

the university
of new mexico

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BULLETIN

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1960-61 CATALOG ISSUE

DIRECTIONS FOR CORRESPONDENCE

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

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

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

The University of New Mexico
Office of Admissions and Records

February 21, 1961

To: Academic Deans, Department Chairmen, Administrative Officers
From: Registrar
Subject: Revised 1961-62 Academic Calendar

Attached is a copy of the revised academic calendar for the 1961-62 school year. Please dispose of the original draft mailed to you under date of December 12, 1960.

Dates for the 1961 Summer Session and the 1961-62 Fall Semester are identical with those of the earlier draft. Only 1961-62 Spring Semester dates have been changed. Major changes in the revised calendar are as follows:

1. Shift of the Spring Semester dates for advisement and registration to Monday and Tuesday, February 12 and 13, to provide additional time between semesters necessary for processing of grades, tests, and other materials essential to the advisement program of the colleges and particularly of the University College.
2. Revision of the dates for Spring Vacation to provide an unbroken week of recess immediately following Mid-semester.
3. To compensate for the longer interval between semesters, the date for Commencement was moved from Wednesday, June 13, to Friday, June 15.

REVISED CALENDAR

1961-62 Academic Year

1961 SUMMER SESSION

1961

New Student Tests and Instructions June 19, Mon.-June 20, Tues. 8 a.m.
 Registration June 21, Wed.
 Instruction begins; late registration fee applies June 22, Thu.
 Registration closes; last day for additions to
 programs; change of program fee applies June 28, Wed., 5 p.m.
 Independence Day, holiday..... July 4, Tues.
 End of Second Week; last day for withdrawal
 from course without grade July 5, Wed., 5 p.m.
 Session Ends Aug. 16, Wed., 10 p.m.

SEMESTER I, 1961-62

1961

New Student Tests - for students in the
 Albuquerque area Sept. 6, Wed. or Sept. 9, Sat. or
 Sept. 12, Tues., 8 a.m., Room 122,
 Geology Bldg.
 New Student Assembly..... Sept. 17, Sun., 7:30 p. m., Johnson
 Gymnasium.
 New Student Tests..... Sept. 18, Mon. 8 a.m.
 New Student Orientation..... Sept. 19, Tues.-Sept. 20, Wed.
 Advisement and Registration for all students Sept. 21, Thu.-Sept. 23, Sat.(2½days)
 Instruction begins; late registration fee applies..... Sept. 25, Mon.
 Registration closes; last day for additions to
 programs; change of program fee applies..... Oct. 7, Sat. noon
 End of fourth week; last day for withdrawal
 from course without grade..... Oct. 20, Fri., 5 p.m.
 NMEA Convention, Recess begins..... Oct. 25, Wed., 10 p.m.
 Classes resume Oct. 30, Mon., 8 a.m.
 Homecoming, holiday Nov. 4, Sat.

1961

Mid-semester, deadline for Faculty Grade
 Reports for first half of Fall Semester..... Nov. 18, Sat. noon

Thanksgiving Recess begins..... Nov. 22, Wed., 10 p. m.

Classes resume Nov. 27, Mon., 8 a.m.

Christmas Recess begins..... Dec. 20, Wed., 10 p.m.

1962

Classes resume Jan. 4, Thurs., 8 a.m.

End of twelfth week; last day for removal
 of Incomplete grade..... Jan. 5, Fri., 5 p.m.

Closed Week (pre-examination week)..... Jan. 22, Mon.-Jan. 29, Mon.

Semester Final Examinations Jan. 29, Mon.-Feb. 3, Sat.

Semester ends..... Feb. 3, Sat., 10 p.m.

SEMESTER II, 1961-62

1962

New Student Assembly..... Feb. 6, Tues., 7:30 p.m.

New Student Tests Feb. 7, Wed., 8 a.m.

New Student Orientation..... Feb. 8, Thu.-Feb. 9, Fri.

Advisement and Registration for all studentsFeb. 12, Mon.-Feb. 13, Tues.

Instruction begins; late registration fee applies Feb. 14, Wed.

Registration closes; last day for additions to pro-
 grams; change of program fee applies..... Feb. 27, Tues., 5 p.m.

End of Fourth Week; last day for withdrawal
 from course without grade..... Mar. 13, Tues., 5 p. m.

Mid-semester, deadline for Faculty Grade
 Reports for first half of Spring Semester..... Apr. 14, Sat. noon

Spring recess begins..... Apr. 14, Sat. 10 p.m.

Classes resume Apr. 23, Mon., 8 a.m.

Honors Assembly..... May 2, Wed., 10 a.m. to 12 m.

1962

End of Twelfth Week; last day for removal
of Incomplete grade..... May 15, Tues., 5 p.m.

Closed Week (pre-examination week)..... May 30, Wed.-June 6, Wed.

Semester Final Examinations..... June 6, Wed.-June 12, Tues.

Semester Ends..... June 12, Tues., 10 p.m.

Commencement June 15, Fri., 7:30 p.m.

