Accounting I. (3) Christman, Mori
An expansion of the fundamentals of accounting; accounting theory; problems relating to control of, and accounting for, current assets. Prerequisites: 5, 6, with minimum grade of C in 6.

64. Intermediate Accounting II. (3) Christman, Mori
Continuation of accounting theory; problems relating to control of and accounting for permanent assets, liabilities and reserves; the preparation and interpretation of financial statements. Prerequisite: 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. Statistical Analysis. [Business Statistics] (3) Goode, McDaniel
Introduction to the analysis of numerical data pertinent to business and economics. Includes descriptive statistics, sampling, inference, index numbers, time series and correlation. Emphasis is on the logic of analysis, application, and interpretation. Prerequisite: Mathematics 47.

*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) Kirkpatrick
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, McDaniel, Parish
A survey of the organization and development of the modern profit-seeking corporation with emphasis on financial aspects. Problems of promotion, normal operation, and reorganization are considered.

**111. Money and Banking. (3)
(Same as Economics 111.)

114. Management of Advertising. (3) Kirkpatrick
Basic advertising principles and practice; how the modern executive evaluates, buys, criticizes and controls advertising. Characteristics of effective advertising, selection of media, planning and executing of campaigns are surveyed.

*121. Advanced Accounting I. (3) Christman, Mori, Perovich
Problems and theory relating to partnership dissolution and liquidation, consignments, installment sales, the statement of affairs, realization and liquidation, estates and trusts, and insurance. Prerequisite: 64.

*122. Advanced Accounting II. (3) Christman, Mori
Branch accounting; preparing consolidated financial statements; effecting combinations and mergers. Prerequisite: 64.

** Graduate credit allowed toward Master of Industrial Administration degree.
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.

The application of modern quantitative methods to business problems. Includes allocation, inventory, and waiting line models, decision theory, forecasting and advanced statistical techniques. 2 lectures, 2 hrs. lab. Prerequisite: 89.

130. Elements of Industrial Administration. (3) Finston, Herman
Fundamentals of organization and management which apply not only to industrial organizations but to any enterprise involving sizeable groups of people. Study of the manager's job in setting goals and in utilizing both human and material resources to meet organization objectives. Introduction to human relations case problems.

131. Financial Analysis and Credit Administration. (3) Edgel
Principles underlying the granting and management of credit; techniques for assessing the credit-carrying ability of borrowers, including financial statement analysis; criteria for determining credit actions; methods for protection and redemption of credit.

*141. Labor Problems. (3) Udis
(Same as Economics 141.)

143. Transportation. (3) Duncan
Principles and problems of transportation. Prerequisite: Economics 51 or consent of instructor.

147. Auditing. (3) Christman, Mori
Auditing principles and procedure; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems. Prerequisite: 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, Mori
Federal and state income tax laws and regulations; history and background; sources of tax law; tax services; organization and procedures of the Bureau of Internal Revenue; tax returns, rates, and credits; deductions and exclusions; withholding provisions; capital gains and losses; community property clauses. Prerequisite: 5, 6 with minimum grade of C in 6. Credit may be obtained in 149 without continuing in 150.

*152. Public Finance. (3) Therkildsen
(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. (3) Hamilton
(Same as Economics 162.)

163. Rise of Modern Industry. (3) Hamilton
(Same as Economics 163.)
*180. Government Control of Business. (3) Robertson
(Same as Economics 180.)

*182. Retail Merchandising. (3) Kirkpatrick
Principles and problems emphasizing position of the retailer; organization and administration; buying, planning, control; expense distribution; promotion; personnel administration; operating efficiency; expense reduction. Prerequisite: 108.

*183. Marketing Research. (3) Edgel, Kirkpatrick
How businesses can use research to solve marketing problems; analysis of the techniques and procedures used; and considerations involved in the management aspects of marketing research. Prerequisite: 108.

*184. Cost Accounting. (3) Mori
Industrial and distribution cost accounting principles and techniques; job and process cost systems; standard costs. Prerequisites: 6.

*185. Marketing Management. (3) Kirkpatrick
Coordination of all factors in distributive enterprise; consumer preferences in marketing methods; modern problems in public relations and consumer contact; social responsibility and self-discipline in distributive enterprise. Prerequisite: 108 for undergraduate students; 108 or permission of the instructor for graduate students.

*190. Policy Formulation. (3) Edgel, Parish
Emphasis is placed on the specific functions of top management. A variety of case studies offers the student an opportunity to develop a habit of administrative thinking as company-wide objectives and policies are formulated, and consistent plans and programs are carried into action.

*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. Wage Administration and Work Analysis. (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. (3) Finston, Herman
Analysis of managerial functions and responsibilities. Extensive case studies involve formal and informal relationships among workers, supervisors, staff and line officers, and top and middle management. Special emphasis is placed upon administrative processes and techniques. Prerequisite: 130 or permission of instructor.

*198. Investment Principles and Analysis. (3) Edgel, Goode, Parish, McDaniel
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.

Modern quantitative techniques in decision-making under certainty and uncertainty. Includes statistical inference, sampling theory, regression, decision theory, and the use of mathematical models for prediction, allocation, estimation, simulation, and decision-making. Prerequisite: 129L or equivalent.

*202. Advanced Accounting Theory. (3) Mori
Controversial aspects of depreciation, treasury stock, surplus, goodwill, no par capital stock, inventory valuation, fixed assets valuation, overhead costs.

*203. Research in Administrative Problems. (3) Edgel
Experience in the application of scientific method to the assembling, analysis, and interpretation of information for administrative use and in presenting the results of research.

*204. Seminar in Marketing. (3) Kirkpatrick
An evaluation of marketing theories and their application to current marketing procedure. The student is required to initiate an original project in the field of marketing a manufactured product, conduct the necessary research, and present a report on the complete marketing program.
*205. Records Control. (3) Graduate Staff
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. (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) McMahan, Mori
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, Herman
Advanced theory of organization structure and behavior with emphasis upon behavioral science research contributions. Advanced cases focus upon management's role in resolving inter-personal, inter-group, and inter-organization problems. Prerequisite: 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, Goode, Huber, Kirkpatrick, McDaniel, Mori, Parish
Special permission of the adviser and of the Dean of the College of Business Administration required.

*300. Master's Thesis. (6) Edgel, Finston, Goode, Huber, Kirkpatrick, McDaniel, Mori, Parish

CHEMICAL ENGINEERING
See Engineering, Chemical

CHEMISTRY
Professors J. L. Riebsomer (Chairman), R. N. Castle, G. H. Daub, M. Kahn, E. L. Martin, S. E. Smith; Associate Professor G. A. Crosby; Assistant Professors R. D. Caton, 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 (or 22L), 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, or 22L, 53L, 101, 102, 103L, (2 hr.), 104L (2 hr.), 111, 112, 113L, 114L, 115, 150, 152L, and at least 5
additional hours selected from courses numbered above 100; or 1L, 22L, 101, 102, 103L (2 hr.), 104L (2 hr.), 111, 112, 113L, 114L, 115, 150, 152L, 154L, and at least 4 additional hours selected from courses numbered above 100. The program must also include Physics 60, 61, 62, 63L, 64L and German equivalent to German 51 and 62.

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.

22L. General Chemistry. (5)
An introduction to chemical equilibrium and the periodic properties of the elements. Application of these principles to qualitative and quantitative analysis. Prerequisite: 1L with grade of C or better. 3 lectures, 6 hrs. lab. (Credit not allowed for both 22L and 2L.)

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. Prerequisite: 41L or 1L; 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.

**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: T02 with grade of B or better or permission of instructor.

**123L. Biological Chemistry.** (4) Schoenholz
(Same as Biology 123L.)

**131. Inorganic Chemistry.** (3) Martin, Yamauchi
A systematic study of the chemical properties of the elements and their compounds, including an introduction to coordination chemistry. Prerequisites: 115; pre- or corequisite: 111.

**136L. Inorganic Chemistry Laboratory.** (2-3) Yamauchi
Techniques used in synthetic inorganic chemistry. Co- or prerequisite: 131 or permission of instructor. 1 lecture, 3 or 6 hrs. lab.

**141L-142L. The Principles of Chemistry.** (4, 4) Kahn, Riebsomer
The physical and chemical behavior of matter including a study of the gaseous, liquid, and solid states of matter; atomic and molecular structure; ionic and molecular equilibria. The principles are developed simultaneously with the careful study of the chemistry of selected elements. Numerous problems are assigned to emphasize the principles. Laboratory assignments are varied to match the background and needs of the individual student. Enrollment only by permission of instructor. 3 lectures, 3 hrs. lab.

**150. Special Methods in Quantitative Analysis.** (2) Caton, Martin
A lecture survey of the theory and practice of qualitative and quantitative analysis. An introduction to instrumental methods. Prerequisites: 22L or 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.

**154L. Instrumental Analysis.** (4) Caton, Martin
Instrumentation and applications of instrumental methods to chemical analysis, including spectrophotometric and electroanalytical methods. Prerequisite: 152L or permission of instructor.

**171. Advanced Physical Chemistry.** (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 hrs. 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) Rosenweig
(Also offered 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) Caton, Martin
   Prerequisite: 112.

*300. Master's Thesis. (6) Castle, Caton, Crosby, Daub, Kahn, Martin, Riebsomer, Yamauchi

*350. Research. (2-6 to a maximum of 12) Graduate Staff

*400. Dissertation. Castle, Caton, 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); Associate Professor F. M. Dickey, (English).

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages.

MAJOR STUDY
   The minimum requirement of 30 hours includes: English 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
   15 hours including:
   Group 1, 6 hours in literature in a foreign language;
   Group 2, 6 hours from courses listed under Comparative Literature in this bulletin;
   3 additional hours from either Group.
75. World Literature from Homer to Dante. (3) Jacobs, Kuntz  
(0) Same as English 75.

76. World Literature from Rabelais to Mann. (3) Jacobs, Kuntz  
(0) Same as English 76.

*138. Russian Literature in Translation. (3)  
(0) Same as Russian 138.

*139. Greek Drama in Translation. (3)  
(0) Same as Greek 139.

*140. Latin Literature in Translation. (3)  
(0) Same as Latin 140.

*156. Literature of Medieval Europe. (3) Zavadil  
(0) Same as English 156.

*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, Dickey, Trowbridge  
A history of major critical attitudes toward literature. Prerequisite; 6 hrs. in literature.

DENTAL HYGIENE

Associate Professor M. Novitski (Director); Part-time Lecturers H. R. Campbell,  
C. E. Cullen, M. Latini, H. Naeve, R. J. Walpole; Part-time Instructors T. D.  
Breshears, L. Keefe, V. R. Mellott, L. Navarre

CURRICULUM

See p. 210

1L. Preclinical Dental Hygiene. (2) Keefe, Novitski  
Orientation to dental hygiene and introduction to the techniques of oral prophylaxis;  
training in mouth examination and patient education. Laboratory practice of techniques on  
manikins. 1 lecture, 3 hrs. lab.

2L. Clinical Dental Hygiene. (3)  
Continuation of 1L. Experience in oral prophylaxis gained by working on patients in dental  
clinic. Prerequisites: 1L, 11L. 1 lecture, 10 hrs. lab.

11L. Oral Anatomy. (2)  
The growth and development of the mouth and teeth; their structure, function, and morphology. 1 lecture, 5 hrs. lab.

51L. Clinical Dental Hygiene. (3)  
Continuation of 2L. Student starts gaining experience in oral radiography. Prerequisite:  
2L. 9 hrs. lab.

52L. Clinical Dental Hygiene. (4) Walpole  
Continuation of 51L. Prerequisite; 51L. 12 hrs. lab.

53L. Histology. (2) Naeve  
Introductory study of cells, tissues, and organic structures of human body with emphasis  
on oral structures. 2 lectures, 2 hrs. lab.

55L. Oral Radiography. (1)  
The physics of roentgenology, the operation of the X-ray machine, and the practice of taking  
and developing dental X-rays. 1 lecture, 1 hr. lab.

57. Nutrition. (2) Latini  
The chemistry of food; adequate nutrition and its relation to dental health. Prerequisite;  
Chemistry 42L.

62L. General and Oral Pathology. (2) Walpole  
Introduction to general pathology; pathology of diseases affecting teeth and their supporting  
structures; oral manifestations of systemic disturbances. Prerequisites: Biology 36,  
39L, 93L; DH 53L. 1 lecture, 1 hr. lab.
66. Dental and Public Health Education. (2)
Teaching of dental health; methods and materials to use; theory and practice of preventive
dentistry and public health.

82. Dental Ethics, Economics and Office Management. (1) Navarre, Novitski
The principles of professional ethics; the laws and regulations related to dentistry and
dental hygiene; essentials of office management, record keeping, and practice building.

84L. Dental Materials and Dental Technology. (2)
A survey of materials used in dentistry; training in common dental laboratory procedures;
dental chairside assisting. 1 lecture, 5 hrs. lab.

DRAMATIC ART
Professor E. Snapp (Chairman); Associate Professor J. E. Yell; Assistant Professors
N. Blackburn, B. McMullan.

MAJOR STUDY
For Dramatic Art Curriculum in Fine Arts and for Major with Emphasis in
Television-Radio, see pp. 179-180.
For the purposes of Combined Curriculum in Fine Arts: 45 hours in Dramatic
Art including 1, 2, 15, 16, 29, 75, 76, 85, 86, 105, 106, 136, plus 9 hours to be
chosen from 55, 56, 135, 175, 176, 185 and 186.
College of Education: Dramatic Art 1, 2, 15, 16, 29, 75, 76, 105, 106, 136, 161,
and English 141. Total 34 hours.

MINOR STUDY
College of Education and College of Fine Arts: Dramatic Art 1, 2, 15, 16,
College of Arts and Sciences: A minimum of 22 hours including Dramatic
Art 15, 16, 105, 135, English 141 or 142; 3 hours to be chosen from Dramatic
Art 29, 106, or 136; 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 extemporaneous 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. (2,2) McMullan
An introduction to the theatre in terms of the rewarding experience and personal enjoy­
ment it affords both those who create it and those who appreciate it.

29-30. Stage Craft. (3,3) McMullan
Methods, materials, and techniques of stage carpentry. Students construct scenery for sea­
son'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.

55-56. Stage Lighting. (3,3) Blackburn
Theory and practice of present-day methods of lighting the stage.

75-76. Technical Production. (3,3) McMullan
Analysis, planning, and construction of stage scenery and properties; study of the theatre
plant. Prerequisite: minimum of one semester of stage craft.

85-86. Acting Technique. (3,3) Snapp
Basic methods of interpretation for stage, television, and screen.

105-106. [89-90] Rehearsal and Performance. (3,3) Yell
Elementary techniques of both actor and director; analysis of plays for methods of
interpretation in production.
114. Educational Theatre. (3) Snapp
The organizing and teaching of drama and dramatic activities in the junior and senior high schools. Special emphasis to the uses of educational theatre as an integral part of the school curriculum and the student activities program.

115. Theatre Production for Teachers: Acting and Directing. (3)
Essentials of acting and directing; rehearsal methods and production organization. May not be taken by drama majors for credit. 3 lectures, 2 hrs. lab.

116. Theatre Production for Teachers: Technical Production. (3)
Essentials of stagecraft, lighting, make-up, scene and costume design; backstage organization and production techniques. May not be taken by drama majors for credit. Students are required to serve on a technical crew for one production. 3 lectures, 2 hrs. lab.

135-136. [95-96] Theatre History. (3, 3) Blackburn
The development of dramatic art from the Greeks to the present day, with a study of historical backgrounds of dramatic thought and with special emphasis on production techniques.

150. Theatre Organization and Management. (3)
A practical and correlated study of the university theatre, the civic and community, and the professional theatre; principles of production, organization, programming, house management, budgets, advertising, and box office. Prerequisite: upper-division standing and permission of instructor.

151. Radio-Television Drama Production. (3)
Basic directing techniques for the dramatic radio and television program. Workshop. 3 lectures, 3 hrs. lab.

152. Advanced Radio-Television Drama Production. (3)
Advanced directing techniques, adapting and editing the dramatic radio-television program. Workshop. Prerequisite: 151 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.

190. Interdepartmental Praseminar. (3) Honors Staff
(Same as Fine Arts 190.)

199. Senior Thesis. (3) Honors Staff
Directed study in any major field of the theatre arts. Open to seniors approved by the departmental honors committee.

ECONOMICS

Professors N. Wollman (Chairman), J. S. Duncan, D. B. Hamilton; Consulting Professor B. Bower; Associate Professor, B. Udis; Assistant Professors R. A. Robertson, P. T. Therkildsen.

MAJOR STUDY
Economics 51, 52, 111, 160, 186, and 15 additional upper-division hours in Economics, plus Business Administration 89 or equivalent.
MINOR STUDY
Economics 51 and 52, and 12 hours in upper-division courses in Economics of which at least one course must be either Economics 160 or 186.

1. Introduction to Economics. (3) Resources, institutions, and problems of the economic system.

51. Principles of Economics. (3) Basic economic concepts, economic organization, national income, money and banking.

52. Principles of Economics. (3) Market price behavior, income distribution, international trade. Prerequisite: 51.

63. Economic Resources. (3) (Same as Geography 63.)

*103. Consumer Economics. (3) Hamilton The theory of consumption. Especially recommended for students in Education and Home Economics. Prerequisite: 51.

*104. Economic Problems. (3) Graduate Staff Selected problems. Normally given only in the summer.

110. Corporation Finance. (3) Goode, McDaniel, Parish (Same as Business Administration 110.)

*111. Money and Banking. (3) 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.

*130. Natural Resources. (3) Food, water, mineral, energy resources; development, allocation, pricing; productivity and effects on national income and balance of payments. Prerequisite: 52.

*141. Economics of Labor Relations. [Labor Problems] (3) Udis Labor force, unions, labor-management relations, protective legislation, wages, and level of employment. Prerequisite: 52.

*142. Wage Theory and Labor Markets. (3) Udis Wage theory, policies, and structures; fringe benefits; regulation. Prerequisite: 141.

143. Transportation. (3) Duncan (Same as Business Administration 143.)


*152. Public Finance. (3) Therkildsen 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. Prerequisite: 51.

*160. Economic Theory. (3) Wollman Intermediate economic analysis with emphasis on general equilibrium models under perfect and imperfect competition. Prerequisite: 52.

*162. Economic Fluctuations. (3) Hamilton The history of the theory of economic fluctuations, including contemporary theory; proposals to increase economic stability. Prerequisite: 51.

*170-171. Introduction to Mathematical Economics. (3, 3)
Maximization procedures, derivatives, theory of costs and production, utility and consumer
demand, oligopoly, macro-economic models, and an introduction to linear programming.
Prerequisites: 52, Mathematics 15, or permission of instructor. 170 prerequisite to 171.

*175. National Defense. (3)
Strategies and policies, allocation of resources, economic controls. Prerequisite: 52.

*180. Government Control of Business. (3) Robertson
Government and social control of business enterprise, including public utilities; the economic
aspects of cost making 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) Nash, 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.

*187. Regional Analysis. (3)
Analysis of regional economies, economic models. Prerequisite: 52.

*190. The Soviet Economic System. (3) Udis
Structure, institutions, growth rate, international position, and economic and military poten-
tials of U.S.S.R. economy. Prerequisite: 52.

*195. Philosophical Foundations of Economic Theory. (3) Evans, Hamilton
(Same as Economics-Philosophy 195.)

198. Reading for Honors. (3)

199. Senior Honors Thesis. (4)

*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.

*213. Theory of Public Finance. (3) Therkildsen
Economic theory and its application to the public economy: welfare economics and other
theoretical tools applied to taxation, public expenditure, and public debt.

*220. Econometrics. (3)
Quantitative measurement of economic relationships; analysis of interdependent economic
systems; empirical testing of economic theories. Prerequisite: 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
Competition and monopoly; value and distribution; general equilibrium and welfare.

*240. Advanced Macro-Economic Theory. (3)
Sector analysis, comparative statics, dynamics, money flows. Prerequisite: 186.

*251. Problems. (2-3 each semester) Graduate Staff

*300. Master's Thesis. (6) Graduate Staff

ECONOMICS-PHILOSOPHY

The combined major in Economics and Philosophy is an interdepartmental
major administered jointly by the two departments. Students interested in this
program should consult the chairmen of both departments.

This major is directed toward a deepened and fuller understanding of the
theoretical phases of economics and toward the extension of philosophy into one of its traditional areas of interest; namely, that of value theory and its applications.

MAJOR STUDY

Students completing an Economics-Philosophy major are not required to have a minor. The minimum requirement is 45 hours, including: Economics 51, 52, 111 or 186, 154, 159, 160 and three hours to be selected from 141, 143, 144, 152, 180, or 181; Philosophy 51 or 53, 45 or 55, 56, 141, 142, 132 or 185 and three additional hours above 100; and Economics-Philosophy 195.

MINOR STUDY

Not offered.

*195. Philosophical Foundations of Economic Theory. (3) Evans, Hamilton
Philosophical backgrounds of classical and neo-classical, socialist and communist, and institutionalist economics.

EDUCATION, ART

Professor A. S. Masley (Chairman); Instructor J. P. Meyers.

CURRICULUM

See p. 150.

MINOR STUDY

See p. 151.

17. Creative Arts in the Elementary School. (3) Masley, Meyers
An experimental approach to the art needs of children.

18. Creative Crafts in the Elementary School. (3) Masley, Meyers
Development of craft experiences suitable for children.

20-21. Techniques of Crafts Education. (2, 2)
Beginning crafts education.

30-31. Techniques of Design Education. (3, 3) Masley, Meyers
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.

120. Children and Their Art. (3) Masley
A comprehensive study of the art experiences of children from preschool through adolescence.

124. Pre-Teaching Experience in Art: Classroom and Workshop. (3) Masley
Introductory and exploratory classroom and workshop experiences in art education. Prerequisite: 49.

*129. Workshop. (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

*148. Creative Paper Crafts. (2) Masley, Meyers

151. Problems in Art Education. (1-3) Masley, Meyers

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. 148 of this catalog or consult the Graduate School Bulletin.

*251-252. Problems in Art Education. (1-3 each semester) Masley, Meyers

*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), G. L. Keppers; Associate Professors F. Angel, J. G. Cooper, D. A. Ryan, W. O. Wilson; Assistant Professors P. D. Lynch, H. Whiteside, J. T. Zepper; Lecturer I. Ross.

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 School Bulletin.

COURSES IN EDUCATIONAL ADMINISTRATION

*105. Adult Education. (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, 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.

*264. School and Community Surveys. (3) Lynch, Ryan, Wilson
Practices and techniques in all phases of school and community surveys.

*265. Administration in Higher Education. (3) Ross, Zepper
An overview of higher education principally for students who are likely to have some administrative as well as teaching responsibilities in higher education. Prerequisite: master's degree or permission of instructor.

*268. Public School Finance. (3) Angel, Ryan, Wilson
Basic principles underlying the financing of public schools. Special attention is given to New Mexico.

*269. School Business Management. (3) Petty, Ryan, Wilson
Practices in school budgeting, purchasing, funds accounting, auditing, payroll administration, supply management, and miscellaneous business transactions.
*271. Administration of Staff Personnel. (3) 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, Wilson
Problems of building construction and maintenance. Standards and practices. Field trips are included.

*289. Seminar for Practicing School Administrators. (1-3) SS Graduate Staff
A graduate seminar for practicing school administrators offered only during summer sessions. It provides study of the latest practices and trends in specialized areas of school administration.

COURSES IN FOUNDATIONS OF EDUCATION

90. Foundations of Education. (3) Zepper
An introduction to the philosophical, social, historical and comparative foundations of education.

*101. History of Education in Western Civilization. (3) Angel, Ryan, Zepper
The development of education in Europe and in the United States. An analysis of contributions of prominent educators.

*104. Philosophies of Education. (3) Zepper
Prerequisite: 90 or equivalent.

*109. Educational Sociology. (3) Angel, Zepper
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)

179. Statistics in Education. (2) Lynch, Petty
The use of basic statistics in the field of education. Frequency distribution, measure of central tendency, applications of the normal probability curve and linear correlation will be emphasized.

*180 Measurement and Evaluation in the School Curriculum. (3) Crawford, Keppers, Lynch, Cooper
Designed to help the classroom teacher better evaluate the progress of pupils. Major emphasis is placed on constructing teacher-made tests in various subject-matter areas. The use and interpretation of standardized tests are also considered.

*201. Research Methods in Education. (3) Cooper, Lynch
Required of all candidates for a graduate degree in the College of Education. Methods, content, techniques of educational research. Pre- or corequisite: an introductory course in statistics.

*202. Research Seminar in Education. (2) Cooper, Crawford, Lynch
Application of research techniques to a current educational problem. Required of all candidates for a graduate degree in education under Plan II, with the following exceptions: 1) candidates in Elementary Education; 2) candidates in Educational and Administrative Services may substitute Ed. & Adm. 206. Prerequisite: 201.

*204. Comparative Philosophies of Education. (3) Zepper
Inquiry into differences of basic outlook and their implications for educational practice of competing philosophical positions. Prerequisite: 90 or equivalent.

*205. Comparative Education. (3) Zepper
A comparative and evaluative study of the purposes, objectives, organization, and methodology of contemporary educational systems of representative European, Latin American, and Afro-Asian countries. Prerequisite: permission of instructor.
*243. Principles of Curriculum Development. (3) Angel, Drummond, Ivins
Designed as a culminating experience in the study of curriculum. Social, philosophical, and psychological bases related to common principles and procedures of curriculum development as applied in the several areas and at the several levels of formal education. Articulation among these levels is also stressed.

*279. Advanced Statistics in Education. (3) Cooper, Keppers, Lynch
Application of advanced techniques in statistical treatment of education data. These techniques include testing experimental hypotheses, regression and prediction, analysis of variance, non-parametric methods, and partial and multiple correlation. Prerequisite: a course in statistics.

*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) Cooper, Keppers
To assist the student to develop an adequate philosophy of guidance services and to understand the principles of guidance practice in keeping with this philosophy.

*188. Mental Hygiene in the Classroom. (3) Cooper, Crawford, Keppers
Aims to help classroom teachers, supervisors, principals, deans, advisers of students, and guidance workers to understand the personal problems affecting success and failure of pupils.

*212. College Personnel Work. (3) Whiteside
Philosophy and principles of college personnel services, as well as the nature and extent of various personnel services on college campuses. Prerequisite: permission of instructor.

*213. Socio-Economic Information in Guidance. (3) Cooper, Keppers
The essential nature of environmental information in educational, vocational, and personal-social guidance services and of the methods of collecting, organizing, filing, evaluating, and using such information. Prerequisite: 115 or permission of instructor.

*214. Organizing and Supervising Guidance Services. (3) Cooper, Keppers
Includes such topics as sound organization practice and patterns, understanding of the total pupil personnel program, qualifications and acquisition of staff, facilities, budgetary needs, evaluation, and possible ways of initiating a guidance program. Prerequisite: basic guidance courses or permission of instructor.

*216. The Case Study in Guidance. (3) Cooper, Keppers
The techniques available for understanding an individual, the values and limitations of each technique, and methods of synthesizing the data about an individual. Prerequisite: 180 or Psychology 131.

*217. Group Techniques in Guidance. (3) Cooper, Keppers
The place and functions of group methods in the guidance program, the values and limitations of each method and the techniques to be utilized. Prerequisite: 188 or Psychology 102.

*218. Techniques of Counseling. (3) Cooper, Keppers
Various techniques employed in counseling and in developing competence in applying the techniques consistent with the basic personality and philosophy of the individual counselor. Prerequisites: 213, 216; Psychology 102 or permission of instructor.

*219. Practicum in Guidance. (1-4) Cooper, Keppers
To provide the student experience in the practical application and integration of the principles and methods of guidance which he has studied. Pre-or corequisite: 218.

*220. Seminar in Guidance. (3) Cooper, Keppers
Current problems and research in the field of guidance. Prerequisites: experience as a school counselor; basic courses in guidance or permission of instructor.

*223. Play Therapy. (3) Keppers
To develop in the student the ability to utilize techniques of play therapy and to provide experiences and applications that will provide insights into the inner world of childhood problems. Prerequisite: 218.

*229. Play Therapy. (3) Keppers
To develop in the student the ability to utilize techniques of play therapy and to provide experiences and applications that will provide insights into the inner world of childhood problems. Prerequisite: 218.
COURSES OF GENERAL APPLICATION

*112. Current Educational Problems. (3) Angel, Zintz, and Staff

Usually offered as an off-campus course.

*129. Workshop. (1-4) Graduate Staff
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

*229. Workshop. (4) SS Graduate Staff
For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

*251-252. Problems. (1-3, 1-3) Graduate Staff

*300. Master's Thesis. (6) Graduate Staff

*400. Dissertation. Graduate Staff

EDUCATION, ELEMENTARY

Professors H. D. Drummond (Chairman), M. V. Zintz; Associate Professor L. H. Walters; Assistant Professor E. A. Reuwsaat.

CURRICULUM

See p. 152.

84. Materials and Methods of Teaching in Elementary Schools. (3) Drummond
A comprehensive course for non-majors covering methods and materials in major curriculum areas. Guided visits to schools are scheduled.

*118. Child Growth and Development. (3) Reuwsaat, Schroeder
Principles of child growth and development and implications for the school curriculum.

119. Physical Education in the Elementary School. (2) Gugisberg, Milliken
Four class meetings per week.

*120. Children's Literature. (2) Walters
Materials and techniques of teaching. Prerequisite: 121.

*121. Reading in the Elementary School. (3) Zintz

*122. Social Studies in the Elementary School. (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. (3) Zweig

*125. Curriculum for Early Childhood. (3) Staff
Curriculum and methods of teaching children 2-5 years of age. Relationship of nursery school and kindergarten to the elementary school and to 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) Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

*135. Arithmetic in the Elementary School. (2) Drummond, Walters
Prerequisite: Mathematics 1.

136. Student Teaching in Elementary Schools. (3-9) Walters and Staff
Prerequisites: 121, 122, 124, 135. See also additional requirements on p. 145.

*139. Remedial Reading Problems. (3) Zintz
Actual remedial cases. Prerequisite: 121.

*141. Education of the Exceptional Child. (3) Reuwsaat
The teaching of atypical children in the regular classroom. Prerequisite: Psychology 113.
145. Teaching the Mentally Retarded. (3) Reuwsaat
Objectives, curriculum, content, methods, and organization of work in classes for mentally retarded children. Prerequisite: Psychology 114.

151. Problems. (1-3)

197. Reading and Research in Honors. (3-6)
Prerequisites: see p. 142.

220. Education of Gifted Children. (3) Reuwsaat
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.

229. Workshop. (4) SS
For degree restrictions see p. 148 of this catalog or consult the Graduate School 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 hrs. each semester) Graduate Staff

253. Bilingual Education. (3) Zintz

300. Master's Thesis. (6) Graduate Staff

400. Dissertation. Drummond, Zintz

EDUCATION, HEALTH, PHYSICAL EDUCATION, AND RECREATION


ALL UNIVERSITY REQUIREMENTS

Four semester hours of nonprofessional activity physical education shall be completed by all undergraduate students in the University. Veterans, Air and Navy ROTC students, students over 30 years of age, and handicapped students excused by the University physician are exempted from the physical education requirement. ROTC and medical excuse exemption is on a semester-by-semester basis. Not more than 1 hour may be earned in a semester except by physical education majors and minors. Not more than 4 semester hours of required physical education may count toward a degree. Men may substitute participation in major sports for required physical education for that part of the semester during which they are actively engaged in a sport, provided that they are enrolled in the section designated by the Department Chairman. Physical education majors and
minors may not substitute their participation in sports for the required physical education classes.

The instructor in each course should be consulted concerning proper clothing or uniform.

CURRICULA

See pp. 153-156.

NONPROFESSIONAL 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) Barney

M6. Advanced Swimming and Springboard Diving. (1) Barney
   Prerequisite: ability to swim.

M7. Life Saving and Water Polo. (1) Barney
   Prerequisite: ability to swim.

M10. Personal Defense Activities. (1) Seidler

M11. Wrestling. (1) Bynum


M15. Individual Tumbling Stunts. (1) Gilmore, Papcsy

M17. Weight Lifting. (1) Burley

M28. Soccer. (1) Corbin

M31. Volleyball-Badminton. (1) Burley

M32. Flickerball-Bowling. (1) Papcsy

M33. Basketball-Softball. (1) Leach

M34. Tennis. (1) Geba

M51. Beginning Tennis. (1) Milliken, Mills

M52. Intermediate Tennis. (1) Milliken, Mills

M&W61. Beginning Golf. (1) McGill, Petrol

M62. Intermediate Golf. (1) Gugisberg

M66. Beginning Swimming. (1) Mills, Piper

M67. Intermediate Swimming. (1) Mills, Piper

M68. 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
   Waterfront Safety Certificates will be awarded. Prerequisite: advanced swimming course or
   equivalent.

W71. Badminton. (1) Milliken, Mills

W80. Individual Sports. (1) Mills, Piper

W81. Team Sports. (1) McGill, Milliken

M&W91. Ballroom Dancing. (1)

M&W92. Mexican and New Mexican Dancing. (1)

M&W93. American Country Dance. (1) Mills

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) Gilmore
   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) Barney
   The professional course in swimming. Prerequisite: ability to swim. 5 class meetings per week.

45. Physical Fitness Programs. (2) Bynum
   The professional course in physical fitness programs. 5 class meetings per week.

46. Combatives. (2) Bynum
   The professional course in combatives. 5 class meetings per week.

   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, Small
   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) King
   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 aspect 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) Mills
   Five class meetings per week.

99. Individual and Dual Sports. (1) McGill
   Five class meetings per week.
103. Principles of Recreation. (3) Heath
Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques.

104. Kinesiology. (4) Burley, Papcsy
Prerequisites: Biology 12L, 36, 39L.

106. Folk Dance in the School Program. (2)
Square, social or ballroom, international folk dances are included. Prerequisite: 98 or permission of instructor. 4 class meetings per week.

Prerequisite: 49 or permission of instructor. 4 class meetings per week.

Prerequisite: 99 or permission of instructor. 6 class meetings per week.

109. Aquatics and Gymnastics. (2)
Prerequisite: W67 or 48 or permission of instructor. 4 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. 148 of this catalog or consult the Graduate School Bulletin.

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, Small
Responsibilities of the teacher in providing certain health services, desirable environmental conditions, and health instruction in elementary and secondary grades; basic health principles, unit planning, methods, and use of community resources. Prerequisite: 72.

145. Professional Laboratory Experiences in Health, Physical Education and Recreation. (1-3)
(May be repeated to a maximum of 4 sem. hrs.)

151. Problems. (1-3)

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) Bynum, Clements
Safety in the home, on the farm, in industry, in play, in the school will be discussed. Stress on community organization, school responsibility, and safety problems in New Mexico.

165. Traffic Safety Education in Secondary Schools. (3) Bynum, Clements
Those enrolling must be licensed drivers. Discussion includes improvements of traffic conditions; the school’s part in the safety program; the need for high school courses; methods and equipment for skill tests; insurance, costs, and records for behind-the-wheel training; classroom teaching methods; and physical tests for drivers.

*167. Tests and Measurements in Physical Education. (3) Burley, Papcsy
Techniques to determine abilities, needs, and placement in the physical education program.
169. Adaptive and Corrective Physical Education. (3) Papcsy
The field of adaptive and corrective physical education and its relationship to the regular curriculum in P. E. Prerequisite: 104.

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) Clements, Gugisberg
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) Heath, McGill
The organization, administration, and conduct of recreation programs on the community level. Prerequisite: 103.

175-176. Field Work in Recreation. (3,3) Heath, McGill
Theory and practice in recreation leadership in centers, playgrounds, etc. Prerequisite: 174.

177. Industrial and Institutional Recreation. (2) Heath, Seidler
Planning, organizing, and conducting recreation programs in industry and in hospitals and other types of institutions.

178. Outdoor Recreation. (3) Burley, Heath, Papcsy
Organization and administration of all types of outdoor recreation—leadership, programming, financing, etc. Includes programs in camps, resorts, ranches, lodges, and state and national parks.

185. Administration of a School Health Program. (3) Clements, Gugisberg, Small
Prerequisite: 138.

190. Supervision of Health and Physical Education Programs. (3) Burley, Clements, Gugisberg, Small
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) Papcsy

197. Reading and Research in Honors. (3-6)
Prerequisites: see p. 142.

205. Foundations for a Philosophy of Physical Education. (3) Burley, Seidler, Small
Prerequisite: at least 3 hrs. in history, principles, or methods of physical education.

207. Foundations for a Philosophy of Recreation. (3) Burley, Heath, Seidler

210. Curriculum Construction in Physical Education. (3) Burley, Seidler, Small

214. The Remedial Program in Physical Education. (3) Burley, Papcsy

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) Heath, Seidler
Determining recreational needs, interests, and opportunities of individuals and communities through surveys, studies, and appraisals; evaluating and appraising community recreation programs and services; and research in the field of recreation.

229. Workshop. (1-4)
For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

231. Problems in Physical Education. (1-3 hrs. each sem.) Graduate Staff

300. Master's Thesis. (6) Burley, Seidler

400. Dissertation. Burley, Seidler
EDUCATION, HOME ECONOMICS

Associate Professors G. L. Elser (Chairman), F. M. Schroeder; Assistant Professors I. H. McMurray, R. B. Harris.

CURRICULUM IN EDUCATION
See p. 157.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS
See p. 156.

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. 156.

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. 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 and Nutrition. (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.

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.

† 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.
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.

118. Child Growth and Development. (3) Schroeder
(Same as Elementary Education 118.)

*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: 53L-54L 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. 148 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 corequisite: 132, 2L. Special fee.

*138L. Child Care and Development. (4) Schroeder
Pre-school through adolescence. For laboratory work, observation, and participation in nursery school and in kindergarten. 3 lectures, 2 hrs. lab.

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.

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
See p. 158.

MINOR
See p. 158.
EDUCATION, INDUSTRIAL ARTS 255

I. Technical

1. Shop Computation. (4) Brown
   Practical application of algebra, geometry, and trigonometry in the solution of applied problems found in the Industrial Arts laboratories. 5 class meetings per week.

25. Design in Industrial Arts. (2) Brown
   Theory and utilization of design principles in the development and use of the various materials of industry. 4 hrs. per week.

45. Slide Rule. (2) Brown
   The use of the various scales for solving technical problems.

80L. General Electricity and Electronics. (3) Brown, Warner
   An introductory course in electrical theory and its application in the field of lighting, heating, communication, and electronics. Individual and group experiences are derived through experimentation and the construction of electrical projects. 1 lecture, 6 hrs. lab.

130L. Power Mechanics. (2) Brown, Warner
   A basic course pertaining to the internal combustion engines. Experiences in the maintenance and repair, with reference to the consumer level, on the automobile and various other small engines. 6 hrs. lab.

II. Woods

10L. Wood Area I. (3) Brown, Warner
   Introduction to the woodworking area. Emphasis on the proper use of hand tools, power machinery, and basic finishing methods. 1 lecture, 6 hrs. lab.

15L-16L. General Woodwork. (2, 2) Brown, Warner
   Designed to meet the various individual needs of non-majors. Basic instruction in the care and use of hand tools, power machinery, and finishing methods used in the processing of woods. 6 hrs. lab.

65L. Wood Area II. (2) Brown
   Techniques, processes and application of finishes on the various kinds of wood. Practice in tool and machine maintenance and repair, tool fitting and sharpening, and saw filing.

115L. Wood Area III. (3) Brown, Warner
   Use of wood turning tools and equipment in spindle, faceplate, and special turning processes. Construction and use of the different types of chucks in metal spinning. Construction of the various patterns and core boxes used in pattern making. 1 lecture, 6 hrs. lab.