THE UNIVERSITY
OF NEW MEXICO

BULLETIN

SIXTY-NINTH CATALOG ISSUE
1960-61



Whole Number 497 Catalog Series

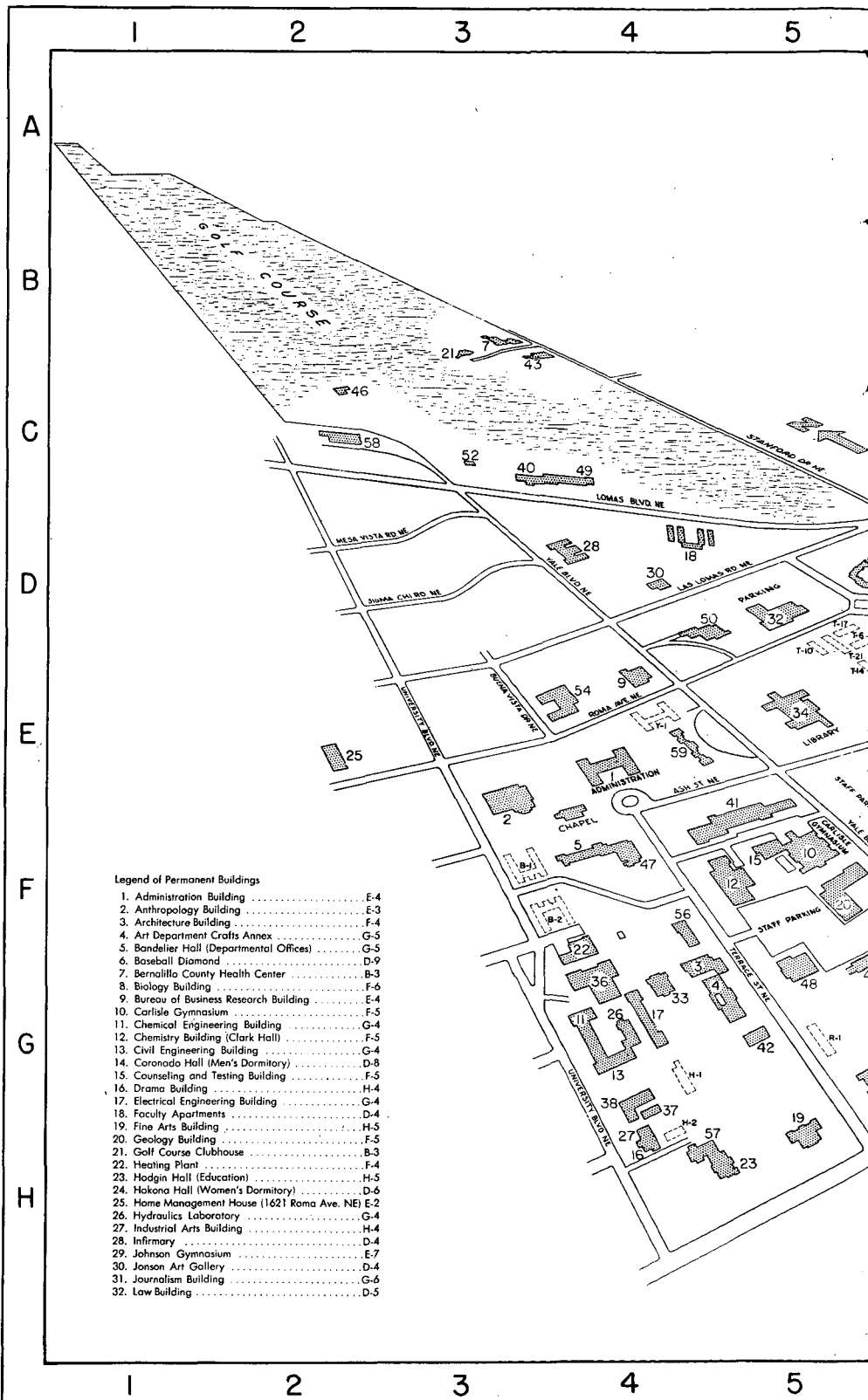
Volume 73, No. 5

May, 1960

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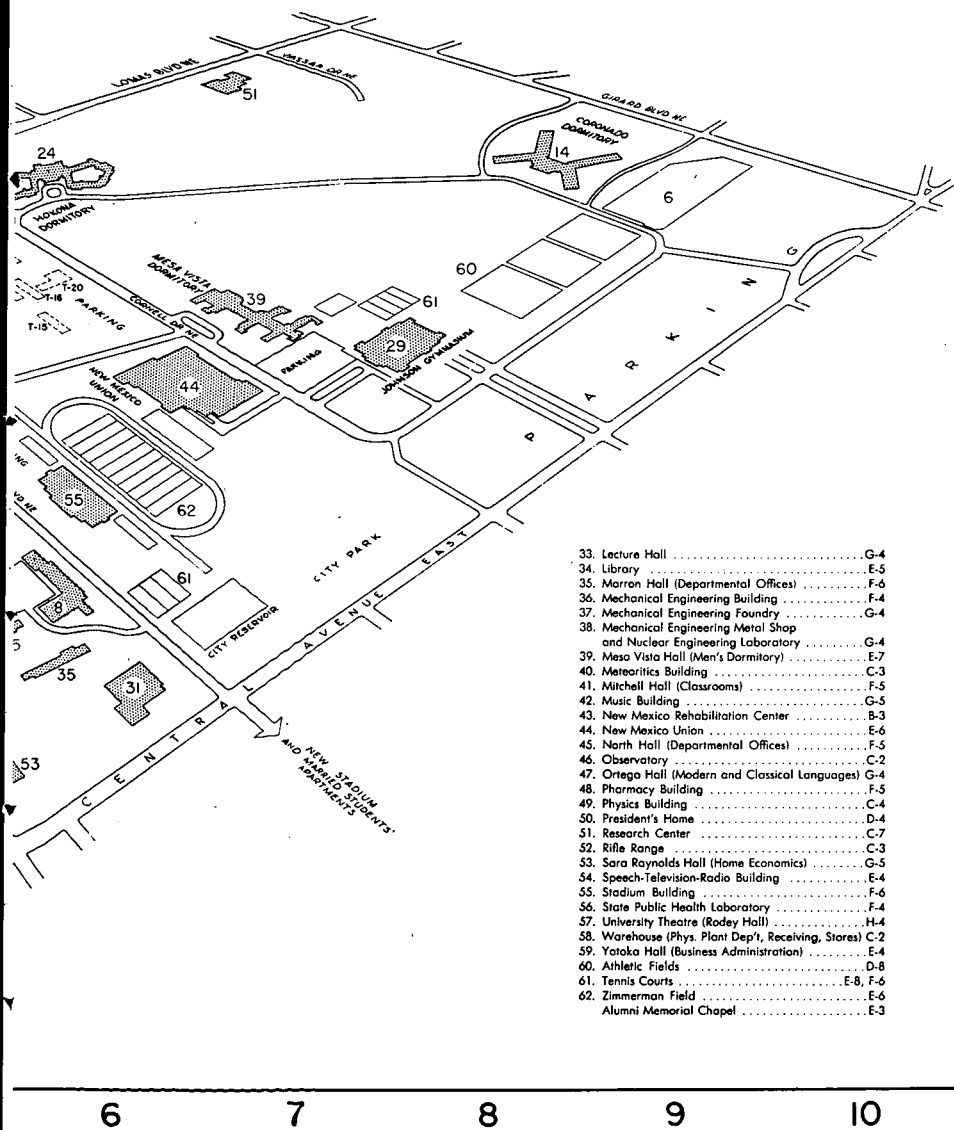
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THE UNIVERSITY OF NEW MEXICO CAMPUS



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1960

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1961

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ACADEMIC CALENDAR

1960 SUMMER SESSION

1960

New Student Tests and Instructions	June 16, Thursday—June 17, Friday, 8 a.m.
Registration	June 18, Saturday
Instruction begins; late registration fee applies	June 20, Monday
Registration closes; last day for additions to programs; change of program fee applies	June 25, Saturday noon
End of second week; last day for withdrawal from course without grade	July 1, Friday, 5 p.m.
End of sixth week	July 30, Saturday noon
Independence Day, holiday	July 4, Monday
Session ends	August 12, Friday, 10 p.m.

1960 ANTHROPOLOGY FIELD SESSION

Registration	June 18, Saturday
Excavation begins	June 20, Monday
Field session ends	July 30, Saturday

SEMESTER 1, 1960-61

1960

New Student Tests—for students in the Albuquerque area: September 3, Saturday or September 6, Tuesday, 8 a.m., Room 122, Geology Bldg.	
New Student Assembly	September 11, Sunday, 7:30 p.m., Johnson Gymnasium
New Student Tests and Instructions	September 12, Monday, September 13, Tuesday September 14, Wednesday—September 15, Thursday
Preregistration processing (supplies and records) for all AFROTC students, both old and new, Building Y-1	September 14, Wednesday—September 15, Thursday
Advisement and Registration for all students	September 16, Friday—September 17, Saturday
Instruction begins; late registration fee applies	September 19, Monday
Registration closes; last day for additions to programs; change of program fee applies	October 1, Saturday noon
End of fourth week; last day for withdrawal from course without grade	October 14, Friday, 5 p.m.
NMEA Convention, Recess begins	October 26, Wednesday, 10 p.m.
Classes resume	October 31, Monday, 8 a.m.
Midsemester; Deadline for Faculty Grade Reports for first half of Fall semester	November 12, Saturday noon
Homecoming, holiday	November 19, Saturday
Thanksgiving Recess begins	November 23, Wednesday, 10 p.m.
Classes resume	November 28, Monday, 8 a.m.
End of twelfth week; last day for removal of Incomplete grade	December 16, Friday, 5 p.m.
Christmas Recess begins	December 20, Tuesday, 10 p.m.