150L. Wood Area IV. (3) Brown
   Advanced instruction in the use of power woodworking machinery. Emphasis on cabinet and furniture designing and construction. Basic techniques and processes in upholstery. Prerequisite: 10L or equivalent. 1 lecture, 6 hrs. lab.

162L. Wood Area V. (3) Brown
   Plot layouts, foundations, floor and wall framing, roof construction, rafter cutting, inside and outside finishing, and the use of the steel square. A scaled model house is constructed. Prerequisite: 10L or equivalent. 1 lecture, 6 hrs. lab.

180L. Wood Area VI. (1-3) Brown
   Advanced course designed to meet the individual needs of students wishing to concentrate in a specialized area of woodworking. 3 to 9 hrs. lab.

III. Metals

17L-18L. General Metalwork. (2, 2) Warner
   Designed to meet the various individual needs of non-majors. Basic instruction in the care and use of hand tools and power machinery in the fabrication of metals. Includes experiences in the sheet metal, art metal, foundry, welding, forging, and machine shop areas. 6 hrs. lab.

20L. Metal Area I. (3) Warner
   Introduction to the metalworking area. Emphasis on the proper use of hand tools and the operation of the engine lathe, drill press, grinders, and shapers. 1 lecture, 6 hrs. lab.

85L. Metal Area II. (2) Brown, Warner
   Arc and oxyacetylene welding with some resistance welding. Techniques, methods, and processes are considered with emphasis on the welding and cutting of the common metals. 6 hrs. lab.
86L. Metal Area III. (3) Brown, Warner
Introduces the various aspects of the sheet metal and ornamental iron industries and the fundamental principles and practices involved. Experience in the operation of the various machines and equipment, and the forming and fabrication of metals. 1 lecture, 6 hrs. lab.

140L. Metal Area IV. (3) Brown, Warner
The forging and foundry industries with the various principles and practices involved. Experience in the operation of the forge and foundry equipment. Emphasis on the forging and casting of various metals. 1 lecture, 6 hrs. lab.

165L. Metal Area V. (3) Warner
Advanced course in the machine shop. Includes experiences in the various processes and practices of metal machining. Emphasis on work with the engine lathe, shaper, surface grinder, and the horizontal and vertical milling machines. Maintenance and repair of tools and machinery. 1 lecture, 6 hrs. lab.

175L. Metal Area VI. (1-3) Warner
Advanced hand tool and machine processes in the areas of forging, bench metal, sheet metal, welding foundry, art metal, and other areas of metal working used in the school shop situation. Students will choose the area or areas in which they desire to concentrate additional experiences. 3 to 9 hrs. lab.

IV. Professional

5. Introduction to Industrial Arts. (2) Brown
Orientation of the student to industrial arts and its place in general education.

129. Workshop in Industrial Arts. (1-4)
For degree restrictions, see p. 148 of this catalog.

151. Problems. (1-3)

166. Theory and Organization of General Shop. (3) Brown, Warner
An analysis of organizing and teaching under general shop conditions found in the modern school. 5 class meetings per week.

EDUCATION, LIBRARY SCIENCE
Professor D. O. Kelley.

MAJOR STUDY
Not offered.

MINOR STUDY
Library Science 120, 124, 125, 126 or 128, 127, 129, and 130.

*120. Children's Literature. (2) Walters
(Same as Elementary Education 120.)

*124. Fundamentals of Library Science. (3) Graduate Staff
A survey of the history of libraries; the library as a social institution; the objectives and functions of modern libraries; types of library service; the library profession, its philosophy, publications and organizations; major trends and problems.

*125. Reference and Bibliography. (3) Graduate Staff
Training in the use of standard works of reference.

*126. Public Library Administration. (3) Graduate Staff
The place of the library in the community; its organization, financing, and administration.

*127. Classification and Cataloging. (3) Graduate Staff
Principles of classification and the techniques of cataloging for libraries.

*128. School Library Administration. (3) Graduate Staff
Practical study of the management of the school library, including the organization of the book collection, housing, equipment and maintenance.

*129. Book Selection for Young People. (3) Graduate Staff
A survey course covering tools and principles of selection of books for young people.

*130. Reading Guidance. (3) Graduate Staff
Study of research concerning reading with implications for libraries; reading interests and habits and evaluation of books for various purposes, such as for recreation, information, therapy, etc.; advisory services in relation to the library's general educational function.
EDUCATION, MUSIC
Associate Professors J. M. Batcheller, J. R. Stephenson.

CURRICULUM
See p. 158.

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.

113. Band Organization and Conducting. (1) Rhoads
   (Same as Music 113.)

114. Orchestral Conducting and Organization. (1) Frederick, Stephenson
   (Same as Music 114.)

*129. Workshop. (1-4)
   Carries graduate credit when specifically approved by the Graduate Committee. For degree
   restrictions see p. 148 of this catalog or consult the Graduate School 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.

*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 music 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 prac­
   tices in school. Prerequisites: 93, 94, 145 or 146.

*251-252. Problems in Music Education. (1-3 hrs. 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 Professors R. J. Doxtator, W. B. Runge; Assistant Professor P. Prouse; Instructor C. G. Zweig.

CURRICULUM

See p. 161.

*129. Workshop. (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 148 of this catalog or consult the Graduate School Bulletin.

141. Foundations of Secondary Education. (3) Crawford, Doxtator, Ivins, Runge
Development of the secondary school in the United States, emphasizing its social and philosophical backgrounds. The purposes of secondary education, theories of curriculum and their application in the contemporary program of the secondary school. Includes a study of the secondary school population, the organization of the educational system, and status of the modern secondary school.

*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)

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. Observation in the public schools required. Prerequisite: 141 or permission of instructor.

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 in Secondary Schools. (3) Degenhardt
Prerequisite: Biology 2L. (Offered in alternate years.)

c. The Teaching of English. (3) Haley, Simons
Prerequisite: English 2.

d. The Teaching of Home Economics. (3) Elser

**e. The Teaching of Mathematics. (3) Mitchell

f. The Teaching of Communication Arts. (3) Prouse

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

*l. The Teaching of French. (3) Book

m. The Teaching of Spanish. (3)
(Offered in alternate years.)

n. The Teaching of Reading. (2)

p. The Teaching of Physical Education. (3) Gugisberg

** Credit for undergraduate teaching majors and graduates in Education only.
**EDUCATION, SECONDARY—ENGINEERING** 259

156-157. **Student 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. See also additional requirements on p. 145.

197. **Reading and Research in Honors.** (3-6)
Prerequisites: see p. 142.

*229. **Workshop.** (4) SS Graduate Staff
For degree restrictions see p. 148 of this catalog or consult the Graduate School 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, as well as sponsorship and the teacher's role in activities.

*251-252. **Problems.** (1-3 each semester) Crawford, Doxtator, Ivins, Prouse, Runge

*254. **Instructional Trends in the Secondary School Communication Arts.** (3) Prouse
Analysis of the associative use of the language arts and communication skills for the development of communicative competency, with emphasis upon recent research and instructional trends in the field.

*260-261. **Seminar in the Teaching of Sciences.** (2, 2) Zweig
Discussions, lectures, practice sessions, critiques in teaching of science. Distinguished visiting professors and resident professors in science and mathematics will lecture and conduct discussions centered on problems of effective presentation of science and mathematics.

*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); Associate Professor G. A. Whan.

*191L-192L. **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. Prerequisite: Physics 110 or equivalent; corequisites: for 191L: Mathematics 147; for 192L: Mathematics 148.
193L. 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. Pre- or corequisite: 213; or prerequisite: 197 and permission of instructor. 3 hrs. lab.

194L. Nuclear Engineering Laboratory II. (1-2) Nereson, Whan, Zabel
A continuation of 193L. Prerequisite: 193L; pre- or corequisite: 214 or prerequisite: 197 and permission of instructor. 3 or 6 hrs. lab.

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) Graduate Staff
Engineering analysis of linear and non-linear systems. Techniques of the engineering sciences, similarity, statistics and probability, and data analysis are applied to a variety of problems.

213-214. 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, economics, 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. Radiation Effects on Materials. (3) Busey, Whan
Theory of radiation interaction with matter; application to crystalline lattices, fluids, plastics, and elastomers. Radiation chemistry and chemical reactions in intense radiation fields. Reactor materials and radiation effects on reactor design. Prerequisite: 191L-192L or equivalent.

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 148-149 or the equivalent, or permission of instructor.

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.

231. Theoretical Physical Metallurgy. (3) Smith
Electronic structures and the bonding of solids, crystal structures and crystal imperfections. The physical and mechanical behavior of metals. Prerequisite: Physics 112 or EE 190.

232. Physical Metallurgy of Alloys. (3) Smith
Equilibrium and nonequilibrium phase relations in binary and ternary alloys. Interrelations of microstructures and physical and mechanical properties. Control of structures and properties by alloying and by thermal and mechanical treatment. Prerequisites: 231, Chemistry 112.

** Available for graduate credit except for graduate majors in Nuclear Engineering.
*233. Ceramics. (3) Stoddard
Properties, applications, and manufacture of electrical ceramics, refractory intermetallic compounds, ceramic-metal and glass-metal composites, and cermets. Sintering and solid state reaction, glassy state, thermodynamics of ceramics. High temperature techniques. Prerequisites: Chemistry 112 and Physics 112 or EE 190.

*234. Plastics. (3) Church
Properties, applications, and fabrication of plastic adhesives, foams, castings, and coatings. Basic polymerization chemistry. Material selection, machining, molding techniques, thermforming, embedments. Effects of fillers, plasticizers, and modifiers. Prerequisite: permission of instructor. Recommended: Chemistry 101, 102, or 120.

*235. Seminar in Materials. (1-3) Hammond

*236L. Physical Metallurgy Laboratory. (1) Graduate Staff
The techniques and applications of metallography; preparation of metallographic sections; microscopy and photomicrography; physical, chemical, and mechanical evaluation of metal specimens. Pre- or corequisite: 232. 3 hrs. lab.

*251-252. Problems (1-3 each semester) Graduate Staff
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. 167.

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.

** Available for graduate credit except for graduate majors in Chemical Engineering.
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 in-
organic chemistry. Prerequisites: Chemistry 111, 113L; 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, poly-
merization, and similar topics. Prerequisites: 112, Chemistry 101, 102, 103L, 104L.

*168. 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, Chem-
istry 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, competi-
tion, 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.

**194. Chemical Engineering Design. (2) Castonguay, Oliver, Traeger
Selection and design of process equipment; layout of building and cost estimates. Prerequi-
sites: 112, 191. 1 lecture, 3 hrs. lab.

198. Field Trip. (0)
Required for graduation. Annual inspection tour to leading chemical plants in different sec-
tions 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 trans-
mision, 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.

** Available for graduate credit except for graduate majors in Chemical Engineering.
*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 hrs. 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

ENGINEERING, CIVIL

Professors J. R. Barton (Chairman), R. H. Clough, R. G. Huzarski, M. C. May; Associate Professors W. R. Gafford, J. E. Martinez, E. M. Zwoyer; Assistant Professors M. M. Cottrell, L. J. Thompson, J. T. P. Yao; Instructors B. J. Donham, L. M. Younkin.

CURRICULUM
See p. 169.

1L. Engineering Graphics I. (3)
Principles, symbols, and standards of graphic science including logarithmic plotting, nomography, slide rule, and problem form as applied to engineering. 1 lecture, 6 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.

3. Engineering Lectures. (1)
A discussion of the engineering profession.

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. (2)
A continuation of 11L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 11L. 6 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 geodesy. Prerequisite: 51L. 2 lectures. 3 hrs. lab.

† No credit allowed in College of Engineering.
60L. [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. 2 lectures, 3 hrs. lab.

†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. Pre-requisite: 11L. 2 lectures, 3 hrs. lab.

†62L. Drafting IV. (2)
Residential working drawings, with emphasis on construction details. Selected field trips. Pre-requisite: 11L. 6 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: 60L.

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, photoelastic, 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, boundary layer, lift, form drag; flow through pipes, pipe systems, and open channels. Prerequisite: 60L; corequisite: ME 106L.

**108L. Fluid Mechanics Laboratory. (1) Barton, Martinez, Younkin
Laboratory work and field trips to illustrate the basic principles of fluid mechanics as developed in 107. Corequisite: 107. 3 hrs. lab.

117L. Construction Materials. (3)
A comprehensive study of the physical, mechanical, and chemical properties of engineering materials. 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)
Analysis of determinate structures including beams, frames, roof and bridge trusses subjected to both fixed and moving loads by algebraic and graphical methods; introduction to deflection theory, moment-area, conjugate beams, and virtual work. Corequisite: 102.

124. Structural Design. (2)
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) Cottrell, Yao
Statically indeterminate structures; use of moment-area, conjugate structure column analogy, virtual work, slope deflection and moment-distribution methods; sideways and multi-degree of freedom structures; introduction to structural dynamics. Prerequisite: 121 or permission of instructor.

† No credit allowed in College of Engineering.
** Available for graduate credit except for graduate majors in Civil Engineering.
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. 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: 60L. Mathematics 50. 2 lectures, 3 hrs. lab.

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
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.

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) Cottrell, Yao
Torsion, elastic and inelastic, non-circular section, elementary topics in theory of elasticity, inelastic behavior, introduction to limit analysis and design, column theory, beam-columns, beams on elastic foundation, introduction to the theories of plates and shells, stability. Prerequisites: 102, Mathematics 52.

*176. Engineering Foundations. (3) Cottrell, Thompson
Types and methods of construction of foundations for buildings, bridges, and other major structures; spread footings, rafts, piles, open and pneumatic caissons, cofferdams, underpinning. Prerequisites: 157, 165L.

*178L. Structural Design of Civil Engineering Structures. (3) Thompson, Yao
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, Younkin
Principles of dimensional analysis, dynamic similarity, flow nets, irrotational flow, gravity flow, unsteady flow, boundary layer theory, separation, cavitation, drag, pumps and turbines. Prerequisite: 107.

** Available for graduate credit except for graduate majors in Civil Engineering.
*184. Hydraulic Structures. (3) Barton, Martinez
Design of hydraulic structures such as spillways, stilling basins, concrete dams, canals, measuring devices, sediment excluders, and other hydraulic devices. Prerequisite: 107.

*185. Arid Land Engineering. (3) Barton, Huzarski, Thompson
Engineering studies related to problems of air, water, ground, and culture, relevant to arid and semi-arid regions. Prerequisite: senior standing and permission of instructor.

*186. Water in Arid Regions. (3) Barton, Martinez
Sources, utilization, and problems of water in arid areas of the earth. Prerequisite: 107.

*187. Soil and Rock Engineering in Arid Regions. (3) Thompson
The engineering properties, uses and management of consolidated and unconsolidated rock in arid regions. Prerequisite: 165L.

*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 designation 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)
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, Thompson
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) Cottrell, Yao
Advanced topics in indeterminate structural analysis using conjugate structure column analogy, slope deflection, moment-distribution, and energy methods; shearing stiffness and flexibility methods for analyzing multi-story structures; the analysis of multi-gable bents. Prerequisite: 140 or permission of Instructor.

*210. Advanced Structural Design in Metals. (3) Yao
Advanced structural design in steel and aluminum alloys; use of design codes; relation of code requirements to theories of material behavior; introduction to the theories of plastic analysis and design. Prerequisite: 166L.

*212. Advanced Structural Mechanics. (3) Cottrell
Introduction to the theory of elasticity with application to structural problems; theory, analysis, and design of flat and folded plate structures; membrane and bending theory of shells. Prerequisite: 140 or permission of Instructor.

*215. Advanced Reinforced Concrete Design. (3) Yao
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) Cottrell
Nature of dynamic loading from earthquakes and bomb blasts; nature of dynamic resistance of structural elements and complete structures; criteria for design of blast and earthquake resistance structures; application to actual problems. Prerequisites: 157, 166L, ME 106L.

*218. Elastic Stability. (3) Cottrell
Elastic and inelastic bending and buckling of prismatic bars, beams, curved bars, thin shells, and thin plates under axial and lateral loads. Prerequisites: 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) Cottrell, Thompson
Detailed study of mechanical properties of soils; stress-strain-time characteristics of soils under static and dynamic loading; strength characteristics of cohesionless and cohesive soils; theories of elasticity and plasticity as applied to soils; sub-soil exploration. Prerequisite: 231L.

*231L. Advanced Soil Mechanics Laboratory. (1) Thompson
Advanced soil testing procedures; soil classification, consolidation, swelling pore pressure and shear strength. Corequisite: 230. 3 hrs. lab.

*232. Earth Structures. (3) Cottrell, Thompson
Design and construction of earth dams, embankments and excavations; flow nets, seepage forces, slope stability, compaction, stabilization and settlement. Prerequisites: 230, 231L.

*233. Advanced Foundation Engineering. (2) Cottrell, Thompson
Sub-soil exploration programs, theoretical and practical aspects of various foundation problems; bearing capacities of footings, lateral loads on piles, vibration problems in foundation design; retaining structures. Prerequisites: 230, 231L.

*240. Open Channel Hydraulics. (3) Barton, Martinez
Surface curves in open channels; steady and unsteady flow; boundary resistance; standing waves in supercritical flow; hydraulic jump; surges and waves; slowly varied flow involving storage. Prerequisite: 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, Gafford, Martinez, May, Thompson, Yao, Zwayer
Advanced reading, analysis, design, or research.

*291-292. Seminar. (3, 3) Graduate Staff

*300. Master's Thesis. (6) Graduate Staff


ENGINEERING, ELECTRICAL


CURRICULUM
See p. 170.

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; corequisite: Mathematics 51, 2 lectures, 3 hrs. lab.

56L. Circuit Bases of Electrical Engineering. (4)
Review of pertinent field concepts, Kirchhoff's laws, free and forced response analysis of circuits, complex algebra, power in circuits, resonance, network equations, polyphase circuits, basic electric Instruments. Topics are covered for electric and other circuits. Corequisites: Physics 61, Mathematics 52, 3 lectures, 3 hrs. lab.
111. Electromagnetic Fields. (3) Static electric and magnetic fields, vector calculus, Maxwell’s equations, plane waves. Pre-requisite: grade of C or better in 55L. A special examination may be used in place of the C grade requirement. Pre- or corequisite: Mathematics 147.

**112L. Traveling Waves. (3) Graduate Staff**
Concepts of traveling waves and distributed parameters; application to transmission lines and electromagnetic waves, acoustic waves, waves in solids, heat conduction, diffusion and related phenomena; power and communication lines; resonance; lumped models. Prerequisites: 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. Pre-requisite: grade of C or better in 55L. A special examination may be used in place of the C grade requirement. Pre- or corequisite: Mathematics 147.

117L. Fields and Circuits Laboratory. (1) Corequisites: 111, 113. 3 hrs. lab.

**131. Electronics I. (3) Graduate Staff**
Physical electronics of electron tubes and semiconductor devices. Rectifiers and power supplies, multi-element vacuum tubes and transistors, piece-wise linear equivalent circuits, graphical analysis, classes of amplifiers. Prerequisites: grade of C or better in 55L, 113 or permission of instructor. The C grade requirement may be satisfied by a special examination.

**131L. Electronics Laboratory I. (1) Graduate Staff**
Corequisite: 131. 3 hrs. lab.

**132. Electronics II. (3) Graduate Staff**
Tube and transistor linear amplifiers—gain, phase, and pulse characteristics. Distortion, Bode diagram, feedback, oscillators, switching and pulse circuit analysis, power amplifiers, modulation and demodulation. Prerequisites: 113, 131.

**132L. Electronics Laboratory II. (1) Graduate Staff**
3 hrs. lab.

*151L. Electromechanical Energy Conversion Principles. (3) Erteza, Thorn Application of field principles, conservation of energy, linear and non-linear magnetic circuit theory to the study of two-way flow of energy between electrical and mechanical systems. Analysis of selected a-c and d-c machines and transformers. Prerequisites: 111, 113. 2 lectures, 3 hrs. lab.

*154L. Principles of Direct Energy Conversion. (3) Erteza, Gronnemann 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, ME 101 or ChE 191. 2 lectures, 3 hrs. lab.

*161L. Introduction to Digital Computer Programming. (1) Graduate Staff Flow diagramming, machine language programming, assemblers and compilers. Use of computer in problem solution. 3 hrs. lab. Prerequisite: permission of instructor.

169. Undergraduate Problems. (1-3 each semester)

171-172. Seminar. (1-3 each semester) Prerequisite: permission of instructor.

179. Honors Seminar. (1-3 each semester) A special seminar open only to honors students. Registration requires permission of the Department Chairman.

180. Honors Individual Study. (1-6 each semester) Open only to honors students. Registration requires permission of the Department Chairman and of the supervising professor.

*181. Electromagnetic Propagation. (3) Graduate Staff Application of Maxwell’s equations to the solution of simple wave propagation problems; reflection and refraction of plane waves; Poyntings’ vector; radiation from dipoles and loop antennas; ground and tropospheric wave propagation; the role of the ionosphere in propagation. Prerequisite: 112L.

** Available for graduate credit except for graduate majors in Electrical Engineering.
182. Applied Electromagnetic Waves. (3) Graduate Staff
Application of electromagnetic waves to communication and measurements with primary
stress on microwave considerations. Prerequisite: 112L.

182L. Applied Electromagnetic Waves Laboratory. (1) Graduate Staff
Corequisite: 182.

183. Advanced Electronics and Instrumentation. (3) Graduate Staff
Standard measuring techniques and limitations; oscilloscopes, vacuum-tube voltmeters,
bridges. Use of electronic instrumentation in obtaining and recording data from various
transducers. Corequisite: 132, or permission of instructor.

183L. Advanced Electronics and Instrumentation Laboratory. (1) Graduate Staff
Corequisite: 183.

184. Active Microwave Devices. (3) Graduate Staff
The construction, operation and application of microwave devices such as magnetrons,
klystrons, traveling wave tubes, masers and parametric amplifiers. Prerequisite: 131.

187. Introduction to Communication Systems. (3) Graduate Staff
Principal types of communication systems, including radar systems; amplitude, angle, and
pulse modulation; noise; capacity of communication channels. Prerequisites: 114, Mathematics 147.

187L. Communications Laboratory I. (1) Graduate Staff
Corequisites: 187 and permission of instructor.

188. Servomechanisms. (3) Graduate Staff
Theory and applications of servomechanisms to control problems. Prerequisite: 114.

188L. Servomechanisms Laboratory. (1) Graduate Staff
Corequisite: 188.

190. Solid State Engineering. (3) Das, Erteza, Grannemann, Lambert
Elastic, thermal, electric and magnetic properties of crystals and metals. Magnetostrictive
and piezoelectric effects. Conduction in metals and semiconductors with applications. Pre­
requisite: Physics 110 or equivalent.

190L. Solid State Engineering Laboratory. (1) Graduate Staff
Corequisite: 190.

191. Bases of Communication Theory. (3) Graduate Staff
Frequency analysis; sampling theorem; probability and statistics applied to signals and
noise; correlation analysis; measure of information. Prerequisites: 114, Mathematics 141,
143, or 147.

192. Computer and Waveforming Circuits. (3) Graduate Staff
Theory and design of generators and shapers of nonsinusoidal waves. Includes clappers,
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) Graduate Staff
Corequisites: 192 and permission of instructor.

194. Introduction to Digital Computers. (3) Graduate Staff
Computer logic; coding; binary and decimal arithmetic units; computer organization; basic
programming. Prerequisites: Mathematics 52 and permission of instructor.

198. Electrical Engineering Principles for Advanced Students. (3) Graduate Staff
Electrostatics, steady currents, magnetostatics, and Maxwell's equations. Lumped circuit
approximation. Linear circuits, transforms, transients, and feedback. For students not
majoring in Electrical Engineering. Prerequisite: knowledge of differential equations, vector
analysis, and elementary electric circuits.

203. Transients in Linear Systems. (3) Graduate Staff
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.

** Available for graduate credit except for graduate majors in Electrical Engineering.
*204. Communication Theory. (3) Djuric, Grannemann, Koschmann
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) Graduate Staff
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 203 and 182. Prerequisites: 112L; Mathematics 141, 143, or 147.

*213. Nonlinear Analysis. (3) Koschmann
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. (3, 3) Demuth, Karni, Koschmann
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) Karni, Kelly, Koschmann
Review of physical principles of transistor action; three-terminal linear non-reciprocal networks, relation to two-ports; characterization of networks over a wide frequency band; high-frequency transistor network representations; power gain and stability in amplifiers; thermal design in transistor amplifiers. Prerequisite: 190, 203, or equivalents.

*223. Principles of Communication Systems. (3) Djuric, Grannemann, Koschmann
Analysis of various types of modulation and their relative advantages for communication in the presence of noise; detection systems and their optimization, coding; applications to wire and radio communications, radar, navigation systems and others. Prerequisite: 204.

*226. Electronic Instrumentation for Nuclear Engineering. (3) Erteza, Grannemann, Kelly
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.

*226L. Laboratory in Electronic Instrumentation for Nuclear Engineering. (1) Erteza, Grannemann
Corequisite: 226.

*234. Antennas. (3) Graduate Staff

*235. Advanced Electromagnetic Propagation. (3) Graduate Staff
Theories dealing with anomalous wave propagation; evaluation of fields considering a spherical earth and the ionosphere; use of geometric-optical and residue series to compute fields; propagation through a non-homogeneous atmosphere. Prerequisite: 205.

*236. Microwave Techniques. (3) Graduate Staff
The interactions of electronic currents with microwave fields with applications to magnetrons, klystrons, travelling wave tubes and related physical devices; wave guide circuits. Prerequisite: 205.

*238. Magnetohydrodynamics. (3) Byatt, Erteza, Grannemann

*245. Design of Digital Systems. (3) Erteza, Gschwind, Koschmann
Over-all design of digital systems; basic gating and storage elements; digital control units; arithmetic units; input and output to digital systems; digitalization of analog data. Prerequisite: 194.

*246L. Analog Computers. (3) Erteza, Grannemann, Kelly, Koschmann
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.
Switching Theory. (3) Erteza, Gschwind, Kelly
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.

Problems. (1-3 hrs. each semester) Graduate Staff

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.

Charge Transport Phenomena in Solids. (3) Grannemann
Theory of charge transport in solids involving such topics as band structure, the Fermi surface, scattering by electrons, electron-photon interaction, scattering by lattice imperfections, grain boundaries, dislocations and electron theory of imperfection resistance, surface and size effects. Prerequisites: 190 and permission of instructor.

Seminar in Systems Engineering. (3) Grannemann, Karni, Koschmann
Case history approach to choice from alternative systems. Cases may be chosen from communications, computer, automation, or power systems.

Advanced Control Systems. (3) Koschmann
Logarithmic plots of transfer functions; multiple-loop and multiple-input systems; root loci; sampling servos; statistical properties of noise and servo-inputs. Prerequisites: 203, 188.

Control of Nuclear Reactors and Power Plants. (3) Demuth, Erteza, Koschmann
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.

Laboratory in Control of Nuclear Reactors. (1) Erteza
Corequisite: 263.

Advanced Direct Energy Conversion. (3) Graduate Staff
Review of quantum physics, thermostatics and statistical physics, irreversible thermodynamics, and transport theory. Energy conversion techniques utilizing the thermoelectric, thermionic, photovoltaic, electrochemical and magnetohydrodynamic phenomena. Analysis of models of energy conversion devices. Prerequisite: 154L, 190, or equivalent.

Seminar. (3, 3)
Seminar. (3, 3)
Master's Thesis. (6) Graduate Staff
Dissertation. Graduate Staff

ENGINEERING, MECHANICAL


CURRICULUM
See p. 172.

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.

Kinematics. (3)
Displacement and velocity study of machine elements such as linkages, cams, gears, and flexible connectors. Prerequisites: CE 2L, Mathematics 50, Physics 60. 2 lectures, 4 hrs. lab.

Thermodynamics. (3)
Principles of thermodynamics. First and second laws, properties and equations of state, kinetic theory. Prerequisites: Chemistry 2L, Physics 61, 63L; corequisites: Mathematics 52 and junior standing.
102. Thermochemistry and Gas Dynamics. (3) Graduate Staff
Thermodynamics of reactions and requirements of equilibrium. Isentropic flow, thermodynamics of shock waves, supersonic characteristics of internal and external flow. Prerequisites: 101; corequisite: 117 or permission of instructor.

106L. Dynamics. (3)
Principles and applications of dynamics. Prerequisites: CE 60L, Mathematics 52, and junior standing. 2 lectures, 3 hrs. lab.

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)
Velocity, acceleration, and force analysis of machines with special emphasis on high-speed machinery, balancing of rotating and reciprocating machine elements. Prerequisites: 73L, 106L. 2 lectures, 4 hrs. lab.

116. Space Flight Dynamics. (3) Ju
Principles of momentum and moment of momentum, Euler and Lagrange's equations of motion; theory of vibration and balancing; dynamic stability; aerodynamic forces and moments, rocket flight motion, pitch, roll and yaw. Prerequisites: 106L, Mathematics 147.

117. Fluid Mechanics. (3) Graduate Staff
Kinematics of fluid motion; elements of hydrodynamics; effects of viscosity, compressibility, and drag. Prerequisites: 106L, 101; corequisite: 102; or permission of instructor.

118L. Mechanical Engineering Laboratory I. (2)
Modern instrumentation techniques; dynamics, vibrations, and steam experiments. Prerequisite: 101; corequisites: 114L or 116, 117. 6 hrs. lab.

120. Heat Transfer. (3) Graduate Staff
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)
Metallography, experimental study of principles of fluid mechanics. Prerequisites: 102, 117; corequisite: 161. 6 hrs. lab.

152L. Mechanical Engineering Laboratory III. (2)
Experimental study of heat transfer, thermodynamics, dynamics and analogues. Prerequisites: 102, 117, 120. 6 hrs. lab.

155. Power Plant Design. (3)
Design of stationary or mobile power plants which utilize fossil or nuclear fuels. Prerequisites: 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) Graduate Staff
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, or 116, CE 102, 103L.

158L. Design Analysis Laboratory. (1) Graduate Staff
Corequisite: 157. 3 hrs. lab.

159L. Mechanical Engineering Design. (3) Graduate Staff
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)
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.

** Available for graduate credit except for graduate majors in Mechanical Engineering.
163. Analysis of Fluid Systems. (3) Graduate Staff
Engineering analysis of fluid systems based on the principles of fluid mechanics, heat
transfer, and thermodynamics. Prerequisites: 102, 117, 120, or permission of instructor.

165. Refrigeration and Air Conditioning Design. (3)
Application of engineering principles to the design of refrigeration and air conditioning
systems. Prerequisite: 163.

Engineering analysis of space vehicle propulsion, aerodynamics, trajectories, and structural
mechanics. Prerequisites: 114L or 116, Mathematics 147; corequisite: 163.

168. Design of Space Vehicles. (3) Houghton, Skoglund
Requirements, preliminary and detailed design of a space vehicle for a specified mission.
Prerequisites: 157, 167.

170. Aerospace Structural Analysis. (3) Gerard
Static and dynamic analysis of aerospace structures. Prerequisite: 157.

177. Physical Metallurgy. (3)
The physical properties of metals, and how alloying, mechanical treatment, surface treat­
ment, 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) Foote
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) Graduate Staff
Special problems in design involving combined stresses, stress concentration, and cases be­
yond 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 ap­
lication to design. Corequisites: 157, 158L, or permission of instructor.

194L [194] Mechanical Vibration. (3) Graduate Staff
Kinematics of vibration; the single degree of freedom; two degrees of freedom; many de­
grees of freedom; natural frequency; forced vibration; effect of dry and viscous damping;
torsional vibrations of crankshafts and geared systems; suppressions and elimination of
vibration. Prerequisite: Mathematics 147, senior standing in engineering. 2 lectures, 3 hrs.
lab.

198. Mechanical Engineering Principles for Advanced Students. (3) Graduate Staff
Integration of the principles of mechanical engineering. For students not majoring in
Mechanical Engineering. Prerequisites: 101, 106L, Mathematics 147, or their equivalents.

201. Advanced Heat Transfer I. [Advanced Heat Transfer] (3) Graduate Staff
Analytical, numerical and analogical solution to heat conduction. Transient systems, unsteady
boundary conditions, stationary and moving sources. Analytical methods in radiant heat
transfer. Prerequisites: 120 or equivalent, Mathematics 147.

203. Fluid Dynamics I. (3) Graduate Staff
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) Graduate Staff
Precise development of thermodynamic definitions, principles, and analytical methods. Pre­
requisites: 101, 102, or equivalents, Mathematics 147.

207. Similarity in Engineering. (3) Graduate Staff
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.

** Available for graduate credit except for graduate majors in Mechanical Engineering.
*209. Gas Dynamics. (3) Graduate Staff
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) Graduate Staff
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) Graduate Staff
Modern techniques for experimental determination of stresses in complex machine parts; study of mechanical gages, optical gages, electrical gages and circuits, brittle lacquer methods, photoelasticity, strain grids, and certain models and analogies. Prerequisite: 192 or equivalent.

*216. Applied Elasticity I. (3) Graduate Staff
Fundamental principles of the mechanics of elastic bodies; analyses of stress and strain; basic equations of elasticity; plane problems of elasticity and fundamental boundary value problems; torsion of a prismatic bar and analogy methods. Prerequisites: CE 102 or equivalent, Mathematics 147; corequisite: Mathematics 148.

*218. Advanced Applied Dynamics. (3) Graduate Staff
Fundamental concepts in mechanics, vector analysis and its application in statics and dynamics; Newton's laws of motion; principles of momentum and moment of momentum; energy principles and Lagrange's equations of motion; gyroscopic motion; small oscillation; mechanical transient and operational calculus. Prerequisites: 106L or equivalent, Mathematics 147; corequisite: Mathematics 148.

*219. Applied Elasticity II. (3) Graduate Staff
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) Graduate Staff
Basic equations of stress and strain, elementary temperature equations, thermal stresses in one and two dimensions, transient thermal stress, special topics on thermal effects on material properties. Prerequisite: 216.

*221. Advanced Heat Transfer II. (3) Graduate Staff
Topics in radiant heat transfer and rarified gas mechanics. Convective heat transfer in laminar and turbulent regions. Prerequisites: 201, 203.

*222. Plates and Shells in Mechanical Engineering. (3) Graduate Staff
Equilibrium of thin metal plates; large deflections of plates; buckling problems; general theory of metal shell structures. Prerequisite: 216.

*223. Fluid Dynamics II. (3) Graduate Staff
Analysis of fluid processes, including potential theory, sources; steady, laminar and turbulent flow; jets; and unsteady flow. Prerequisite: 203 or equivalent.

*224L. Experimental Methods in Mechanics. (3) Graduate Staff
Modern techniques for vibration and shock testing. An extension of experimental stress analysis to measurement of thermal stresses and of strains at interior points in solids. Prerequisite: 215L.

*225. Experimental Aerodynamics. (3) Graduate Staff
Modern techniques of measurement, and their application. Comparison of theory and measurements for aerodynamic systems. Prerequisites: 201, 203, or their equivalents.

(Same as CE 227-228.)

*251-252. Problems. (3, 3) Graduate Staff
Advanced reading, design or research.

*300. Master's Thesis. (6) Graduate Staff

*400. Dissertation. Graduate Staff
ENGLISH

Professors G. W. Arms, N. B. Crowell, W. D. Jacobs, T. M. Pearce, E. W. Tedlock, Jr., H. Trowbridge (Dean), D. Wynn; Associate Professors F. M. Dickey (Chairman), E. W. Baughman, M. Freedman, J. M. Kuntz, K. G. Simons; Assistant Professors E. Buchanan, P. B. Davis, H. L. Hill†, M. B. Whidden†, J. B. Zavadi; Lecturer in English, Robert Creeley; Visiting Lecturer (Part-time) W. F. Carstens; Instructors M. M. Bullard, W. R. Hanrahan, D. Wylder; Part-time Instructors J. L. Baltzell, J. L. Fife, A. B. Howard, M. H. Raymond.

MAJOR STUDY

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.

Basically the major in English comprises 27 to 30 hours in English courses numbered above 50; in each of the four options at least 15 of these hours are to be in courses numbered above 100.

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, 91, or 92; 3 hours in creative or informative writing; 6 hours in American literature; 3 hours in general and comparative 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, 156, 165, 166; 3 hours selected from 82, 85, 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

18 hours in English courses numbered above 3, including at least 6 hours numbered above 100.

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 lowest percentiles of the Placement Test or students

† Effective July 1, 1963.
who have twice failed the test, will take English A in addition to English 1. Workshop sections are provided for other students weak in English 1 or 2. 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.

DEPARTMENTAL HONORS

Students interested in registering for Honors in English should see the Chairman of the Department for details.

COMPARATIVE LITERATURE

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. See p. 237.

I. WRITING

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.

   English Tutoring. (0)
   Two hours of tutoring for students needing special instruction in the essentials of composition.

1. Writing with Readings in Exposition. (3) Buchanan, D. Wylder, Staff
   Expository writing, paragraph methods, and readings.

2. Writing with Readings in Literature. (3) Buchanan, D. Wylder, Staff
   The types of literature with readings and reports.

3. English for Foreign Students. (3)
   A course in speaking, writing, and understanding English, designed for students to whom English is a foreign language. With the permission of the Chairman of the Department, credit in English 3 may be substituted for English 1. 5 hours of classroom work.

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) Creeley, Freedman
   The types, materials, and techniques of descriptive and narrative writing.

64. Informative Writing. (3)
   Professional expository composition and the preparation of elementary reports.

120. Advanced Technical Writing. (3)
   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) Creeley, Freedman
An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: 61, 62 or permission of instructor. May be repeated once at the discretion of the instructor.

155c. The Teaching of English in Secondary Schools. (3) Simons
(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.

*144. The Early Seventeenth Century. (3) Buchanan, Dickey
Cavalier and metaphysical poets, major prose writers.

*145. The Later Seventeenth Century, Exclusive of Milton. (3) Freedman, Staff
Restoration drama and poetry, scientific and philosophical prose, etc.

*146. Milton. (3) Buchanan, Freedman
The major works, poetry and prose.

*148. Elizabethan Drama Exclusive of Shakespeare. (3) Dickey, Pearce, Simons
A detailed study of the Canterbury Tales with some attention to Chaucer's other works.

*151. Chaucer. (3) Dickey, Pearce, Zavadil
A detailed study of the Canterbury Tales with some attention to Chaucer's other works.

*154. Middle-English Literature. (3) Pearce, Zavadil
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)
The chief writers in England from 1700 to Johnson.

*178. The Romantic Period. (3) Crowell, Kuntz, Wynn
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)
From the beginnings through Jane Austen.

*186. Later English Novel. (3) Crowell, Davis
From Scott to 1910.

†*219. Studies in Middle-English Literature (1100-1500). (3) Pearce, Zavadil
The drama, romances, ballads, religious works, or other subjects.

Marlowe, Spenser, Shakespeare, Jonson, or others.

Prose writers, metaphysical poets, or Milton.

** 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.

† This course may be repeated for credit as its content varies.
Studies in the 18th Century. (3) Trowbridge
The novel, drama, poetry, biography, or criticism; Swift, Pope, Johnson, Fielding, or Burke; or other subjects.

Studies in the 19th Century. (3) Crowell
Romantic and Victorian poetry and prose.

American

Southwestern Literature. (3) Baughman, D. Wylder
Myth, legend, and song of the Indians; literary values in the Spanish colonial narratives; literature of the Santa Fe trail and the cattle country; contemporary writing.

American Literature. (3) Arms, Baughman, Hill, Tedlock, D. Wylder
A general survey to 1900, with more extensive study of the great writers of the 19th century.

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.