1961

Classes resume	January 4, Wednesday, 8 a.m.
*Closed Week (pre-examination week)	January 16, Monday—January 23, Monday
*Semester Final Examinations	January 23, Monday—January 28, Saturday
Semester ends	January 28, Saturday, 10 p.m.

* Closed Week and Semester Final Examination Week, January 16—January 28, are closed to extracurricular and social campus activities.

ACADEMIC CALENDAR

SEMESTER II, 1960-61

1961

New Student Tests—for students in the Albuquerque area:
 January 28, Saturday, 8 a.m., Room 122, Geology Bldg.

New Student Assembly January 1, Monday, 7:30 p.m.

New Student Tests and Instructions January 31, Tuesday—February 2, Thursday

Advisement and Registration for all students February 3, Friday—February 4, Saturday

Instruction begins; late registration fee applies February 6, Monday

Registration closes; last day for additions to
 programs; change of program fee applies February 18, Saturday noon

End of fourth week; last day for withdrawal
 from course without grade March 3, Friday, 5 p.m.

Midsemester; Deadline for Faculty Grade Reports for first half
 of Spring semester March 29, Wednesday, 5 p.m.

Easter Recess begins March 29, Wednesday, 10 p.m.

Classes resume April 6, Thursday, 8 a.m.

Honors Assembly April 26, Wednesday, 10-12 a.m.

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

Fiesta Day, holiday May 13, Saturday

†Closed Week (pre-examination week) May 22, Monday—May 29, Monday

†Semester Final Examinations May 29, Monday—June 3, Saturday

Semester Ends June 3, Saturday, 10 p.m.

Baccalaureate Service June 3, ~~Friday~~ ^{Sunday}, 7:30 p.m.

Commencement Exercises June 7, Wednesday, 7:30 p.m.

1961 SUMMER SESSION

1961

Registration (probable date) June 21, Wednesday

Instruction begins (probable date) June 22, Thursday

† Closed Week and Semester Final Examination Week, May 22-June 3, are closed to extra-curricular and social campus activities.

IMPORTANT

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

GLOSSARY OF COLLEGE TERMS

(as used at this University)

- ACADEMIC YEAR** . . . the period which includes the Summer Session (beginning in June), Semester I (mid-September through January), and Semester II (February to early June).
- ACCREDITATION** . . . the type of recognition held by an educational institution. There are a number of nationally recognized accrediting agencies and associations which are reliable authorities on the quality of training offered by educational institutions. By voluntarily conforming to the standards of excellence set by an agency or association, an institution becomes eligible for inclusion in its accredited or approved list. Regional accrediting associations such as the North Central Association of Colleges and Secondary Schools accredit the institution as a whole; professional agencies such as the Engineering Council for Professional Development are concerned in particular with the standards of the professional schools or programs in their respective fields.
- ADMISSION** . . . acceptance of an applicant for enrollment.
- CLASS** . . . the regularly scheduled meeting of an academic course; also a group of students whose graduation date is the same—freshman, sophomore, junior, senior.
- CLASSIFICATION** . . . the designation used for the student's year of study in terms of his progress toward his chosen degree—freshman, sophomore, junior, senior.
- COLLEGE** . . . an organizational unit of the University normally offering courses and curricula leading to a particular degree or degrees, and supervising the academic progress of students working toward those degrees. The University College supervises all freshman programs but is not a degree-granting college. The degree colleges to which students may transfer, if eligible, after completion of the freshman year are: Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Nursing, and Pharmacy. The Graduate School and the School of Law offer advanced study.
- COURSE** . . . a particular subject in which instruction is offered within a given period of time—thus, a course in English.
- CREDIT** . . . a numerical system for evaluating a student's progress toward a degree, described in terms of semester hours (see definition of semester hours). In order to earn a degree in the normal four-year period, the student will average at least 16 semester hours' credit per semester since the minimum credit required for any bachelor's degree is 128 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 in a given field. The Bachelor of Laws degree, however, is a professional degree and normally requires seven years of college study. The master's degree is an advanced degree ranking above the bachelor's and below the doctorate. It normally requires at least one year beyond the bachelor's degree. The doctor's degree, or doctorate, is an advanced degree requiring at least three years beyond the bachelor's degree. The honorary degree is bestowed in recognition of outstanding merit or achievement without reference to the fulfillment of academic course requirements.
- DEPARTMENT** . . . a division of a college which offers instruction in a particular branch of knowledge; for example: the Department of Physics.

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

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

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

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

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

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

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

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

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

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

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

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

SEMESTER HOUR . . . the credit that is allowed for one 50-minute period per week throughout a semester in a lecture class. A course listed for three hours' credit would meet for three periods per week throughout the semester; for example: on Monday, Wednesday, and Friday from 10:00 to 10:50 a.m. Credit for laboratory work, activity physical education, and ensemble music require more class time per credit hour.

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

THE REGENTS OF THE UNIVERSITY

THE HONORABLE JOHN BURROUGHS, Governor of New Mexico, ex officio	Santa Fe
TOM WILEY, State Superintendent of Public Instruction, ex officio	Santa Fe
FINLAY MacGILLIVRAY, President	Albuquerque
RALPH R. LOPEZ, Vice-President	Santa Fe
LAWRENCE H. WILKINSON, Secretary-Treasurer	Albuquerque
*DOROTHY WOODWARD	Albuquerque
HOWARD C. BRATTON	Roswell

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5 On leave first semester.

Natural Resources Journal
Jack L. Brown

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

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

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

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** SIMON PETER NANNINGA, B.S., Kansas State Teachers College; M.A., Stanford University; Ph.D., University of California. Dean Emeritus of the College of Education, Professor Emeritus of Education.

* Deceased Aug. 3, 1960

** Deceased Aug 12, 1960

BESS CURRY REDMAN, B.A., University of New Mexico; B.Mus., Lamont School of Music. Assistant Professor Emeritus of Music.

JESSE TAYLOR REID, B.A., Howard Payne College; M.A., Baylor University; Ed.D., Teachers College, Columbia University. Professor Emeritus of Education.

JOHN DONALD ROBB, B.A., Yale University; Juilliard School of Music; American Conservatory at Fontainebleau; M.A., Mills College. Dean Emeritus of the College of Fine Arts, Professor Emeritus of Music.

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⁸ **KENNETH MILLER ADAMS**, A.N.A., Art Institute of Chicago; Art Students' League of New York. Professor of Art and Artist in Residence.

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WILLIS LEE BARNES, Assistant Professor of Health, Physical Education, and Recreation.

⁹ **HARRY WETHERALD BASEHART**, M.A., Ph.D., Harvard University. Associate Professor of Anthropology.

JOHN MONTAYNE BATCHELLER, B.S., Potsdam Teachers College; M.A., Ed.M., Ph.D., University of South Carolina. Associate Professor of Music.