Colonial and Revolutionary Period in American Literature. (3) Hill, Tedlock
Leading writers from 1600 to 1800.

The Romantic Period in American Literature. (3) Arms, Baughman
Major writers from Irving to Melville.

The Period of Realism in American Literature. (3) Arms, Hill, Tedlock
Major writers from Whitman to Henry Adams.

American Humor. (3) Baughman, Hill
American humorists from 1830 to the present.

American Studies 201. Interdepartmental Seminar in the Culture of the United States. (3)
Arms, Bunting, Judah, G. W. Smith, Tedlock, Walter
(Same as American Studies 201.)

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.

Studies in 19th Century American Literature (1800-1912). (3) Arms, Hill
Emerson and Thoreau; Hawthorne, Melville, and Poe; Whitman and Dickinson; Howells, James, and Clemens; or others.

General and Comparative

Literary Forms and Figures. (3)
An introduction to literature with variable content, each course treating a major writer or literary type as indicated by subtitle. Open to freshmen and others. Prerequisite: English 1 or exemption.

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.

World Literature from Homer to Dante. (3) Jacobs, Kuntz
Masterpieces of European and Asiatic literature, including the Bible.

World Literature from Rabelais to Mann. (3) Jacobs, Kuntz
Masterpieces of European literature, including the great Russian writers.

Contemporary Poetry. (3) Arms, Jacobs, Tedlock
The leading figures in contemporary poetry with analysis of style and critical theory.

Contemporary Fiction. (3) Jacobs, Tedlock
British, American, and European novelists since 1912.

Contemporary Drama. (3) Freedman, Jacobs
European and American playwrights from Ibsen to the present.

Literary Movements since 1940. (3) Creeley, Freedman, Jacobs, Tedlock
Significant writers and schools of the post-war period. Specific subject to be designated by the instructor.

† This course may be repeated for credit as its content varies.
*139. Greek Drama in Translation. (3) (Same as Greek 139.)

*140. Latin Literature in Translation. (3) (Same as Latin 140.)

*156. Literature of Medieval Europe. (3) Zavadil
Selected authors and genres, Augustine to Petrarch.

*161. The Folklore 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, Dickey, Trowbridge
(Same as Comparative Literature 166.)

*180. Philosophy and Literature. (3) Alexander, Tedlock
(Same as English-Philosophy 180.)

†*190. Individual Authors. (3) Graduate Staff
Intensive study of one or more writers, to be designated by the instructor.

*228. Studies in Literature for Secondary Teachers. (3) SS Graduate Staff
Basic approaches to the interpretation, judgment, and teaching of literature, with intensive study of selected British and American writers and works. Examples chosen will be novels, plays, short stories, and poems commonly taught in junior and senior high schools.

†*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) Graduate Staff
Drama, religious perspectives, archetypal patterns, and other subjects not contained within a chronological period.

*298. Methods of Literary Study. (3) Arms, Dickey, Trowbridge
An introduction to scholarly bibliography and basic approaches to the study of literature.
Required of doctoral candidates.

III. LINGUISTICS

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.

92. Introduction to Linguistics. (3)
The structure of English, including traditional grammar and descriptive linguistics.

*101. Phonetics. (3) Chreist, 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

198. Individual Study. (3) Honors Staff
Open to junior and seniors approved by Honors Committee. May be repeated once.

199. Honors Essay. (3) Honors Staff
Open only to seniors enrolled in Departmental Honors.

† This course may be repeated for credit as its content varies.
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.

**FINE ARTS**

190. Interdepartmental Proseminar. (3)
Open to juniors and seniors with approval of a Fine Arts departmental honors committee. May be repeated once for credit.

**FOLKLORE**

See Modern and Classical Languages, and English 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 course may be repeated for credit as its content varies.

† This course may be repeated for credit as its content varies.
program is not to be confused with the Departmental Honors program described on p. 115 of this catalog.

Specific information about General Studies and the General Honors program can be obtained from the office of the Director of General Honors.

Courses in General Studies will be given credit towards appropriate Group Requirements of the College of Arts and Sciences and may also satisfy certain general requirements in other colleges. The student should consult his college dean on this point.

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)
   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). (3, 3) Freedman, Wynn
   Discussion of selected issues based on close reading of relevant texts.

GEOGRAPHY

Associate Professor B. L. Gordon (Chairman); Assistant Professor Y. F. Tuan.

MAJOR STUDY

Geography 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, Tuan
   Regional geography of Canada and the United States.
*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 hrs. 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 V. C. Kelley (Chairman), S. A. Wengerd; Research Professor S. A. Northrop; Associate Professors J. P. Fitzsimmons, A. Rosenzweig; Assistant Professors R. Y. Anderson, W. E. Elston.

MAJOR STUDY

For the degree of Bachelor of Arts: Geology 1, 2, 5L, 6L, 51L, 102L, and 16 additional upper-division hours. Chemistry 1L and 2L, English 64, and Mathematics 15 and 16 or one course from Mathematics 47, 48, 49 are required.

For the degree of Bachelor of Science: Geology 1, 2, 5L, 6L, 51L, 102L, 107L, 109L or 111L, 119L, 120L, and 4 additional hours in approved courses. Chemistry 1L, 2L, Mathematics 15 and 16 or one course from Mathematics 47, 48, 49, Civil Engineering 11L, English 64, and either Biology 1L and 2L, or Physics 11, 12, 13L, 14L are required.

Candidates for the B.S. degree must minor in biology, chemistry, engineering, mathematics, or physics, or take a distributed minor. The distributed minor shall consist of the courses from these same five departments required for the B.S. major in Geology, plus 12 additional hours from the same departments. The minor in engineering may be obtained by selecting 20 hours, as approved by the Geology Department, from among the following: Civil Engineering 1L, 2L, 4L, 11L, 51L, 52L, 60L, 61L, 102, 103L, 105, 107, 108L, 117L, 120, 165L, 185, 186, 187; Mechanical Engineering 101, 106L, 161, 181, 182.

A student wishing to concentrate in some special field of geology should consult the Department of Geology early in his college career in order to be sure of getting the proper background in related sciences and other courses. The fields in which a concentration may be developed are as follows:

- Economic Geology
- Engineering Geology
- Field Geology
- General Geology
- Geochemistry
- Geomorphology
- Geophysics
- Hydrogeology
- Mineralogy
- Paleocology
- Paleontology
- Petrography
- Petroleum Geology
- Sedimentology
- Soils Science
- Stratigraphy
- Structural Geology

The minor courses should normally support the area of chosen concentration in the major and must be approved by the Department of Geology. Limited substitution of courses, such as Calculus, in the minor areas may be allowed for the "additional" hours required in the major.
MINOR STUDY
Geology 1, 2, 5L, 6L, and 12 additional hours.

MINOR STUDY IN PALEOECOLOGY
See p. 314.

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) Elston, 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.

51L. [73L] Mineralogy. (4) Rosenzweig
   Elementary crystallography; fundamentals of chemical and physical mineralogy; elements
   of mineral identification. Prerequisite: 5L; pre- or corequisite: Chemistry 1L. 2 lectures,
   6 hrs. lab.

88. Vertebrates of the Past. (3) Findley
   (Same as Biology 88. Offered in 1964-65 and alternate years.)

102L. [103L] Petrology. (4) Elston
   Classification, hand-specimen identification, occurrence, and origin of rocks. Prerequisite:
   5L; pre- or corequisite: Chemistry 2L. 3 lectures, 3 hrs. lab.

104L. [74L] Determinative Mineralogy. [Mineralogy] (3) Rosenzweig
   Classification of minerals; mineral associations; methods of mineral identification; laboratory
   study of minerals and mineral suites. Prerequisite: 102L, Chemistry 2L. 1 lecture, 6 hrs. lab.

107L. Structural Geology. (4) Kelley
   Nature and origin of rock structures and deformation; map and stereographic problems.
   Prerequisites: 6L, and Mathematics 16 or one course from Mathematics 47, 48, 49; CE 11L
   is strongly recommended. 2 lectures, 6 hrs. lab.

109L. Principles of Stratigraphy. [Stratigraphy] (4) Northrop
   Prerequisite: 6L; some biology is strongly recommended. 3 lectures, 3 hrs. lab.

111L. Paleontology. (4) Northrop
   Fossil plants and invertebrates with emphasis on the common megafossils. Prerequisite:
   6L; some biology is strongly recommended. 2 lectures, 6 hrs. lab.

119L. Field Geology and Reports. (4) Elston, Kelley
   Principles and techniques of field mapping; content and arrangement of reports; layout and
   preparation of illustrations. Prerequisites: 102L and 107L. 1 lecture and 1 full day in field
   each week.

*120L. Advanced Field Geology. (3) Elston, Kelley
   Geological mapping with plane table; mine mapping; special field problems. Prerequisite:
   119L. 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. Prerequisites: 5L, 102L, or permission of instructor.
   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: 102L, 107L, Mathematics 15, 16 or one course from
   Mathematics 47, 48, 49, Physics 11L, 12L (or equivalent).
*128L. [109L] Advanced Structural Geology. (3) Kelley
Description and analysis of major structural types; map studies and problems. Prerequisite:
107L. 2 lectures, 3 hrs. lab.

Prerequisite: 111L. 2 lectures, 6 hrs. lab.

*132L. [113L] Micropaleontology. (3) Anderson
Foraminifera, ostracods, bryozoa, conodonts, and other microfossils. Laboratory techniques,
applications, and ecological relationships. Prerequisite: 6L; some biology is strongly recom­
mended. 2 lectures, 3 hrs. lab.

*133L. Palynology. (3) Anderson
Morphologic, systematic, and ecologic study of pollen, spores, dinoflagellates, etc. Lab­
oratory techniques and applications to related fields. Prerequisite: 6L; some biology is
strongly recommended. 2 lectures, 3 hrs. lab.

*136L. [112L] Paleozoic and Mesozoic Stratigraphy. [Stratigraphy] (4) Northrop
The stratified Paleozoic and Mesozoic rocks of North America, their correlation, strat­
igraphic relations, and guide fossils. Prerequisite: 109L. 2 lectures, 6 hrs. lab.

*141L. Sedimentology. (4) Wengerd
The sedimentary cycle and its products; rock-weathering and soils; transport; depositional
environments; elementary sedimentary petrology. Prerequisites: 102L 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. Charac­
teristics of oil and gas reservoirs; techniques of petroleum exploration. Prerequisites: 141L
and senior standing.

151-152. Problems. (2, 2)

*155L. [113L, 114L] Air Photogrammetry and Photogeology. [Air Photogrammetry, Geologic
Interpretation of Air Photographs] (3) Wengerd
Photogrammetric computations; stereoscopy; preparation of planimetric, topographic, and
photogeologic maps. Prerequisites: 6L, Mathematics 16 or one course from Mathematics
47, 48, 49, or permission of instructor. 1 lecture, 6 hrs. lab.

Occurrence and development of water with special emphasis on the Southwest. Pre­
requisites: senior standing and permission of instructor. 2 lectures, 3 hrs. lab.

*171-172. Mineral Deposits. (3, 3) Elston, Kelley
Metalliferous and nonmetalliferous deposits; their occurrence, classification, properties, ori­
gin, exploration, mining, beneficiation, and utilization. Prerequisite: 102L. 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 grada­
tion process. 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.

*185. Geochemistry. (3) Elston
Natural distribution of elements and nuclides; application of physical chemistry to geologic
problems and processes. Prerequisites: 102L and permission of instructor.

*191L. Morphological Crystallography. (3) Rosenzweig
The 32 point groups; crystal form and habit; crystal projections; crystal measurement and
drawing. Prerequisite: Mathematics 16 or one course from Mathematics 47, 48, 49; 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-contours, isopach,
and isopleth maps, and detailed cross-sections. Pre- or corequisite: 142. 1 lecture, 6 hrs. lab.
*203. Crystal Structure of Minerals. [Advanced Mineralogy] (2) Rosenzweig
Atomic arrangement in minerals and its relationship to physical properties, polymorphism, and twinning. Prerequisites: 102L, 191L, or permission of instructor.

*206L. X-ray Crystallography. (4) Rosenzweig
(Also offered 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, 171L. 6 hrs. lab.

*215L. Stratigraphic Analysis. (3) Wengerd
Quantification of stratigraphic 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 102L, 121L. 2 lectures, 3 hrs. lab.

*241-242. Seminar. (2, 2) Graduate Staff

*251-252. Problems. (2-3 hrs. each semester) Graduate Staff

*300. Master's Thesis. (6) Graduate Staff

*400. Dissertation. Graduate Staff

**GERMAN**

See Modern and Classical Languages.

**GOVERNMENT AND CITIZENSHIP**

Professors M. Jorfn, C. B. Judah; Associate Professors E. C. Hoyt (Chairman), D. I. Cline, H. L. Enarson, F. C. Irion; Assistant Professor T. P. Wolf†; Lecturer H. Ingram.

**MAJOR STUDY**

A total of 36 hours including Government 1, 2, 51, 53, and 8 upper division courses in Government, including a minimum of one course from each of the following 4 groups:

- **Group A** (International Relations and Comparative Government): 142, 143, 155, 157, 169.
- **Group B** (Local Government and Public Administration): 101, 102, 104, 121, 122.
- **Group C** (Political Theory): 161, 162, 168.
- **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 1 or 2, and 51 or 53.

† Effective September, 1963.
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. [2] Introduction to Government. (3)
2. Comparative Government. (3)
3. American Government. (3)
   Prerequisite: 1.
4. International Politics: Basic Factors. (3)

*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 in the United States. (3) Cline
   Prerequisite: 51. (Alternates with 104.)

103. Problems of Democracy. (3) Irion, Judah
   Government problems of special contemporary importance. (No credit towards Government major or minor.)

*104. The Government of New Mexico. (3) Cline
   Prerequisite: 51. (Alternates with 102.)

*105. Public Opinion and Propaganda. (3) Irion
   Public opinion as it affects party alignments and governmental programs, the methods used by special interests in influencing public opinion.

*106. Political Parties. (3) Judah
   The American party system, national, state, and local.

*107. Political Dynamics. (3) Irion

*110. Problems of Communism and the Soviet Union. (3) Hoyt, Tobias
   (Also offered as History 110.) An interdisciplinary study of Communist ideology and Soviet power, dealing with historical origins and present nature of the Soviet system; the relationships between the Russian Communist leaders and revolutionaries in other countries; the place of Communist ideology in world history and world politics and its relation to rival political beliefs and systems. (Special course for secondary school teachers. Not counted toward Government major.) Permission of instructor required.

*111. Legislation. (3)
   The process of lawmaking in the United States, national, state, and local; legislative drafting, statute lawmaking, legislative procedure, executive ordinances, popular lawmaking, judicial review. Recommended preparation: 51.

*121. Public Administration. (3) Wolf
   Introduction to the general problems of public administration in the modern state. Prerequisite: 51.

*122. The Administrative Process. (3)
   Policy formulation; problems of decision-making; conflicts of interests in administration; the contribution of administration to social satisfaction. Prerequisite: 121.

*142. International Politics: Contemporary Problems. (3) Hoyt
   Prerequisite: 53.

*143. The United Nations. (3) Hoyt
   The U. N. as a political institution; its background, evolution, and relation to other international organizations and to traditional international law. Recommended preparation: 53.

*151. American Diplomacy. (3) Nash, Smith
   (Same as History 151.)

*152. Public Finance. (3) Therkildsen
   (Same as Economics 152.)
*155. The Governments of Latin America. (3) Jorrín
   The governments of a number of Latin American states including a study of their domestic
   problems and diplomatic policies. Prerequisite: 2.

*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.
   Prerequisite: 2.

*161. Political Theory from Plato to Locke. (3) Jorrín
   Knowledge of ancient and medieval history is recommended.

*162. Political Theory from the Enlightenment to Today. (3) Jorrín
   Knowledge of modern European history is recommended.

*168. American Political Theory. (3) Judah
   The origin and development of political ideas in the U. S. from colonial times to the
   present. Prerequisite: History 51-52, or permission of instructor.

*169. European Governments. (3) Judah
   A survey and comparison of the leading governments of Europe. Prerequisite: History 2 or
   Government 2.

*175. Constitutional Law. (3) Ingram, Hoyt
   The Constitution of the United States as it has been interpreted by the courts. Prerequisite:
   51.

195. Review Seminar in Political Science. (3)
198. Reading for Honors. (3)
199. Senior Thesis. (3)

*201. Methodology and Bibliography. (3) Wolf

*American Studies 201. Interdepartmental Seminar in the Culture of the United States. (3)
   Arms, Bunting, Judah, G. W. Smith, Tedlock, Walter
   (Same as American Studies 201.)

*206. Seminar in Political Parties. (3) Judah

*211. Seminar in Urban Government. (3) Cline

*221. Seminar in Public Administration. (3) Enarson

*241. Seminar in International Law and Organization. (3) Hoyt, Jorrín

*242. Seminar in American Foreign Policy. (3) Hoyt

*251-252. Problems. (1-3 hrs. each semester) Cline, Hoyt, Irion, Jorrín, Judah, Wolf

*260. Seminar in Latin American Affairs. (3) Jorrín

*298. Seminar in Political Theory. (3) Jorrín, Judah

*300. Master's Thesis. (6) Cline, Hoyt, Irion, Jorrín, Judah, Wolf

GREEK
   See Modern and Classical Languages.

HEALTH, PHYSICAL EDUCATION, AND RECREATION
   See Education, Health, Physical Education, and Recreation

HISTORY

Professors E. Lieuwen (Chairman)†, D. C. Cutter, J. C. Russell, G. W. Smith†; Research
Professor F. D. Reeve; Associate Professors W. M. Dabney, F. W.
Ikle‡, G. E. Rothenberg‡; Assistant Professors T. S. Floyd, G. D. Nash, P. M.
Sonnino‡, H. J. Tobias.

† On sabbatical leave 1963-64.
‡ Effective July 1, 1963.
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) Rothenberg, Russell, Sonnino
   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) Cutter, 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) Cutter
   Survey from Cabeza de Vaca to 1912.

51-52. History of the United States. (3, 3) Dabney, Nash, Smith
   Survey of the economic, political, intellectual, and social development of the United States from 1607 to the present, including the place of the United States in world affairs. History 51 covers the period from the beginning to 1865.

61-62. Eastern Civilizations. (3, 3) Ikla, Tobias
   61: The development and interaction of Chinese, Central Asian, Russian, and Japanese societies until the 16th century. 62: From the 16th century until today.

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.

101. American Studies. Interdepartmental Studies in the Culture of the U. S. (3) Staff
   (Same as American Studies 101.)

*110. Problems of Communism and the Soviet Union. (3) Hoyt
   (Also offered as Government 110.) An interdisciplinary study of Communist ideology and Soviet power, dealing with the historical origins and present nature of the Soviet system; the relationships between the Russian Communist leaders and revolutionaries in other countries; the place of Communist ideology in world history and world politics and its relation to rival political beliefs and systems. (Special course for secondary school teachers. Not counted toward History major nor toward advanced degrees in History.) Permission of instructor required.

*115. Greece. (3) Russell
   A survey of developments in Greek civilization from early times to the reign of Justinian.

*116. Rome. (3) Russell
   Survey of the rise, decline, and fall of Roman power from the Italian expansion to the establishment of the successor states.

*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. Political and Economic History of the Middle Ages. (3) Russell
*122. Social and Intellectual History of the Middle Ages. (3) Russell

*125. Germany. (3) Rothenberg
   From 1500 to the present.

*127. France. (3) Sonnino
   From 1500 to the present.

*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) Graduate Staff
   Survey of constitutional, political, social, and religious developments in the British Isles.

*135. The British Empire. (3) Graduate Staff
   British possessions overseas since 1815—Canada, Australia, New Zealand, South Africa, India, Egypt, and the dependencies.

*137. History of Spain. (3) Floyd
   From Roman times to the present.

*140. European Diplomatic History. (3) Rothenberg
   Since 1815.

*141. Early Modern Europe 1500-1648. (3) Sonnino
   Political, economic, and social history.