ERNEST WARREN BAUGHMAN, B.A., Ball State Teachers College; M.A., University of Chicago; Ph.D., Indiana University. Associate Professor of English.

⁸ On sabbatical leave second semester.

⁹ On leave second semester.

- ¹⁶ **STOUGHTON BELL, II**, B.A., M.A., Ph.D., University of California. Visiting Lecturer in Mathematics (Part-time).
- DAVID THEODORE BENEDETTI**, B.A., M.A., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Psychology.
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- ⁸ **GARLAN DIGGS BRYAN**, B.A., University of Texas. Lecturer in Architecture (Part-time).
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- LUCILE WILSON CATON**, B.S. in H.&P.E., University of New Mexico; Certificate in Physical Therapy, Stanford University. Instructor in Health, Physical Education, and Recreation (Part-time).
- FRANK SPRINGER CHAPMAN**, B.A., B.Ed., University of Colorado; M.A., University of New Mexico. Instructor in Mathematics (Part-time).

⁷ First semester only.

⁸ Second semester only.

¹⁶ Resigned October 16, 1959.

- ⁸ **FREDERICK MARTIN CHREIST**, B.A., DePauw University; M.A., Ph.D., Northwestern University. Associate Professor of Speech.
- KARL CHRISTMAN**, B.S., M.B.A., Indiana University; C.P.A. Assistant Professor of Business Administration.
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- ⁷ **JOHN PHELAN CONRON**, B.Arch., Yale University. Lecturer in Architecture (Part-time).
- ⁸ **HOWARD NORTON COOK**, N.A., Art Students' League of New York. Visiting Artist.
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⁸ On sabbatical leave second semester.

⁷ First semester only.

⁸ Second semester only.

¹² Deceased June 17, 1959.

¹⁸ Resigned as of March 1, 1960.

- PAUL LOUIS deVOS**, Captain, U.S.N.; B.S., United States Naval Academy; B.A., M.A., Oxford University. Commanding Officer of the Naval ROTC Unit, Professor of Naval Science.
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⁸ **DARLENE LOU EVERS**, B.Mus., Drake University; M.Mus., University of New Mexico. Instructor in Voice (Part-time).

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⁷ **JIM LAWRENCE FIFE**, B.A., Westminster College; M.A., State University of Iowa. Visiting Lecturer in English (Part-time).

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ESTHER EVELYN FLEISCHER, B.S., University of Minnesota. Instructor in Nursing.

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RAYMOND JOHN FOSS, B.S.C.E., South Dakota School of Mines and Technology. Professor of Civil Engineering.

⁷ **JAMES TROY FRANKLIN**, B.S., M.S., University of Texas. Instructor in Health, Physical Education, and Recreation (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.

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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.

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

⁷ First semester only.

⁸ Second semester only.

- EDWIN GERSCHÉFSKI**, Diploma, Matthay Pianoforte School, London; B.Mus., Ph.B., Yale University. Professor of Music, Chairman of the Department of Music.
- CHARLES CLARENCE GILBERT**, Captain, U.S.A.F.; B.S., Tri-State College. Assistant Professor of Air Science.
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- MERCEDES GUGISBERG**, B.S., M.S., University of Minnesota. Associate Professor of Health, Physical Education, and Recreation, Chairman of the Department of Health, Physical Education, and Recreation for Women.
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- EUGENE ALFRED HAMMEL**, B.A., Ph.D., University of California. Assistant Professor of Anthropology.
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- RUTH BRODERICK HARRIS**, B.S., Cornell University; M.S., University of Tennessee. Instructor in Home Economics.
- JOHN JAMES HEIMERICH**, B.S., M.S., Kansas State College. Professor of Architecture, Chairman of the Department of Architecture.
- MORRIS S. HENDRICKSON**, B.S., Birmingham-Southern College; M.A., Ph.D., Ohio State University. Professor of Mathematics, Chairman of the Department of Mathematics.
- ANNA A. S. HENRIQUES**, B.A., Western College; M.S., Ph.D., University of Chicago. Lecturer in Mathematics (Part-time).
- HENRY G. HERMES, JR.**, B.A., Montclair State College; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- FRANK CUMMINGS HIBBEN**, B.A., Princeton University; M.S., University of New Mexico; Ph.D., Harvard University. Professor of Anthropology, Curator of the Museum of Anthropology.
- RICHARD CHARLES HILDNER**, B.S., College of Wooster; M.A., Ph.D., Ohio State University. Visiting Lecturer in Mathematics (Part-time).

- HAMLIN LEWIS HILL, JR.**, B.A., University of Houston; M.A., University of Texas; Ph.D., University of Chicago. Instructor in English.
- ⁹ **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.
- ANNE BAIL HOWARD**, B.A., University of Colorado; M.A., University of New Mexico. Instructor in English (Part-time).
- WILLIAM HENRY HUBER, JR.**, B.A., LL.B., Ohio State University. Director of the University College, Associate Professor of Business Administration.
- GEORGE WILLIAM HUDSON**, B.S.E., University of Arkansas; M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- ³ **RICHARD GEORGE HUZARSKI**, B.S.C.E., University of Wisconsin; M.S., Texas Technological College. Professor of Civil Engineering.
- MAXWELL J. IHRIG**, Captain, U.S.A.F.; B.S., Bowling Green State University. Assistant Professor of Air Science.
- ⁵ **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.
- WILLIS DANA JACOBS**, B.A., M.A., University of New Mexico; Ph.D., University of North Carolina. Professor of English.
- FAITH ELIZABETH JENSEN**, B.S., Bates College; M.N., M.S., Yale University. Assistant Professor of Nursing.
- LEONARD LEON JERMAIN**, B.S., M.S., University of Oregon. Associate Professor of Journalism.
- DANIEL EVERETT JOHNSON**, B.S., Ball State Teachers College; M.S., University of Southern California; Ph.D., University of California at Los Angeles. Consulting Professor of Biology.
- KENNETH RAYMOND JOHNSON**, B.S.M.E., Duke University. Instructor in Mechanical Engineering.
- ¹⁵ **EDWARD LOREN JORDAN**, B.S.E.E., University of Arkansas; M.S.E.E., University of Kansas. Lecturer in Electrical Engineering.
- MIGUEL JORRÍN**, B.A., Colegio "De la Salle"; Dr.Pub.Law, Dr.Civ.Law, Universidad de la Habana. Director of the Division of Foreign Studies, Professor of Government.
- FREDERICK DSUIN JU**, B.S., University of Houston; M.S., Ph.D., University of Illinois. Assistant Professor of Mechanical Engineering.
- CHARLES BURNET JUDAH**, B.A., M.A., Ph.D., University of Illinois. Professor of Government, Acting Chairman¹¹ of the Department of Government.
- MILTON KAHN**, B.S., University of California; Ph.D., Washington University. Professor of Chemistry.
- JACK KATZENSTEIN**, B.S.M.E., Duke University; M.A., Ph.D., Harvard University. Associate Professor of Physics.
- WALTER BURROUS KELLER**, B.Mus., M.A., Indiana University; Juilliard Graduate School; Ph.D., Harvard University. Professor of Music.
- DAVID OTIS KELLEY**, B.A., M.A., University of Southern California. University Librarian, Professor of Library Science.

⁸ On sabbatical leave second semester.

⁵ On leave first semester.

⁹ On sabbatical leave second semester, 1958-59, first semester, 1959-60.

¹¹ Effective April 20, 1959.

¹⁵ Full time first semester, part-time second semester.

- VINCENT COOPER KELLEY, B.A., University of California at Los Angeles; M.S., Ph.D., California Institute of Technology. Professor of Geology; Acting Chairman⁸ of the Department of Geology.
- ¹⁷ JAMES FRANCIS KENNEY, B.S., Union College; M.S., Ph.D., University of New Mexico. Visiting Lecturer in Physics (Part-time).
- GEORGE LEONARD KEPPERS, B.Ed., St. Cloud State College; M.A., Colorado State College; Ed.D., University of Colorado. Associate Professor of Education, Special Adviser in the University College.
- FRANCIS MONROE KERCHEVILLE, B.A., Abilene Christian College; M.A., Ph.D., University of Wisconsin; Certificat, Universite de Paris (Sorbonne). Professor of Modern Languages.
- ELEANOR MARIETTA KING, B.A., Hamline University; B.N., Yale University; M.P.H., Johns Hopkins University. Dean of the College of Nursing, Professor of Nursing.
- JANE KLUCKHOHN, B.A., University of Wisconsin; M.A., University of New Mexico. Assistant Professor of English (Part-time).
- ROBERT EDWARD LEE KNIGHT, B.A., Harvard University; Ph.D., University of California. Assistant Professor of Economics.
- IGNACE I. KOLODNER, Diplome d'Ingenieur, University of Grenoble, France; Ph.D., New York University. Professor of Mathematics.
- LAMBERT HERMAN KOOPMANS, B.A., San Diego State College; Ph.D., University of California. Visiting Lecturer in Mathematics (Part-time).
- ARNOLD HERMAN KOSCHMANN, B.A., Valparaiso University; B.S.E.E., M.S., Ph.D., Purdue University. Associate Professor of Electrical Engineering.
- WILLIAM JACOB KOSTER, B.S., Ph.D., Cornell University. Professor of Biology.
- JOSEPH MARSHALL KUNTZ, B.A., M.A., University of New Mexico. Assistant Professor of English.
- DOROTHY BECKWITH LACOUR, Certificate, State University of Iowa School of Nursing; B.A., University of New Mexico. Instructor in Nursing.
- ¹ LINCOLN LaPAZ, B.A., Fairmont College; M.A., Harvard University; Ph.D., University of Chicago. Professor of Mathematics and Astronomy, Director of the Division of Astronomy and of the Institute of Meteoritics.
- CHRISTOPHER PRATT LEAVITT, B.S., Ph.D., Massachusetts Institute of Technology. Assistant Professor of Physics, Acting Chairman of the Department of Physics.
- ANDRE RENE LeBLANC, B.S., M.S., University of Vermont. Instructor in Electrical Engineering (Part-time).
- ¹⁸ MARVIN LEVY, B.A., Coe College; M.A., Harvard University. Assistant Professor of Health, Physical Education, and Recreation, Head Football Coach.
- 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. Instructor in Art.
- EDWIN LIEUWEN, B.A., M.A., Ph.D., University of California. Associate Professor of History, Chairman of the Department of History.
- CHARLES LORAIN LONG, B.S., Kansas State Teachers College; M.A., University of New Mexico. Instructor in Speech (Part-time).
- JOHN EDWARD LONGHURST, B.A., Washington State University; M.A., Syracuse University; M.A., Ph.D., University of Michigan. Professor of History; Associate Director of Honors, College of Arts and Sciences.

¹ On sabbatical leave for the year.

⁸ Second semester only.

¹⁷ Part-time first semester, full-time second semester.

¹⁸ Resigned as of March 1, 1960.

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

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

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

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

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

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

MARVIN HERBERT MALONE, B.S., M.S., Ph.D., University of Nebraska. Assistant Professor of Pharmacology.

⁴ **ABRAM VENABLE MARTIN**, B.A., Presbyterian College; Ph.D., Duke University. Associate Professor of Mathematics.

ERNEST LYNNE MARTIN, B.S., New Mexico Western College; M.A., Ph.D., Indiana University. Associate Professor of Chemistry.

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

JOSE ELEAZAR MARTINEZ, B.S. in C.E., University of New Mexico; M.S., Iowa State University. Associate Professor of Civil Engineering.

ALEXANDER SIMEON MASLEY, B.S., University of Minnesota; M.A., Ed.D., Columbia University. Professor of Art Education, Chairman of the Department of Art Education.

MARVIN CLARK MAY, B.S. in C.E., University of New Mexico; M.S., Oklahoma State University. Professor of Civil Engineering.

JORG WERNER PETER MAYER-KALKSCHMIDT, Dipl.Math., Dr.Rer.Nat., University of Giessen, Germany. Assistant Professor of Mathematics.

DUANE RANCIER McCLARY, B.S. in Ed., Central State College; M.I.E., University of Oklahoma. Instructor in Education.

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.

HOWARD JOHNSTONE McMURRAY, B.A., M.A., Ph.D., University of Wisconsin. Professor of Government.

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

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

KENNETH GORDON MEDEARIS, B.S.C.E., M.S.C.E., University of Illinois. Assistant Professor of Civil Engineering.

ARTHUR WILSON MELLOH, B.E.E., M.S., Ph.D., University of Minnesota. Professor of Electrical Engineering.

HARRY EUGENE MILLER, B.A., Eastern New Mexico University; M.A., Western State College of Colorado. Assistant Professor of Health, Physical Education, and Recreation, Assistant Basketball Coach.

⁴ On leave for the year.