*142. Early Modern Europe, 1648-1787. (3) Sonnino
   Political, economic, and social history.

*143. French Revolution and Napoleon. (2) Sonnino
   Detailed examination of the period from 1789 to 1815, basic in understanding the story of
   modern Europe.

*145. Modern Europe, 1815-1914. (3) Rothenberg
   Emphasis upon the ideological struggle between such forces as absolutism, individualism,
   nationalism, and socialism.

*146. Dictatorships and Democracies in Europe since 1914. (3) Rothenberg
   Emphasis upon the domestic institutional experiments in the major countries—Russia, Ger-
   many, Italy, France, and Great Britain.

*148. Modern Russia, 1500-1917. (3) Tobias

*149. Soviet Russia. (3) Tobias
   Emphasis upon domestic developments.

*150. History of World Communism. (3) Tobias
   From Marx to the present.

*151. American Diplomacy. (3) Nash, Smith
   American diplomatic personalities, problems, and policies from independence to the present
day.

*157. History of China. (3) Iklé
   Social, political, and economic institutions from historical beginnings to modern times.

*158. History of Japan. (3) Iklé
   Social, political, and economic institutions from historical beginnings to modern times.

*159. The Far East in the Contemporary World. (3) Iklé
   Emphasis upon diplomatic relations between Asia and the West.

*161. History of Latin America. (3) Cutter, Floyd
   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) Cutter, Floyd, Lieuwen
   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. The Civil War. (3) Smith
   Political, social, economic, military, and diplomatic history of the period 1860-1865.

*178. Recent History of the United States. (3) Nash
   From 1898 to the time of the great depression.

*179. Recent History of the United States. (3) Nash
   From the time of the great depression to the present day.

*181. History of the American Frontier. (3) Cutter
   The Turner frontier thesis and its critics.

*182. The Trans-Mississippi West. (3) Cutter

*183. Intellectual and Social History of the United States. (3) Dabney, Nash
   American society and culture from the planting of the colonies to the beginning of the Civil War.

*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) Nash, Smith
   Topical study of American economic life—agriculture, industry, labor, and commerce—from the beginning to the present, stressing the relations of government and business.

*189. Constitutional History of the United States. (3) Dabney
   From English origins to the present day.

*191. History of the Southwest. (3) Cutter
   Spanish exploration and occupation of the Southwest; colonial government and missions.

193. Reading and Research in Honors. (3)
   Prerequisites: senior standing and permission of major adviser.

194. Senior Thesis. (3)
   Prerequisite: 193.

*198. Historiography. (3) Graduate Staff
   Extensive reading and discussion of the great histories and historians.

*American Studies 201. Interdepartmental Seminar in the Culture of the United States. (3)
   Graduate Staff
   (Same as American Studies 201.)

*Ibero-American Studies 204. Interdepartmental Seminar in Ibero-American Studies. (3)
   Graduate Staff
   (Same as Ibero-American Studies 204.)

*248. Seminar in Modern Russian History. (3) Tobias
   Emphasizes the period 1861-1917.

*251-252. Problems. (1-3 hrs. each semester) Graduate Staff
*255. Seminar in Early Modern European History. (3) Sonnino
Studies in Renaissance, Reformation, and Enlightenment history.

*256. Seminar in Medieval History. (3) Russell
Emphasis upon phases of medieval English or Spanish history.

*257. Seminar in Modern European History. (3) Rothenberg

*258. Seminar in Modern British History. (3) Graduate Staff
Emphasis upon the opening decade of the 20th century; primary materials utilized include parliamentary debates, diplomatic correspondence, memoirs, and public opinion.

*262. Seminar in Southwest History. (3) Cutter

*265. Seminar in Colonial Latin American History. (3) Floyd
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) Nash
Topical investigation in American history since 1900.

*300. Master's Thesis. (6) Graduate Staff
*400. Dissertation. Graduate Staff

HOME ECONOMICS
See Education, Home Economics

IBERO-AMERICAN STUDIES
Facilities for a program leading to the degree of Doctor of Philosophy in Ibero-American Studies are provided through an interdepartmental major. For details consult the Graduate School Bulletin.

*204. Interdepartmental Seminar. (3) Floyd, Jorrín, Lieuwen, Lopes, Nason
History, literature, and institutions of Latin America.


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.
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 Relations; 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.

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 dummying 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.

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.

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

LATIN

See Modern and Classical Languages.
LAW

Professors V. Countr yan† (Dean), R. E. Clark (Acting Dean), V. R. Seed, H. Wei­hofen; Associate Professor D. H. Vernon; Visiting Associate Professor D. L. Rotenberg‡, Assistant Professors R. D. Swihart, A. E. Utton; Visiting Assistant Professor C. M. Selinger‡; Librarian, A. Poldervaart.

MINOR IN THE COLLEGE OF ARTS AND SCIENCES

Available only to students accepted by the School of Law in the combined six-year program leading to the bachelor's degree in the College of Arts and Sciences and the bachelor's degree in the School of Law. Twenty-one hours to be selected from the following courses: 101, 103, 104, 107, 110, 123, 128, 135, 139, 141, 183, 191, 196.

100. The Legal Profession. (0)
Attendance and participation of all third-year students required. No subject credit. ‘CR’ recorded on satisfactory attendance and participation.

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) Rotenberg
The basic principles of the law of contracts; offer and acceptance, consideration, formalities in contracting, third party beneficiaries, assignment, failure of condition, impossibility, discharge, illegality, damages, specific performance, restitution.

107. 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) Selinger
An introduction to the fundamentals of procedure in civil litigation from the commencement of an action through appeal: pleading; discovery; trial; post-trial and pre-trial motions; provisional remedies and enforcement of judgments; appeal. Distribution of jurisdiction between state and federal courts; venue; relationship of substantive and procedural law including the law governing actions in federal courts. The evolution of modern procedural law.

110. Legal Analysis. (2) Utton
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) Selinger
Drafting, explaining and defending legal documents, including law office memoranda, contracts, and statutes. (Required)

118. Property I. (3) Seed
"Original" ownership; the evolution of interests in real property, briefly treating feudalism and tenure, freehold estates, future interests and concurrent ownership; gifts of personal property; leases.

119. Property II. (4) Seed
Sales of land, including the real estate contract, the deed, the recording system, and methods of title assurance; the use of land, including easements and licenses, real covenants, zoning and related public controls of land use.

123. Constitutional Law. (4) Wei­hofen
Judicial review, the judicial process in constitutional cases, scope of national legislative power, scope of state power, intergovernmental relationships; limitation of governmental power (fair procedure, equal protection, business and economic relationships, freedom of expression, freedom in education and religion).

† On leave 1963-64.
‡ Effective July 1, 1963.
124-125. Business Units I and II. (3, 3) Swihart
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 government units; their place in the governmental structure—
intergovernmental relations; legal aspects of original organization and changes; personnel;
lawmaking by local bodies; community planning and development; regulation of business
activity and private conduct; finance; auxiliary powers; legal responsibility of local govern­
mental 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 disposition.

135. Administrative Law. (3) Weihofen
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 hear­
ings and decisions; judicial control of administrative agencies.

139. Labor Law. (3) Utton
Historical introduction; the negotiation and administration of the collective bargaining
agreement; the establishment of the collective bargaining relationship; recourse to eco­
nomic weapons; the individual and the union.

140. Civil Procedure II. (3) Selinger
An intensive examination of selected topics surveyed in Civil Procedure I: pleading; discov­
eries; summary judgment; voluntary and involuntary dismissal; functions of judge and jury;
new trial; jurisdiction; former adjudication; parties. Consideration of specific problems of
New Mexico procedural law.

141. Legal Writing. (2) Rotenberg
Exercises and drills in legal writing and methods to be done independently by each student.
(Required)

147-148. Commercial Transactions I, II. [Commercial Transactions] (2, 3) Vernon
The distribution of merchandise, payment and financing thereof; emphasis on the Uniform
Commercial Code.

152. Security. (2) Seed
Law of mortgages; comparative analysis of vendor-purchaser concept and remedies.

156. Debtor's Estates. (3) Rotenberg
Principal remedies of unsecured creditors, including attachment, garnishment, enforcement
of judgments, composition agreements, assignments for benefit of creditors and bankruptcy.

160. Evidence. (4) Selinger
Legal, logical and epistemological problems involved in the trial of contested issues of fact.
Judicial notice. Real proof. Testimonial proof, including competency of witnesses, privilege,
impeachment, rehabilitation and form of examination. The hearsay rule and its exceptions.
Circumstantial proofs: logical relevance, remoteness, prejudice, both generally and in con­
nection with proof of character and habit. Burden of proof and assumptions.

167. Federal Income Taxation. (3) Swihart
Income taxation of individuals, partnerships and corporations. Problem method used.

171. Law of Oil and Gas. (3) Seed
Major emphasis on the oil and gas lease. Selected additional materials at discretion of in­
structor 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.
Second-year law students with superior academic records are selected to compete for positions as student editors of the Natural Resources Journal. During the course of their second year they must perform assigned editorial tasks and write two case comments of publishable quality. Upon successful completion of this work, they are elected to the editorial board and receive 2 credit hours for their work. During their third year, as student editors, they are assigned greater editorial responsibility, under the immediate supervision of the Faculty Editor, and are also required to write one Law Note of publishable quality. Upon successful completion of their editorial duties, they receive an additional 2 hours credit.

190. Seminar in Water Law. (2) Clark
191. Seminar in Civil Liberties. (2) Vernon
192. Seminar in Corporate Reorganization. (2)
193. Seminar in Evidence. (2)
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)

Service in the office of the Legal Aid Society of Albuquerque three hours each week during one semester. Required of all senior students. No subject credit. "CR" recorded on satisfactory completion of service.

LIBRARY SCIENCE
See Education, Library Science.

MATHEMATICS

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 6 additional upper-division hours approved by a Mathematics Department adviser.
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 Mechanical Engineering, Mechanisms Option: CE 1L, 60L, 102, 103L; ME 73L, 106L, 114L, 157, 158L. Observe prerequisites.
- Minor in Mechanical Engineering, Fluids Option: CE 60L; ME 101, 102, 106, 117. Observe prerequisites.

MINOR STUDY

Mathematics 50, 51, 52, or equivalents, and at least 6 hours more in courses in Mathematics numbered above 50 of which 3 hours must be numbered above 100.

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 or 47 or 48, 16, 70.

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: 48 or 49.

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. (3)
   The intuitive and logical background of arithmetic; drill in fundamental operations; applications to percent and measurement; enrichment materials. (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)

47. Introduction to Mathematics for Social Sciences. (4)
   Sets; the number system; inequalities; graphing; linear, quadratic, polynomial, and rational functions; factor and remainder theorems; sine and cosine; introduction to calculus; limits, rates, slope, area, fundamental theorem, maxima and minima. (Credit not allowed for both 47 and 15 or 48 or 49.)

48. Introduction to Mathematics for Physical Sciences. (5)
   Same content as 49 (see below) but with additional work on algebra and trigonometry. (Credit not allowed for both 48 and 15 or 47 or 49.)

49. Introduction to Analysis. (4)
   Elementary logic and set theory; number systems; inequalities; coordinate spaces; vector analytic geometry; elementary functions, relations, matrices; intuitive calculus. Especially designed for Engineering, Mathematics, and Physical Science majors. (Credit not allowed for both 49 and 15 or 47 or 48.)
50-51-52. Calculus and Analytic Geometry. (4, 4, 4)  
The elements of the Calculus and of plane and solid analytic geometry with an introduction to linear differential equations. Prerequisites: 48 or 49 or equivalent 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.

62. Elementary Algebra from a Modern Viewpoint. (3)  
Primarily for junior high school teachers of mathematics and touching upon algebraic systems, axiomatic approach to the real number system, and functions.

63. Geometry for Junior High School Teachers. (3)  
Ideas of intuitive geometry; concepts and points-of-view in informal geometry.

70. Introduction to Finite Mathematics. (4)  
Mathematical models and their interpretations; games and decisions; linear and dynamic programming; elementary probability and Markov chains. Prerequisite: 47 or 48 or 49.

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. Introduction to Analysis I. (3) Graduate Staff  
Review of algebra; the limit process; derivatives; applications of differentiation; necessary analytic geometry.

†103. Introduction to Analysis II. (3) Graduate Staff  
Review of functions, limits and derivatives, curve tracing, conic sections, transformations, definite integrals with applications, transcendental functions. Prerequisite: 102.

†104. Introduction to Analysis III. (3) Graduate Staff  
Selected topics in vector analysis, partial differentiation, multiple integrals, infinite series and expansion of functions. Prerequisite: 103.

The courses which follow are open only to students who have the instructors' permission and who 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. Mathematics majors may take 52 and 109 concurrently.

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. Prerequisite: 109 or permission of instructor.

**115. Fundamentals of Modern Algebra. (3) Graduate Staff  

*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.

† Graduate credit for the degree of Master of Education in Science only. Does not carry any credit for students who have had 50, 51, 52, or the equivalent, within the last ten years.

** Available for graduate credit except for graduate majors in Mathematics.
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.

*131-132. Probability Theory. (3, 3) Abbott, Blum, Lewis, Rosenblatt
Mathematical models, probability spaces, combinatorial analysis, random variables, expectation and moments, conditional probability, independence, limit laws, Markov chains.

*133-134. Mathematical Statistics. (3, 3) Abbott, Blum, Lewis, Rosenblatt
Central limit theorems; elementary decision theory; tests of hypotheses; point and interval estimation. Regression and analysis of variance; sequential analysis and non-parametric techniques. Prerequisite: 131 or equivalent.

*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) Graduate Staff
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) Graduate Staff
Methods of finding solutions of first order equations; singular solutions; solutions of nth 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.

**146. Operational Methods. (3) Hendrickson, Lewis, 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) Graduate Staff

**148. Advanced Engineering Mathematics I. (3) Graduate Staff

**149. Advanced Engineering Mathematics II. (3) Graduate Staff
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) Wyler
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) Graduate Staff
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: 141 or equivalent.

** Available for graduate credit except for graduate majors in Mathematics.
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) 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 I. (3) Graduate Staff  
Fundamentals, analytic functions, power series, singularities, elementary functions,  
elementary conformal mappings, harmonic functions, integration, method of residues, applications.

*183. Theory of Functions of a Complex Variable II. (3) Blum, Mayer-Kalkschmidt, Renggli,  
Wyler  
Representation theorems for analytic functions, Riemann's mapping theorem, analytic  
continuation and Riemann surfaces, special functions. Prerequisite: 182.

*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.

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) Graduate Staff  
Advanced study and independent reading.

198. Individual Study. (1-3 to a maximum of 6)

*201. Seminar. (3) Graduate Staff  
Advanced reading and research. Required of all students electing to take a Master's degree  
under Plan II.

*202. Problem Seminar. (2-3) Graduate Staff

*203. Literature Seminar. (2-3) Graduate Staff

*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. Modern Algebra. (3,3) Dubois, Steger, Wyler  
Topics in groups, rings, and fields.

*221. Advanced Topics in Geometry. (3) Gentry

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, Blum, 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.

*235. Advanced Topics in Probability and Statistics. (3) Abbott, Blum, Rosenblatt  
May be repeated for credit with permission of the department.

*241. Advanced Topics in Analysis. (3) Graduate Staff
*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 hrs. each semester) Graduate Staff

*261-262. Topology. (3, 3) Graduate Staff
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 Topics in Complex Variable Theory. (3) Graduate Staff

*284. Calculus of Variations. (3) 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.

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

*295. Seminar in Probability and Statistics. (2, 3) Abbott, Blum, Rosenblatt

*300. Master's Thesis. (6) Graduate Staff

*400. Dissertation. Graduate Staff

MECHANICAL ENGINEERING
See Engineering, Mechanical.

MODERN AND CLASSICAL LANGUAGES

GROUP REQUIREMENTS
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).
MODERN AND CLASSICAL LANGUAGES

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.

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. 237.

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

30 hours in French in courses numbered above 50 including 101, 102, 151, 152, 153; and 2 years of college work in another foreign language (or reading knowledge).

MINOR STUDY

18 hours in French courses numbered above 50 including 101 or 102.

1-2. Elementary French. (3, 3) Yr. T. Book and Staff
Credit for 1 suspended until 2 (or more advanced course) is completed.

51-52. Intermediate French. (3, 3) T. Book and Staff
Grammar, reading, and translation. Prerequisites: 1, 2 or equivalent.

54. French Conversation and Composition. (3)
Designed to give students of 51, 52 extra practice in speaking and writing French. May be taken concurrently with 51 and 52.
General prerequisites for the following courses: French 51, 52, or the equivalent.

*101-102. Advanced Composition and Conversation. (3, 3) C. Book, T. Book, DeJongh
   Composition based on a thorough review of French grammar, and conversation based on
   modern French plays.

*107-108. French Prose of the 19th and 20th Centuries. (3, 3) Book

*110. Modern French Drama. (3) T. Book
   Begins with Romanticism and includes contemporary period.

*151-152. Survey of French Literature. (3, 3) Book, DeJongh
   151: Origins to 1800. 152: 1800 to present.

*153. French Phonology. (3)
   Phonetic and phonemic system of French. Required for the undergraduate major.

*160. Survey of French Poetry. (3)
   From the Middle Ages to date. Prerequisite: 15 sem. hrs. of college French numbered
   above 50.

*166. French Classical Theatre. (3) T. Book, DeJongh
   Corneille, Molière, Racine. Prerequisite: 15 sem. hrs. of college French numbered above 50.

*170. French Literature of the 16th Century. (3)
   Prerequisite: 15 sem. hrs. of college French numbered above 50.

*175. French Prose and Non-dramatic Poetry of the 17th Century. (3)
   Prerequisite: 15 sem. hrs. of college French numbered above 50.

198. Reading and Research for Honors. (3)
   Open to juniors and seniors approved by the Honors Committee.

199. Honors Essay. (3)
   Open only to seniors enrolled for departmental honors.

*201. History of the French Language. (3) DeJongh
   Evolution of Latin to French with selected medieval readings. Required for the M.A. degree.

*205. Introduction to Research Methods. (1) T. Book
   Resources available for research and how to use them. Required for the M.A. degree.

*220. French Thought. (3)

*251-252. Problems in French Literature. (1-3 hrs. each semester) T. Book, DeJongh

*260. Seminar in French Literature. (3)
   Topic will be chosen according to the specialization of the professor and of the students.

*300. Master's Thesis. (6) Graduate Staff

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.

*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.
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.

Close scrutiny of meanings of words. (Alternates annually with Greek 1-2).

*139. Greek Drama in Translation. (3)
*251-252. Problems. (1-3 each semester)

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.

*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)
*251-252. Problems. (1-3 hrs. each semester) DeJongh

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) Carmona-Morgan, Santiago
Corequisite: 75-76.

General prerequisites for the following courses: Portuguese 75, 76, or the equivalent.

*101-102. Advanced Composition and Conversation. (3, 3) Lopes, Santiago

*101L-102L. Portuguese Drill. (2, 2) Lopes, Carmona-Morgan, Santiago
Corequisite: 101-102.

*151. Survey of Portuguese Literature. (3) Lopes, Santiago

*157. Survey of Brazilian Literature. (3) Lopes, Santiago

*158. Contemporary Brazilian Literature. (3) Lopes, Santiago

*165. Camões and Gil Vicente. (3) Lopes

*167. History and Civilization of Portugal. (3) Lopes
(See History 167.)

*251-252. Problems. (1-3 hrs. each semester) Lopes
For M.A. candidates.

*260. Seminar in Portuguese Literature. (3)
Topic will be chosen according to the specialization of the professor and of the students.

*270. Seminar in Brazilian Literature. (3)
Topic will be chosen according to the specialization of the professor and of the students.

*351-352. Problems. (1-3 hrs. each semester) Lopes
For Ph.D. candidates.

*300. Master's Thesis. (6) Graduate Staff

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) McKenzie, Luft

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)

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.
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 Espanola. (3, 3) Cobos, Kercheville, Ulibarri
- 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 fig-
  ures and movements. Prerequisites: 51, 52 or the equivalent.