- 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.
- KEITH MONROE**, B.A., University of California. Visiting Professor of Art.
- RICHARD KERR MOORE**, B.S.E.E., Washington University; Ph.D., Cornell University. Professor of Electrical Engineering, Chairman of the Department of Electrical Engineering.
- ROBERT MARION MORGAN**, B.S., M.S., Oklahoma State University; Ph.D., Ohio State University. Assistant Professor of Psychology.
- PERRY T. MORI**, B.S., B.A., M.B.A., Northwestern University; C.P.A. Associate Professor of Business Administration.
- ⁸ **MARSHALL RUTHERFORD NASON**, B.A., M.A., Louisiana State University; Ph.D., University of Chicago. Associate Professor of Modern Languages.
- ¹⁸ **JOHN LAWRENCE NEUMANN**, B.S., M.S., Springfield College. Assistant Professor of Health, Physical Education, and Recreation, Assistant Football Coach.
- STANLEY STEWART NEWMAN**, Ph.B., M.A., University of Chicago; Ph.D., Yale University. Professor of Anthropology, Acting Chairman⁷ of the Department of Anthropology.
- GENEVIEVE ELEANOR NOBLE**, B.A., Goucher College; M.A., Teachers College, Columbia University; M.S., Yale University. Assistant Professor of Nursing.
- EDWARD GILLIGAN NOLAN**, M.A., B.Ed., University of Edinburgh; M.A., Ph.D., Princeton University. Assistant Professor of Psychology.
- ⁸ **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.
- ⁸ **STUART ALYORD NORTHROP**, B.S., Ph.D., Yale University. Professor of Geology, Chairman of the Department of Geology, Curator of the Geology Museum.
- ⁷ **BERNARD OSTLE**, B.A., M.A., University of British Columbia; Ph.D., Iowa State University. Visiting Lecturer in Mathematics (Part-time).
- CULLEN BRYANT OWENS**, B.A., Berea College; M.S., Northwestern University; Ph.D., Cornell University. Associate Professor of Speech.
- CARL ERICH PAAK**, B.A.E., School of the Art Institute of Chicago; M.A., Ohio State University. Assistant Professor of Art.
- FRANK EDWARD PAPCSY**, B.S., Upsala College; M.A., New York University. Assistant Professor of Health, Physical Education, and Recreation.
- WILLIAM JACKSON PARISH**, Ph.B., Brown University; M.B.A., D.C.S., Harvard University. Dean of the College of Business Administration, Professor of Business Administration.
- JAMES WALLACE PARK**, B.S.C., M.B.E., University of Mississippi. Instructor in Business Administration.
- ⁹ **THOMAS MATTHEWS PEARCE**, B.A., University of Montana; M.A., Ph.D., University of Pittsburgh. Professor of English.
- ARTHUR EMMET PENNELL**, B.S., M.A., Ph.D., University of Illinois. Instructor in English.
- EDITH HAMILTON-MOODIE PETERSON**, B.A., University of London; M.A., Ph.D., University of New Mexico. Visiting Lecturer in English (Part-time).
- GEORGE MAXWELL PETERSON**, Ph.B., M.A., Ph.D., University of Chicago. Professor of Psychology, Chairman of the Department of Psychology.

⁹ On sabbatical leave second semester.

⁷ First semester only.

¹⁸ Resigned as of March 1, 1960.

- GEORGE THOMAS PETROL**, B.S., Albright College; M.A., University of New Mexico. Assistant Professor of Health, Physical Education, and Recreation.
- PAUL VERNON PETTY**, B.S.E., Arkansas State Teachers College; M.A., Duke University; Ph.D., University of Texas. Professor of Education, Chairman of the Department of Educational and Administrative Services.
- CHARLOTTE LEWIS PIPER**, B.A., Baker University. Instructor in Health, Physical Education, and Recreation.
- ¹³ **JOHN WESLEY POORE**, B.S., M.S., University of Tennessee. Associate Professor of Art.
- 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.
- ⁷ **RICHARD ROLAND PRAIRIE**, B.S., University of Minnesota; M.S., North Carolina State College. Instructor in Mathematics (Part-time).
- ⁷ **TIM CHRIS PRESTON**, B.S., University of New Hampshire; M.S., University of Michigan. Instructor in Mathematics (Part-time).
- KEEN RAFFERTY**, B.A., University of New Mexico. Professor of Journalism, Chairman of the Department of Journalism.
- ⁷ **DONALD FRANK RAUBER**, B.A., Saint Mary's College; M.A., Ph.D., University of Oregon. Visiting Lecturer in English (Part-time).
- ⁸ **MARY HICKS RAYMOND**, B.A., Baylor University; M.A., University of New Mexico. Instructor in English (Part-time).
- JOHN BENJAMIN REED, JR.**, B.A., Tulane University. Lecturer in Architecture (Part-time).
- FRANK DRIVER REEVE**, B.A., M.A., University of New Mexico; Ph.D., University of Texas. Professor of History. Editor of the *New Mexico Historical Review*.
- BOBBY JACK REEVES**, B.A., University of Miami; M.A., University of New Mexico. Instructor in Art (Part-time).
- VICTOR H. REGENER**, Dr.-Ing., Technische Hochschule, Stuttgart. Research Professor of Physics.
- VIRGINIA REVA**, B.A., St. Mary's College, Notre Dame; M.A., University of Michigan. Assistant Professor of Business Administration.
- JACK RODNEY RHOADES**, Lieutenant Colonel, U.S.M.C.; B.A., University of Nevada. Associate Professor of Naval Science, Executive Officer of the Naval ROTC Unit.
- WILLIAM EARL RHOADS**, B.Mus., M.Mus., University of Michigan. Associate Professor of Music.
- ¹⁰ **ALLAN RENE RICHARDS**, B.A., M.A., University of Colorado; Ph.D., University of North Carolina. Associate Professor of Government.
- 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.
- 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., University of Illinois. Assistant Professor of Economics.

⁷ First semester only.

⁸ Second semester only.

¹⁰ On leave 1958-60.

¹³ Deceased June 25, 1959.

- ⁷ **CALVIN BENJAMIN ROGERS**, B.S., M.S., University of New Mexico. Instructor in Mathematics (Part-time).
- ABRAHAM ROSENZWEIG**, B.S., University of Pennsylvania; Ph.D., Bryn Mawr College. Assistant Professor of Geology.
- CLARICE PIERCE RUMPH**, B.A., M.A., University of Texas. Instructor in Mathematics.
- WILLIAM BARTON RUNGE**, B.S., M.Ed., Colorado State University; Ed.D., University of Southern California. Associate Professor of Education.
- ¹ **JOSIAH COX RUSSELL**, B.A., Earlham College; M.A., Ph.D., Harvard University. Professor of History.
- DEVOY ALONZO RYAN**, B.S., Southwest Missouri State College; M.Ed., D.Ed., University of Missouri. Assistant Professor of Education.
- EUGENE WESTON RYPKA**, B.A., Ph.D., Stanford University. Assistant Professor of Biology.
- 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. Assistant Professor of Naval Science.
- TOM TAKETO SASAKI**, B.A., University of California; Ph.D., Cornell University. Assistant Professor of Sociology, Acting Chairman of the Department of Sociology.
- RICHARD KEITH SCHEER**, B.A., University of Nebraska; M.A., University of Florida; Ph.D., University of Nebraska. Instructor in Mathematics.
- DON PAUL SCHLEGEL**, B.A., University of Cincinnati; M.A., Massachusetts Institute of Technology. Associate Professor of Architecture.
- MORTON GERALD SCHOENFELD**, Juilliard Graduate School; B.Mus., Rollins College; M.Mus., University of Wisconsin. Associate Professor of Music.
- FRANCE VINTON SCHOLES**, B.A., M.A., Ph.D., Harvard University. Research Professor of History.
- FLORENCE MARGARET SCHROEDER**, B.S., Iowa State College; M.A., Teachers College, Columbia University; Ph.D., New York University. Associate Professor of Home Economics.
- VICTOR VIO SEARCY**, B.S., M.S., Oklahoma State University. Instructor in Chemistry.
- VERLE RUE SEED**, B.A., B.S., J.D., University of Illinois; LL.M., Columbia University. Professor of Law.
- ARMOND HAROLD SEIDLER**, B.S., M.S., Ph.D., University of Illinois. Professor of Health, Physical Education, and Recreation, Chairman of the Department of Health, Physical Education, and Recreation for Men.
- ³ **RAMON JOSÉ SENDER**, B.A., Instituto de Zaragoza; Lic. en Filosofía y Letras, Universidad Central de Madrid. Professor of Modern Languages.
- MARY PATRICIA SIMMONS**, B.S.P.H., M.S.Ed., University of Michigan. Assistant Professor of Nursing.
- KATHERINE GAUSS SIMONS**, B.A., Grinnell College; M.A., Columbia University. Associate Professor of English, Administrative Assistant in the Graduate School.
- DONALD EMANUEL SKABELUND**, B.S., Utah State College; Ph.D., University of Utah. Assistant Professor of Physics.
- VICTOR J. SKOGLUND**, B.S., M.S., University of California; D.Eng., Yale University. Associate Professor of Mechanical Engineering.
- DANE FARNSWORTH SMITH**, B.A., Vanderbilt University; M.A., Ph.D., Harvard University. Professor of English.

¹ On sabbatical leave for the year.

³ On sabbatical leave second semester.

⁷ First semester only.

- ⁶ **DANIEL MURRAY SMITH, JR.**, B.S., M.S., Louisiana State University; C.P.A. Professor of Accounting.
- GEORGE WINSTON SMITH**, B.A., M.A., University of Illinois; Ph.D., University of Wisconsin. Professor of History.
- SAMUEL DAVID SMITH**, Studied in Africa, Orient, Near East, and United States. Associate Professor of Art.
- SHERMAN EVERETT SMITH**, B.S., South Dakota School of Mines and Technology; Ph.D., Ohio State University. Director of Student Affairs, Professor of Chemistry.
- ROBERT EDWIN SNAPP**, B.A., M.A., University of New Mexico; M.F.A., Yale University. Professor of Dramatic Art, Chairman of the Department of Dramatic Art.
- JANE SNOW**, B.Mus., M.Mus., Cincinnati College of Music. Associate Professor of Music.
- VERNON GUY SORRELL**, B.A., State University of Iowa; M.A., University of Illinois; Ph.D., University of California. Professor of Business Administration.
- KENNETH HOTTENSTEIN STAHL**, B.A., Carthage College; B.S., M.S., State University of Iowa; Ph.D., University of Maryland. Assistant Professor of Pharmacy.
- GEORGE POWELL STECK**, B.A., University of California; M.S., California Institute of Technology; Ph.D., University of California. Visiting Lecturer in Mathematics (Part-time).
- ARTHUR STEGER**, B.A., University of Pennsylvania; M.A., Ph.D., University of California. Assistant Professor of Mathematics.
- EDWIN EUGENE STEIN**, B.S., Michigan State College; M.M., Ph.D., University of Rochester. Dean of the College of Fine Arts, Professor of Music.
- JACK RAMSEY STEPHENSON**, B.Mus.Ed., B.Mus., M.Mus.Ed., Ph.D., University of Kansas. Associate Professor of Music.
- HERMAN JULIUS STOEVER**, B.S., Purdue University; M.S., Ph.D., University of Illinois. Professor of Mechanical Engineering.
- GEORGE LEONARD ODELL STOUGHTON**, B.F.A., M.A., University of South Dakota. Assistant Professor of Dramatic Art.
- RICHARD EARL STRAHLEM**, B.S., M.S., Indiana University. Professor of Business Administration.
- HOWARD KEITH STUMPPFF**, B.S. in Ed., Central Missouri State College; M.A., University of Missouri. Instructor in Mathematics.
- ROBERT MILES SWEENEY**, B.S., University of Colorado; M.A., University of New Mexico. Assistant Professor of Health, Physical Education, and Recreation, Head Basketball Coach.
- ROBERT DALE SWIHART**, B.A., DePauw University; J.D., Indiana University. Assistant Professor of Law.
- RALPH WILVER TAPY**, B.S. in E.E., E.E., Rose Polytechnic Institute; M.S. in E.E., University of Michigan. Professor of Electrical Engineering.
- ¹ **JOHN TATSCHL**, Diploma, Austrian State Teachers College; Diploma, Vienna Academy of Applied Arts; Diploma, Master School of Sculpture, Vienna Academy of Fine Arts. Professor of Art.
- JACK JOSEPH TAYLOR**, B.S., Kutztown State Teachers College; M.Ed., Pennsylvania State University. Instructor in Art Education.
- ⁸ **JOHN FRANCIS TAYLOR**, B.S., University of New Mexico. Instructor in Electrical Engineering (Part-time).
- ROBERT BARTLEY TAYLOR**, B.S., Wheaton College; M.S., University of Oregon. Visiting Assistant Professor of Sociology.
- ERNEST WARNOCK TEDLOCK, JR.**, B.A., M.A., University of Missouri; Ph.D., University of Southern California. Professor of English.

¹ On sabbatical leave for the year.

⁸ On leave second semester.

⁸ Second semester only.

- ROY THOMAS**, B.Sc., University of Alberta; Ph.D., University of California. Professor of Physics.
- DONALD CHILDRESS THORN**, B.S., Agricultural and Mechanical College of Texas; M.S., Ph.D., University of Texas. Assistant Professor of Electrical Engineering.
- JAMES IRVING THORNTON**, B.A., University of New Mexico; M.M., Cincinnati Conservatory. Instructor in Music.
- MELVIN EUGENE TIMMERMAN**, B.A., Erskine College; M.Ed., Ph.D., University of South Carolina. Assistant Professor of Education.
- ¹⁴ **LOYD SPENCER TIREMAN**, B.A., Upper Iowa University; M.A., Ph.D., State University of Iowa. Professor of Education, Chairman of the Department of Elementary Education.
- HENRY JACK TOBIAS**, B.A., Ohio State University; M.A., Yale University; Ph.D., Stanford University. Assistant Professor of History.
- RICHARD KIETH TRAEGER**, B.S., University of Wisconsin; M.S., Case Institute of Technology. Instructor in Chemical Engineering.
- CHESTER COLEMAN TRAVELSTEAD**, B.A., Western Kentucky State College; M.Mus., Northwestern University; Ph.D., University of Kentucky. Dean of the College of Education, Professor of Education.
- HOYT TROWBRIDGE**, B.A., M.A., Ph.D., University of Wisconsin. Professor of English. Chairman of the Department of English.
- YI-FU TUAN**, B.A., M.A., University of Oxford; Ph.D., University of California. Assistant Professor of Geography.
- SABINE REYES ULIBARRI**, B.A., M.A., University of New Mexico; Ph.D., University of California at Los Angeles. Assistant Professor of Modern Languages.
- ⁸ **MARY LOUISE UNANGST**, B.A., Texas College of Arts and Industries; M.A., Louisiana State University. Instructor in English (Part-time).
- RICHARD GEORGE VAUGHAN**, B.S., University of New Mexico. Instructor in Civil Engineering.
- DAVID HARVEY VERNON**, B.A., Harvard College; LL.B., Harvard Law School; LL.M., New York University Law School. Associate Professor of Law.
- WILLIAM CHAUNCEY WAGNER**, B.S. in C.E., C.E., South Dakota School of Mines; M.S. in C.E., Iowa State University. Professor of Civil Engineering.
- HAROLD LEROY WALKER**, B.S., M.S., E.Met., Michigan College of Mining and Technology. Director of Research, Professor of Metallurgical Engineering.
- PAUL A. F. WALTER, JR.**, B.A., Ph.D., Stanford University; M.A., University of New Mexico. Professor of Sociology.
- LAURA HELEN WALTERS**, B.S., Teachers College, Columbia University; M.A., University of Minnesota; Ed.D., Colorado State College. Associate Professor of Education.
- LeROY RICHARD WATERMAN**, Major, U.S.A.F.; University of Kansas. Assistant Professor of Air Science.
- ELIZABETH WATERS**, Hanya Holm School, New York City; student of the dance with Ruth St. Denis. Instructor in Physical Education.
- WILLIAM UZZIEL WEEKS**, B.S., M.S., Iowa State University. Assistant Professor of Health, Physical Education, and Recreation, Assistant Football Coach.⁷ Head Football Coach.⁸
- JOSEPH WILLIAM WEIHE**, B.S., M.S., University of Nevada; Ph.D., University of California. Visiting Lecturer in Mathematics (Part-time).
- HENRY P. WEIHOFEN**, Ph.B., J.D., J.S.D., University of Chicago. Professor of Law.