95. Spanish Business Letter Writing. (2) Cobos
- Prerequisite: 2 years of college Spanish or equivalent.

*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)

*107. The Spanish Novel. (3) Kercheville
- A survey of the novel with chief emphasis on the 19th century.

*121. Modern Spanish Drama. (3) Kercheville

*145. Hispanic Civilization. (2)

*146. Ibero-American Civilization. (2) Jorrin

*151-152. Survey of Spanish Literature. (3, 3) MacCurdy
- Required of Spanish majors.

*153. Spanish Phonology. [Phonetics] (3) Duncan, Nason
- Phonetic and phonemic system of Spanish.

*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 Novelas Ejemplares and the theatre.

198. Reading and Research for Honors. (3)
- Open to juniors and seniors approved by the Honors Committee.

199. Honors Essay. (3)
- Open only to seniors enrolled for departmental honors.

*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.

*204. Interdepartmental Seminar. (3) Graduate Staff
- (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. Seminar in the Spanish Novel. (3) Kercheville

*240. Seminar in Spanish Language. (3)
   Topic selected according to the specialization of the professor and of the students.

*251-252. Problems. (1-3 hrs. each semester) Graduate Staff
   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)
   Pre- or corequisite: 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


*260. Seminar in Spanish Literature. (3)
   Topic selected according to the specialization of the professor and of the students.

*261. Seminar in Spanish-American Literature. (3)
   Topic selected according to the specialization of the professor and of the students.

*262. Seminar in Spanish or Spanish-American Poetry. (3)

*266. Seminar: Golden Age Drama. (2) MacCurdy

*271-272. Spanish Poetry. (2, 2)

*278. Seminar: The Spanish Picaresque Novel. (2) MacCurdy

*300. Master's Thesis. (6) Graduate Staff

*351-352. Problems. (1-3 each semester) Graduate Staff
   For Ph.D. candidates.

*400. Dissertation. Graduate Staff

MUSIC

Professors J. Blankenship (Chairman), K. Frederick, W. B. Keller, H. M. Miller;
Associate Professors J. M. Batcheller, W. E. Rhoads, G. Robert, M. G. Schoenfeld,
J. Snow, J. Stephenson; Assistant Professors D. C. McRae, J. I. Thornton,
J. L. Whitlow; Instructors W. Seymour, E. Waters; Part-time Instructors J. Leonard,
S. Poole, A. Sheffet.

Applied Music faculty:

Piano W. Keller, G. Robert, M. Schoenfeld, W. Seymour, A. Sheffet
Organ J. Leonard
Violin and Viola K. Frederick
Cello and String Bass J. Stephenson
Wind Instruments and Percussion J. Blankenship, W. Rhoads, W. Seymour,
J. Thornton, J. Whitlow
Voice D. McRae, S. Poole, J. Snow
MAJOR STUDY

For curricula leading to the B.F.A. in Music, see p. 181.

For purposes of Combined Curriculum in Fine Arts (see p. 176): 45 hours including 5, 6, 39, 40, 65, 66, 16 hours of applied music, and 4 hours of ensemble music.

See below and following page for additional requirements.

MINOR STUDY IN MUSIC

College of Arts and Sciences: 20 hours including Music 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.

MINOR STUDY IN DANCE

20 hours, including 9 hours chosen from Music 5, 6, 39 and 40, 3 hours in drama elective, and 8 hours in Music 59 and 129d. Students working toward a minor in dance are required to present a dance demonstration and to perform with the Dance Workshop.

ENSEMBLE

One credit hour represents from 2 to 4 hours a week of rehearsal.

Course numbers for ensemble are: (vocal) 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 3 semesters of chorus.

HISTORICAL MUSIC LITERATURE

Students may be required to attend listening periods of 1 to 3 hours each week at the option of the instructor.

The following courses come under the heading of "Historical Music Literature": 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.

‡ Voice performance majors, every semester of residence after freshman year.
Students registering for Applied Music must file a teacher preference card in the Department of Music office.

Students studying Applied Music must perform before a faculty jury for grading and course number assignment at the conclusion of each semester of study.

Applied Music courses may be repeated upon recommendation by the faculty.

A student whose field of concentration is applied music is required to give a public recital in the junior year and another in the senior year. Students should consult the appropriate advisers before enrolling for applied music.

In applied music, the Department offers degree courses, and also secondary courses for students desiring a cultural background in music. The student may continue these courses through 4 years.

Students who have had previous training elsewhere will take a placement examination.

The degree courses are 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, 169-170, 219-220, and 269-270 (graduate courses), and carry 1 hour credit each for 1 half-hour lesson a week.

REQUIREMENT FOR JUNIOR STANDING IN MUSIC:

Before entering the junior year of study each student majoring in music or music education must appear before the music faculty for approval to pursue a stated degree program.

MUSIC EDUCATION REQUIREMENTS

All music education students must successfully complete before graduation:

1. A proficiency examination in piano, voice, and secondary orchestra instruments.

2. All or part of a senior recital in the major area of performance.

3. A senior comprehensive examination in music and music education.

RECITAL AND CONCERT ATTENDANCE REGULATION

All students registered for 5 or more hours in the department are required to attend a specified number of the departmental recitals and concerts each semester as a regular part of their musical education. The number of recitals and concerts required is determined by the department at the beginning of each semester. Fulfillment of this requirement is necessary for graduation.

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

1. Applied Music Major Freshman Course. (2 or 4 hours each semester)

5. Music Theory. [Harmony] (3) McRae, Schoenfeld, Thornton
   Fundamentals of music: key signatures, scales, intervals, triads in four voices, and simple cadences. Appropriate ear-training and sight-singing.

6. Music Theory. [Harmony] (3) McRae, Schoenfeld, Thornton

11-12. Group Instruction in Piano. (1, 1)
   Open to all beginners in piano exclusive of piano majors. Normally no class larger than four.
11-12. Group Instruction in Voice. (1, 1)
Open to all beginners in voice exclusive of voice majors.

19-20. Applied Music. Freshmen Secondary or Elective Course. (1 or 2 hours each semester)

39-40. Music Appreciation. (3, 3) McRae, Miller, Whitlow
Introduction to music literature. Listening periods are required. Not open to students majoring in music.

43. University Chorus. (1)
Open to all University students. May be repeated for credit.

51-52. Applied Music Major Sophomore Course. (2 or 4 hours each semester)

59. 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)
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. Music Theory. [Harmony] (3) McRae, Miller, Robert
Simple alterations, secondary dominants, diminished-seventh chords, remote modulation, chorale harmonization and analysis. Appropriate ear-training and sight-singing.

66. Music Theory. [Harmony] (3) McRae, Miller, Robert

69-70. Applied Music. Sophomore Secondary or Elective Course. (1 or 2 hours each semester)

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) 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.

101-102. Applied Music Major. Junior Course. (2 or 4 hours each semester)

*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 Secondary or Elective Course. (1 or 2 hours each semester)
Blankenship, 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. Dance Workshop. (1-2) Waters
Rehearsal and production experiences. Open to all University students with permission of instructor. May be repeated for credit.

††129a. Opera Workshop. (2) 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)
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. Major Senior Course. (2 or 4 hours each semester)

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.

*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.

†† May be repeated to the limit of 8 hours' credit for students in the College of Fine Arts or College of Education, 4 hours for others.
† May be repeated to the limit of 4 hours' credit.
163. **Advanced Instrumentation.** (2) Rhoads
The scoring of larger works for the major ensembles carrying through to actual performance. Prerequisite: 153.

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 Secondary or Elective Course.** (1 or 2 hours each semester) Blankenship, 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.

171-172. **General History of Music.** (3, 3)
From antiquity to the present. Non-technical study of the forms, styles, schools, principal composers and representative masterpieces of each era. Not open to students majoring in music.

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.

190. **Interdepartmental Proseminar.** (3) Honors Staff
(Also as Fine Arts 190.)

191-192. **Undergraduate Problems.** (1-3 each semester)

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.

199. **Senior Thesis.** (3)
Open to seniors approved by the departmental honors committee.

201-202. **Applied Music. Major Graduate Course.** (2 or 4 hours each semester) Blankenship, Frederick, Keller, Rhoads, 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. Graduate Secondary or Elective Course.** (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, Rhoads, 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.

†† May be repeated to the limit of 8 hours' credit for students in the College of Fine Arts or College of Education, 4 hours for others.
† May be repeated to the limit of 4 hours' credit.
*251-252. Problems (1-3 each semester) Blankenship, Frederick, Keller, Miller, Rhoads

*269-270. Applied Music. Graduate Secondary or Elective Course. (1 or 2 hours each semester) Blankenship, Davis, Frederick, Keller, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow

*291-292. Graduate Recital. (2, 2) Blankenship, Davis, Frederick, Keller, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow

For the degree of Master of Music in Applied Music the student is required to perform a full-length graduate recital (a) which he has selected and prepared subject to the approval of a committee comparable to a graduate thesis committee and (b) for which he has written comprehensive program annotations (also subject to the approval of the same committee) and which will be printed on the program of the graduate recital. Work in 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 R. V. R. Bassett, Jr. USN (Chairman), Professor; Commander K. T. Sanders, USN (Executive Officer), Associate Professor; Lieutenant Commander Keith K. Stroupe, USN, Assistant Professor; Major Donald C. Stanton, USMC, Assistant Professor; Lieutenant W. N. Elder, USN, Assistant Professor; Lieutenant Robert L. Johns, USN, Assistant Professor; Lieutenant (junior grade) C. A. L. Carter, USN, Assistant Professor.

CURRICULUM
See p. 215.

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.

51. Naval Weapons. (3) The principles of modern weapons systems, including materials and processes, fluid theory, energetics, mechanics, optics, electronics, physics of underwater sound, and atomic theory, stressing the application of these principles in weapons systems. (Confidential security clearance required.)

101. Navigation. (3) The theory and application of terrestrial and celestial navigation to enable prospective officers to become proficient naval navigators aboard ships and aircraft.

102. Naval Operations. (3) To provide the student with a basic understanding of relative motion, tactical communications and instructions, Rules of the Nautical Road, fleet communications, operational importance of weather and an introduction to electronic countermeasures.

101M. Evolution of the Art of War, Part I. (3) A survey of the evolution of warfare from the earliest recorded times to 1865.

102M. Evolution of the Art of War, Part II; Modern Basic Strategy and Tactics. (3) Continuation of the evolution of warfare from 1865 including a consideration of U. S. military and foreign policy and the theoretical principles behind modern strategy and tactics.
151. Naval Engineering. (3)
Naval engineering plants, machinery and systems, including nuclear propulsion, to provide a basic understanding necessary for all naval officers.

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)
A survey of the development of amphibious warfare doctrine from Gallipoli to the Korean War.

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); Associate Professor F. E. Jensen; Assistant Professors V. M. Dean, V. S. Jackson, A. Moloney, J. Ross, M. P. Simmons; Instructors E. Johnson, M. Taylor.

CURRICULUM
With the exception of Nursing 21, Nursing courses are open only to students majoring in Nursing.

21. [1] Nursing and Society. [Introduction to Nursing] (2) Crenshaw
Nursing's heritage from the past, attitudes toward health. Nursing as a professional service in present-day society.

51L. Fundamentals of Nursing. (3) Taylor
Principles and practice of nursing; correlation and application of scientific knowledge to skills needed to plan and give individualized care. Prerequisites: Chemistry 42L; Biology 36, 39L; Sociology 2. Corequisites: Biology 93L; Psychology 1 or 51. 2 lectures, 3 hrs. lab.


103L. Medical-Surgical Nursing. (10) Dean, Jackson
Principles and practice of nursing care of patients with medical and surgical conditions; physiological, emotional, cultural components; preventive and therapeutic nursing care including operative surgery; clinical practice in hospital and out-patient department. Prerequisites: 21, 52L; Home Economics 104. 5 lectures, 20 hrs. lab.

123L. Maternal-Child Nursing. [Maternal-Child Health Nursing] (10) Moloney, Simmons
Family-centered approach in the nursing care of mothers in all phases of the maternity cycle, and children through all periods of growth and development; emphasis on maintenance of health, prevention of illness, and therapeutic nursing care; clinical practice in hospital including labor and delivery rooms, nursery, pediatric unit, out-patient department, and other community agencies. Prerequisites: 21, 52L; Home Economics 104, 138. 5 lectures, 20 hrs. lab.

151L. Psychiatric Nursing. (6) Johnson
Principles and practice of nursing care of patients with psychiatric disorders; interpersonal, physiological, emotional, cultural factors. Prevention and treatment of mental illness; learning experiences in hospital and community agencies. Prerequisites: senior standing; Psychology 103. 3 lectures, 12 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. Prerequisite: senior standing. 4 lectures, 16 hrs. lab. (Limited enrollment, special assignment by Dean, College of Nursing.)
163L. Problems in Clinical Nursing. (9) Ross
Synthesis of knowledge from natural and behavioral sciences and study of interdisciplinary
approaches in the care of patients with various conditions; preventive and rehabilitative
aspects of care; analysis of nursing problems, and leadership of the nursing team. Pre­
requisites: 103L, 123L. 5 lectures, 16 hrs. lab.

175. Administration of a Nursing Unit. (2) Moloney
Open only to registered nurses.

Issues and trends in the evolution of nursing and contemporary developments. Prerequisite:
senior standing.

197. [198] Special Studies in Nursing. (1-3)
Prerequisite; senior standing and permission of the instructor. May be repeated to a maxi­
mum of 6 hrs.

198. Independent Study. (3)
Limited to students in Departmental Honors.

199. Senior Thesis. (3)
Limited to students in Departmental Honors.

PALEOECOLOGY
Committee in Charge: Professors F. C. Hibben (Anthropology), S. A. Northrop
(Geology), L. D. Potter (Biology), J. L. Riebsomer (Chemistry), Associate Pro­
fessor J. S. Findley (Biology), Assistant Professor R. Y. Anderson (Geology),
Chairman.
Interdepartmental undergraduate and graduate minors in Paleoecology are
offered to majors in the Departments of Anthropology, Biology, Chemistry, and
Geology.

UNDERGRADUATE MINOR
The minor requires 30-36 hours in courses listed in the "Paleoecology Pool"
including Paleoecology 101L. No more than 18 hours may be taken in any one
department and courses in the major field may not be used for the minor. The
following courses have been approved (see appropriate departmental listings
for course descriptions and prerequisites).
Anthropology 66F, *103L, *107L
*189L
Chemistry 1L, 2L or 22L, 53L, **101, **102, **103L, **104L, **111, **112
Geology 1, 2, 5L, 6L, 51L, 102L, **109L, **111L, *121L, *132L, *133L, *141L,
*185
Mathematics 50, 51, 52, *131, *132

GRADUATE MINOR
Requirements are listed in the Graduate School Bulletin.

101L. Concepts in Paleoecology. (2) Anderson, Findley
The basic concepts and principles of environmental reconstruction. Limitations and applica­
tions of research tools. 1 lecture, 3 hrs. lab. (Offered in alternate years.)

151-152. Problems in Paleoecology. (2, 2)

*251-252. Problems in Paleoecology (2-3 hrs. each semester)

**Graduate credit only if taken outside major department.
PHARMACY 315
PHARMACEUTICAL CHEMISTRY
PHARMACOGNOSY
PHARMACOLOGY
See Pharmacy.

PHARMACY
Professor E. L. Cataline (Dean); Associate Professors G. L. Baker, W. C. Fiedler, K. H. Stahl; Assistant Professor V. H. Duke.

CURRICULUM
See p. 207.

41-42. Orientation I, II. (1, 1) Cataline
A survey of the profession of pharmacy.

121. Pharmacy Management. (2)
Principles of management of retail pharmacies. Prerequisites: Business Adm. 5, Economics 51, fourth-year standing.

122. Pharmaceutical Law. (3)
The laws and regulations relating to the practice of pharmacy. Prerequisite: fourth-year standing.

141. 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.

153-154. 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 141; Chemistry 53L, 102, 104L; Physics 12, 14L; Pharmacognosy 72L; Pharmacology 191 (or concurrent registration). 3 lectures, 6 hrs. lab. each semester.

158. Veterinary Pharmacy. (2)
Medicinal substances used in the treatment of diseases in animals. Prerequisite: Pharmacology 191 (or concurrent registration).

161. History of Pharmacy. (2) Fiedler
The historical development of pharmacy with emphasis on its history in North America. Prerequisite: fifth-year standing.

181. 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.

182. 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)
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 hrs. each semester)
Experimental and library problems in some phases of pharmacy. Prerequisites: permission of instructor and of the Dean.

PHARMACEUTICAL CHEMISTRY

163. Medicinal Chemistry I. (5) Stahl
A study, from the chemical viewpoint, of organic substances used in pharmacy and medicine. The laboratory includes work in the synthesis of organic medicinals as well as qualitative and quantitative analytical operations. Prerequisite: fifth-year standing. 3 lectures, 6 hrs. lab.
164L. Medicinal Chemistry 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.

PHARMACOLOGY

The actions of drugs on living tissue and the basis upon which drugs are classified for their therapeutic usefulness. Includes the subdivisions of pharmacology: pharmacodynamics, posology, toxicology, and pharmacy. Prerequisites: Mathematics A or eligibility for Mathematics 15 on basis of placement test; Biology 36, 39L, 93L; Chemistry 42L. (Open only to students in the College of Nursing and in the Dental Hygiene Program.)

68L. Principles of Pharmacology Laboratory. (1) Duke
Instruction and practice in pharmaceutical calculations. The actions of drugs in important pharmacological classes upon living animals will be demonstrated. Pre- or corequisite: Pharmacology 66. (Open only to students in the College of Nursing and in the Dental Hygiene Program.) 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; Part-time Visiting Lecturer H. J. Sherman; and Staff.

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.

*102. Aesthetics. (3) Alexander
   An introduction to the philosophy of art and beauty.

*115. Philosophy of Science. (3) Evans
   Critical examination of the methods and concepts of science as exemplified in mathematics,
   physics, biology, psychology, and the social disciplines.

*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.
   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
   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 per­
   mission of instructor.

*161. Political Theory from Plato to Locke. (3) Jorrin
   (Same as Government 161.)

*162. Political Theory from the Enlightenment to Today. (3) Jorrin
   (Same as Government 162.)

*171. Plato. (3) Alexander, Evans
   Selected readings in the philosophy of Plato. Prerequisite: 3 hours of philosophy or per­
   mission of instructor.

*174. British Empiricism. (3) Alexander, Evans
   British philosophy with special emphasis on the works of Locke, Berkeley, and Hume. Pre­
   requisite: 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 per­
   mission of instructor.
*191. Philosophy of Language. (3) Alexander
Philosophies of meaning with special attention to the relations between language and thought. Prerequisite: 3 hours of Philosophy or permission of instructor.

*195. Philosophical Foundations of Economic Theory. (3) Evans, Hamilton
(Same as Economics-Philosophy 193.)

198. Reading and Research in Honors. (3)
Prerequisites: junior-senior standing and permission of major adviser. May be repeated for credit.

199. Senior Thesis. (3)
Prerequisite: 198.

*241. Seminar: Philosophical Movements. (3) Alexander, Bahm, Evans
*242. Seminar: Individual Philosophers. (3) Alexander, Bahm, Evans

*251-252. Problems. (1-3 hrs. each semester) Alexander, Bahm, Evans

*300. Master's Thesis. (6) Alexander, Bahm, Evans

PHILOSOPHY-ECONOMICS
See Economics-Philosophy.

PHILOSOPHY-ENGLISH
See English-Philosophy.

PHYSICAL EDUCATION

PHYSICAL SCIENCE
No major or minor study offered.

61-62. Introduction to Physical Science. (3, 3) Riebsomer
Prerequisite: permission of instructor.

PHYSICS AND ASTRONOMY
Professors V. H. Regener (Chairman), J. R. Green, R. Thomas; Associate Professors J. G. Breiland, C. P. Leavitt; Assistant Professors H. C. Bryant, D. E. Skabelund; Part-time Instructor J. M. Palms.

MAJOR STUDY IN PHYSICS
Physics 60, 61, 62, 63L, 64L, 101, 102, 103, 104, 105, 106, 101L, 102L, 106L, 107L; Mathematics 50, 51, 52, 147, 148; Chemistry 1L, 2L.

MINOR STUDY IN PHYSICS
Physics 60, 61, 62, 63L, 64L, 101, 102, 103, 105, and one of the laboratory courses numbered above 100; Mathematics 50, 51, 52, and 147.

MAJOR STUDY IN ASTRONOMY AND PHYSICS
Physics 60, 61, 62, 63L, 64L; Astronomy 71, 72L; Physics 101, 102, 103, 105; Astronomy 121, 122; Physics 106L, 107L; Chemistry 1L and 2L; Mathematics 50, 51, 52, 147, and 148.

MINOR STUDY IN ASTRONOMY AND PHYSICS
Physics 60, 61, 62, 63L; Astronomy 71, 72L; Physics 102, 103; Physics 106L or 107L; Mathematics 50, 51, 52, and 147.
PHYSICS AND ASTRONOMY

GRADUATE STUDY

Prerequisite for all courses numbered 200 and above: an undergraduate major in Physics equivalent to that outlined above.

PHYSICS

1. Introduction to Astronomy and Physics. (3) Skabelund
   (Also offered as Astronomy 1.) A non-technical Introductory course, including observations and demonstrations.

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 circuits. Prerequisites: Mathematics 15, 16. (Offered in the summer session primarily for secondary-school teachers.)

11. [11L] General Physics. (General Physics.) (3) Breiland, Bryant, Green
   Mechanics, sound, heat. The sequence 11, 12, 13L, 14L is required of premedical, predental, and preoptometry students, also of NROTC students in A. & S. and of Pharmacy students. Prerequisites: Mathematics 15, 16.

12. [12L] General Physics. (General Physics.) (3) Breiland, Green
   Electricity and magnetism, optics. Prerequisite: 11.

13L. [11L] General Physics Laboratory. (General Physics.) (1)
   Mechanics, sound, heat. Pre- or corequisite: 11. 3 hrs. lab.

14L. [12L] General Physics Laboratory. (General Physics.) (1)
   Electricity, magnetism, optics. Pre- or corequisite: 12. 3 hrs. lab.

60. General Physics. (3)
   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)
   Heat, electricity, magnetism. Prerequisite: 60; pre- or corequisite: Mathematics 51.

62. General Physics. (3)
   Electricity, magnetism, optics. 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) Bryant, Green, Thomas
   Kinetic theory; specific heats; conduction, convection, radiation; change of state; classical thermodynamics. Pre- or corequisite: Mathematics 147. (Semester I)

**101L. Heat Laboratory. (2) Bryant, Green, Leavitt
   Measurement of temperature; heat transfer; radiation, specific heat; vacuum technique; viscosity; molecular motion and Avogadro's number; change of state. 1 lecture, 3 hrs. lab.
   Pre- or corequisite: Mathematics 147. (Semester II)

**102. Physical Optics. (3) Green, Leavitt, Thomas
   Wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion, absorption and scattering; black-body radiation. Pre- or corequisite: Mathematics 147. (Semester II)

**102L. Optics Laboratory and Geometrical Optics. (2) Bryant, Green, Leavitt
   Interference and diffraction phenomena; spectroscopic and spectrographic methods with visible and ultra-violet light. Pre- or corequisite: Mathematics 147. 1 lecture, 3 hrs. lab.
   (Semester II, 1964-65).

**103-104. Analytical Mechanics. (3, 3) Green, Leavitt, Thomas
   Statics and dynamics of particles and rigid bodies; introduction to Lagrange's method; Pre- or corequisites: Mathematics 147, 148.

** Available for graduate credit except for graduate majors in Physics.
**105-106. Electricity and Magnetism.** (3, 3) Green, Regener, Skabelund, Thomas
Electrostatic and electromagnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 147, 148.

**106L. Electricity Laboratory.** (2) Bryant, Green, Leavitt, Palms
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. Pre- or corequisite: Mathematics 147. 1 lecture, 3 hrs. lab. (Semester I, 1964-65).

**107L. Electronics Laboratory.** [Electronics Laboratory and Electron Physics] (2) Green, Leavitt
Properties and applications of transistors, rectifiers, vacuum tubes, photoelectric devices. Amplifiers, oscillators, pulse and logic circuitry. Pre- or corequisite: Mathematics 147. 1 lecture, 3 hrs. lab. (Semester I).

**110. Atomic and Nuclear Physics.** (3) Bryant, Green, Leavitt, Skabelund
Special relativity, quantum effects, atomic structure, X-rays, nuclear structure and nuclear reactions, instruments of modern physics. Prerequisite: 62 or equivalent. (Semester I and SS).

**111L. Atomic and Nuclear Physics.** (3) Bryant, Green, Leavitt
Experiment and theory in atomic and nuclear structure, radiation, radioactivity, fission and production of high-energy particles. Prerequisite: 110. 2 lectures, 3 hrs. lab.

*112. Physics of Matter.** (3) Green, Leavitt
An introduction to experiment and theory in the structure of matter: physical properties and mechanics of fluids, binding in solids, mechanical and thermal properties of solids, electrical and magnetic properties of matter, semi-conductors, plasmas. Prerequisite: 110 or equivalent.

*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 147. (Offered occasionally.)

**151. [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 primarily for secondary-school teachers.)

**153-154-155. Physics for Secondary School Teachers.** (4, 4, 4) Bryant, Green, Skabelund
The fundamental concepts and principles of physics presented in qualitative and semi-quantitative fashion from a mature point of view. Topics covered include mechanics, heat and sound, thermodynamics, optics, electricity and magnetism, and selected topics in contemporary physics.

*161-162. Experimental Research Methods.** (1, 1) Bryant, Green, Leavitt, Regener
Advanced laboratory work.

*163-164. Experimental Research Methods.** (2, 2) Bryant, Green, Leavitt, Regener
Advanced laboratory work.

*166. Methods of Theoretical Physics.** (3) Skabelund, Thomas
Problems of diffusion, heat conduction, wave motion, and potential theory. (Semester II)

*191-192. Contemporary Physics.** (3, 3) Bryant, Green, Leavitt, Regener, Skabelund
Theory of special relativity, introduction to quantum mechanics; atomic and nuclear physics, cosmic rays.

*193L-194L. Contemporary Physics Laboratory.** (2, 2) Bryant, Green, Leavitt, Regener
Experiments in atomic and nuclear physics: e/m, thermionic emission, atomic energy levels, counting systems for nuclear radiations, natural and artificial radioactivity; alpha, beta, and gamma ray spectroscopy, and nuclear magnetic resonance absorption.

*199. Seminar.** (1 hr. each semester) Graduate Staff

*203. Classical Mechanics.** (3) Green, Thomas
Lagrangian dynamics; theory of oscillations; Hamiltonian theory. (Semester I, 1963-64 and alternate years)

*205. Statistical Mechanics and Thermodynamics.** (3) Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Semester I, 1963-64 and alternate years)

** Available for graduate credit except for graduate majors in Physics.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>*211.</td>
<td>Electrodynamics</td>
<td>Green, Thomas</td>
<td>Maxwellian theory of fields; electromagnetic radiation. (Semester 1, 1964-65 and alternate years)</td>
</tr>
<tr>
<td>*212.</td>
<td>Advanced Electrodynamics</td>
<td>Green, Thomas</td>
<td>Covariant form of field equations; classical theory of electrons. Prerequisite: 211. (Offered occasionally)</td>
</tr>
<tr>
<td>*221.</td>
<td>Quantum Mechanics</td>
<td>Leavitt, Thomas</td>
<td>Uncertainty relations; potential wells and barriers; hydrogen atom, matrix mechanics; perturbation theory. (Semester I)</td>
</tr>
<tr>
<td>*222.</td>
<td>Advanced Quantum Mechanics</td>
<td>Thomas</td>
<td>Relativistic wave equation; quantization of the radiation field; selected topics in corpuscular interactions. Prerequisite: 221. (Semester I, 1964-65 and alternate years)</td>
</tr>
<tr>
<td>*223.</td>
<td>Topics of Quantum Field Theory</td>
<td>Thomas</td>
<td>Boson and Fermion fields, covariant commutation laws, the S-matrix and Feynman graphs. Prerequisite: 222. (Offered occasionally)</td>
</tr>
<tr>
<td>*224.</td>
<td>Dynamics of Deformable Media</td>
<td>Leavitt</td>
<td>Waves in solids and fluids, plasma physics and magneto-hydrodynamics, shock waves. (Semester II, 1963-64 and alternate years)</td>
</tr>
<tr>
<td>*225.</td>
<td>Solid State Physics</td>
<td>Green</td>
<td>Structure and properties of crystal lattices; insulators and electronic conductors; semiconductors. Prerequisite: 221. (Offered occasionally)</td>
</tr>
<tr>
<td>*226.</td>
<td>Theoretical Nuclear Physics</td>
<td>Green, Leavitt</td>
<td>Properties of nuclei, nuclear models, scattering, radio-activity, nuclear reactions, fission, neutron physics. Prerequisite: 221. (Semester I, 1963-64 and alternate years)</td>
</tr>
<tr>
<td>*227.</td>
<td>High-Energy Physics</td>
<td>Leavitt</td>
<td>Fundamental particles and their interactions; production and properties of strange particles; conservation laws and symmetry. Prerequisite: 221. (Semester I, 1964-65 and alternate years)</td>
</tr>
<tr>
<td>*251-252.</td>
<td>Problems</td>
<td>Bryant, Green, Leavitt, Regener, Thomas</td>
<td>(2-4 hrs. each semester)</td>
</tr>
<tr>
<td>*266.</td>
<td>Advanced Methods of Theoretical Physics</td>
<td>Skabelund, Thomas</td>
<td>(Offered occasionally)</td>
</tr>
<tr>
<td>*299.</td>
<td>Advanced Seminar</td>
<td>Graduate Staff</td>
<td>(1-3 hrs. each semester)</td>
</tr>
<tr>
<td>*300.</td>
<td>Master's Thesis</td>
<td>Graduate Staff</td>
<td>(6)</td>
</tr>
<tr>
<td>*350.</td>
<td>Research</td>
<td>Bryant, Green, Leavitt, Regener, Thomas</td>
<td>(6-12)</td>
</tr>
<tr>
<td>*400.</td>
<td>Dissertation</td>
<td>Bryant, Green, Leavitt, Regener, Thomas</td>
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**ASTRONOMY**

1. Introduction to Astronomy and Physics. (3)  
(Also offered as Physics 1.) A non-technical introductory course, including observations and demonstrations.

71. General Astronomy. (3)  
Pre- or corequisite: Physics 61. (Semester I)

721. Practical Astronomy. (3)  
Principles and applications of spherical astronomy; methods of observation. 2 lectures, 3 hrs. laboratory. Pre- or corequisite: Physics 61. (Semester II)

*121. Introduction to Astrophysics. (3)  
Spectra, structure, distribution and evolution of stars; star systems; the interstellar medium. (Semester I)

*122. Solar System. (3)  
Configuration of the planets and their satellites, planetary surfaces and atmospheres, the interplanetary medium, solar-terrestrial effects. (Semester II)

**PORTUGUESE**

See Modern and Classical Languages.
PSYCHOLOGY

Professors G. M. Peterson (Chairman), R. D. Norman; Associate Professors D. T. Benedetti, H. C. Ellis, S. Rosenblum; Consulting Associate Professor F. H. Rohles; Assistant Professors R. M. Morgan, B. Zippel; Consulting Assistant Professor H. H. Reynolds. Part-time Assistant Professor L. W. Rook.

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 Prerequisite: 2L or 51.

80. Statistical Methods in Psychology. (3) Morgan, Zippel, Reynolds

*101. Social Psychology. (3) Zippel 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.

*110. Educational Psychology. (3) Ellis, Morgan, Rosenblum Prerequisite: 2L or 51.

*111. Child and Adolescent Psychology. (3) Rosenblum The principles of human behavior in infancy, childhood and adolescence. Prerequisite: 2L or 51.

*113. The Psychology of Exceptional Children. (3) Norman, Rosenblum Prerequisite: 2L or 51.

*114. Mental Deficiency and Retardation. (3) Norman, Rosenblum The biological, psychological, and cultural factors relating to mental subnormality. Prerequisites: 113.

*121L. Experimental Psychology. (3) Ellis, Reynolds Sensory and perceptual processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.

*122. Psychology of Learning. (3) Ellis, Reynolds Prerequisite: 2L or 51.

*122L. Experimental Psychology of Learning. (2) Ellis, Reynolds Corequisite: 122.
*125L. Experimental Social Psychology. (3) Zippel
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) 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, Rook
Problems arising from man-machine relationships. Prerequisite: 2L or 51.

*158. Industrial Psychology. (3) Morgan, Rook
Prerequisite: 2L or 51.

*170. History of Psychology. (3) Benedetti, Peterson
Prerequisite: 2L or 51.

*172. Principles of Programmed Learning. (3) Ellis
Prerequisite: 2L or 51.

*180. Advanced Statistics. (3) Morgan
Multiple and partial correlation, multivariate analysis, non-parametric methods, factor analysis. Prerequisite: 80 or equivalent.

*193. Animal Psychology. (3) Peterson, Rohles
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. (1-3 hrs. per semester to a maximum of 6.)
Prerequisite: 2L or 51.

199. Undergraduate Problems. (1-3 hrs. per semester to a maximum of 6.)
Prerequisite: 2L or 51.

*201. Advanced Social Psychology. (3)
Prerequisites: 80, 101.

*211. Social, Emotional and Personality Development of Children. (3) Rosenblum
Prerequisite: 111.

*221. Experimental Design. (3) Ellis, Peterson

*230. Introduction to Projective Techniques. (3) Norman
Prerequisite: 103.

*232L. Individual Mental Testing. (3) Norman
Practical laboratory study and discussion of Binet and Wechsler tests. Prerequisites: 80, 131.

*251-252. Problems. (2-3 hrs. each semester) Graduate Staff

*258. Advanced Industrial Psychology. (3) Morgan
Prerequisites: 80, 158, or permission of instructor.

*270. Psychology of Thinking. (3) Benedetti

*272. Theories of Learning. (3) Ellis, Rohles

*275. Psychoanalytic Theory. (3) Benedetti, Norman
Prerequisite: 103.

*296. Advanced Physiological Psychology. (3) Peterson
Prerequisite: 196.

*300. Master's Thesis. (6) Graduate Staff

*400. Dissertation. Graduate Staff
RECREATION

RUSSIAN
See Modern and Classical Languages.

SECONDARY EDUCATION
See Education, Secondary.

SOCIOLOGY
Professor P.A.F. Walter, Jr.; Associate Professors T. T. Sasaki, D. W. Varley (Chairman); Assistant Professor C. E. Woodhouse.

MAJOR STUDY
36 hours of course work, including 2, 102 or 181, 130 or 195, 160 or 180, 163, and 190, and including two courses in Economics and/or Government at the 50-level or above.

MINOR STUDY
18 hours in Sociology courses, of which 12 must be above 100, and including 2, 130 or 195, and 160 or 180.

2. Introduction to Sociology. (3) Sasaki, Varley, Walter, Woodhouse
   Basic course; prerequisite to most other courses in the department.

56. Social Problems. (3) Varley, Walter
   Prerequisite: 2 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: 2 or equivalent.

75. Structure and Functions of the Family. (3) Woodhouse
   Prerequisite: 2 or equivalent.

*102. Collective Behavior. (3) Sasaki, Walter
   Prerequisite: 2 or equivalent.

*109. Criminology. (3) Walter
   Crime as a social phenomenon. Prerequisite: 2 or equivalent.

*110. Juvenile Delinquency. (2-3) Walter
   Prerequisite: 2 or equivalent.

111. Social Problems of Latin America. (3) Jorrin
   Does not give credit toward a Sociology major or minor. Prerequisite: 2 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: 2 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, and cultural diffusion. Theories of social change will be critically analyzed. Prerequisite: 2 or equivalent.
*150. Industry and Society. (3) Sasaki, Walter
   Prerequisite: 2 or equivalent.

*154. Race and Cultural Relations. (3) Sasaki, Walter
   Prerequisite: 2 or equivalent.

*160. Sociology of Industrial Relations. (3) Sasaki, Walter
   The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 2 or equivalent.

*163. History of Social Thought. (3) Walter, Woodhouse
   Prerequisite: 2 or equivalent.

*164. Contemporary Sociological Theory. (3) Woodhouse
   Analysis and comparison of major contributions to sociological theory since 1900, considering their continuity with older theoretical positions and application in contemporary research. Prerequisite: 2 or equivalent.

*170. Social Implications of Technological Change. (3) Sasaki
   The impact of technological change on societal institutions with special attention to underdeveloped areas. Prerequisite: 2 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: 2 or equivalent.

*181. Society and Personality Development. (3) Sasaki
   The interaction of personality, the social structure and ideologies; the integration of contributions from various behavioral sciences. Prerequisite: 2 or equivalent.

   Prerequisite: 2 or equivalent.

192. Directed Study. (1-3 up to a maximum of 6) Sasaki, Varley, Walter, Woodhouse
   Restricted to students with substantial background in Sociology. Permission of Chairman required.

*195. Population Problems. (3) Varley, Walter
   Prerequisite: 2 or equivalent.

*American Studies 201. Interdepartmental Seminar in the Culture of the United States. (3) Graduate Staff
   (Same as American Studies 201.)

*241. Seminar: Social Organization. (3) Walter


*243. Seminar: Social Control. (3) Woodhouse

*244. Seminar: Human Ecology. (3) Varley

*251-252. Problems. (2-3 hrs. each semester) Sasaki, Varley, Walter, Woodhouse

*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. Chreist, C. B. Owens, K. R. St. Onge; Assistant Professor G. J. Gravlee.

MAJOR STUDY

   36 hours in Speech including 1 and 2 (or equivalent), 51, 60, 80, 91 or 154, 101, 170, 195 and 198.
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, 180, 195 or 198, and 3 hours selected from 165 and 166. Required Dramatic Art courses: 151 and 6 hours selected from 105, 106, and 152.

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.

Students in the College of Arts and Sciences may minor in Dramatic Art. For course requirements, see p. 239.

1-2. Fundamentals of Speech. (3, 3) Staff
The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.

3. Speech Improvement. (3) Chreist, 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) Gravlee, 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
Structure and function of the hearing mechanism. Effects of breakdown in the auditory system on speech communication. Prerequisite: 85 or permission of instructor.

*122. Hearing Problems and Hearing Testing. (3) Chreist
Current principles, procedures, techniques, and instrumentation used in evaluating the receptive function in communication. Prerequisite: 121 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.)

*158. Clinical Practice. (3) Chreist
Speech correction and audiology in the clinic. Prerequisites: 121, 135 or 136, or permission of instructor.

*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.

193. Reading and Research in Honors. (3)

194. Senior Thesis. (3)

*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) Chreist, 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 hrs. each semester) Graduate Staff

*300. Master's Thesis. (6) Graduate Staff
### STATISTICS

*ENROLLMENT FOR 1962-63*

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<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
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<tr>
<td>Semester I, 1962-63</td>
<td>5721</td>
<td>2921</td>
<td>8642</td>
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<td>Semester II, 1962-63</td>
<td>5303</td>
<td>2737</td>
<td>8040</td>
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<td>Summer Session, 1962 (including workshops)</td>
<td>1616</td>
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### SUMMARY OF DEGREES CONFERRED 1901-1962

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<th>Earned Degrees</th>
<th>Bachelor's</th>
<th>Master's</th>
<th>Law</th>
<th>Doctor's</th>
<th>Total Earned Degrees</th>
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<td></td>
<td>12,091</td>
<td>2,716</td>
<td>233</td>
<td>174</td>
<td>15,214</td>
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*Exclusive of correspondence, extension, and non-credit courses.*
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