⁷ First semester only.

⁸ Second semester only.

¹⁴ Deceased October 25, 1959.

ALFRED COTTER WELCH, B.A., M.A., Ph.D., University of Minnesota. Associate Professor of Business Administration, Special Adviser in the University College.

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HOLLOMAN GRADUATE CENTER

⁸ **GERHARD WINFRIED BRAUN**, Ph.D., University of Goettingen. Lecturer in Mechanical Engineering.

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³ On sabbatical leave second semester.

⁴ On leave for the year.

⁸ Second semester only.

- ⁷ **HARRY LANE GEPHART**, Lieutenant Colonel, U.S.A.F.; B.S., New Mexico Western College; M.S., California Institute of Technology. *Instructor in Mechanical Engineering (Part-time).*
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- ⁷ **PRESTON MORGNER KAMPMEYER**, B.S., University of Chicago; Ph.D., University of Pittsburgh. *Professor of Physics (Part-time).*
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- ⁷ **ROBERT GUSTAV TANTZEN**, Dipl.Ing., Technical University of Hanover. *Instructor in Electrical Engineering (Part-time).*

LOS ALAMOS GRADUATE CENTER

FACULTY

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- ⁷ **RONALD RUTT MOHLER**, B.S., Pennsylvania State University; M.S., University of Southern California. *Instructor in Electrical Engineering (Part-time).*

⁷ First semester only.

⁸ Second semester only.

- ⁸ **ALBERT G. PETSCHKE**, B.S., Massachusetts Institute of Technology; M.S., University of Michigan; Ph.D., University of Rochester. Professor of Physics (Part-time).
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⁷ First semester only.

⁸ Second semester only.

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⁷ First semester only.

⁸ Second semester only.

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⁸ Second semester only.

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⁷ First semester only.

⁸ Second semester only.

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- PHYLLIS RUTH SWARTZ, B.A., Baldwin-Wallace College.
- BARBARA MARIE TENHOPE, B.S., Springfield College.

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 contribution to the cultural life of the State.

ACCREDITATION

The University has been a member of the North Central Association of Colleges and Secondary Schools since 1922. The Extension Division was approved by the National University Extension Association in 1930. Approval of the Association of American Universities was given to the University in 1933, and the American Association of University Women recognized the University in the same year. The College of Engineering was first approved in 1937 by the Engineering Council for Professional Development. In 1948 the College of Pharmacy was accredited by the American Council on Pharmaceutical Education and in 1952 it was accepted into membership by the American Association of Colleges of Pharmacy. The School of Law was approved by the American Bar Association in February, 1948, and was admitted to membership in the Association of American Law Schools in December, 1948. In the same year, the College of Education was accredited by the American Association of Colleges for Teacher Education. In 1954 the Association transferred its list of accredited institutions to the National Council for Accreditation of Teacher Education. In 1959 the baccalaureate program of the College of Nursing, including public health nursing, was accredited by the National League for Nursing.

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

SITUATION

The University is situated in Albuquerque, the center of a metropolitan area of 250,000 inhabitants. The campus lies a mile above sea level on a plateau overlooking the Rio Grande, and about 12 miles from the lofty Sandia mountains. Albuquerque is noted for its dry and sunny climate. Although the weather undergoes the normal seasonal changes, temperatures are not extreme.

New Mexico is assuming a position of growing importance in the development of atomic and nuclear weapons and nuclear propulsion, and as a center for guided missile and rocket research and testing. The Los Alamos Scientific Laboratory, birthplace of the atomic bomb, is located 100 miles to the north, the Air Force Missile Development Center at Holloman Air Force Base and the Army's White Sands Proving Ground 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 68 years since its inception has been extraordinary. The 20 acres allotted by the Territorial Legislature for a campus have become more than 400; buildings have increased from a single structure to 55 permanent structures.

The development of new colleges and divisions has kept pace with the physical growth of the institution. The College Department became the College of Literature and Arts in 1898, later changing to its present title of College of Arts and Sciences. The College of Engineering opened in 1906, and the Graduate School in 1919. In 1928 the College of Education was created; in 1935 the General College; and in 1936 the College of Fine Arts. A unit of the United States Naval Reserve Officers Training Corps was established May 20, 1941. In 1945 the following new divisions became an active part of the University program: The College of Pharmacy, the Division of Government Research and the Bureau of Business Research. In 1946 the Division of Research and Development and the Institute of Meteoritics were added to the University's research program. The College of Business Administration and the College of Law were organized in the fall of 1947. The title "College of Law" was changed to "School of Law" in 1960. An Air Force Reserve Officers Training Corps unit was established in 1949. Although extension work was offered as early as 1913, the Extension Division as a separate unit with a full-time director began operations in 1928. A reorganization took place in 1953 which combined the Division of Extension, the Summer Session, the credit and non-credit evening program, conferences, and short-course offerings under the single administrative unit, Division of Extension, Summer Session, and Community Services. This Division also administers the Community College (credit and non-credit sections). The College of Nursing was established in 1955, and in 1956 the Los Alamos Graduate Center and the University College were created. Upon the establishment of the University College, the General College was abandoned. The Holloman Graduate Center was established in 1957. The Division of Foreign Studies was established in 1959. This unit had its origin in 1941 as the School of Inter-American Affairs. The University has 41 instructional departments; work leading to the master's degree is offered in 33 fields, and toward the doctor's degree in 14.

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

GOVERNMENT AND SUPPORT

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

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

OFFICE OF DEVELOPMENT

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

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

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

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

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

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

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

CAMPUS AND BUILDINGS

The campus of the University of New Mexico is in the eastern section of the city of Albuquerque and comprises over 400 acres, landscaped with grass, giant cottonwoods, elms, and mountain evergreens. The 55 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, Anthropology Building, Architecture Building, Art Department Crafts Annex, Bandelier Hall (Departmental Offices), Biology Building, Bureau of Business Research Building, Carlisle Gymnasium, Chemical Engineering Building, Chemistry Building (Clark Hall), Civil Engineering Building, Coronado Hall (Men's Dormitory), Counseling and Testing Building, Drama and Industrial Arts Building, Electrical Engineering Building, Faculty Apartments, Fine Arts Building, Geology Building, Golf Course Clubhouse, Heating Plant, Hodgkin Hall (Education), Hokona Hall (Women's Dormitory), Home Management House, Hydraulics Laboratory, Infirmary, Johnson Gymnasium, Jonson Art Gallery, Journalism Building, Law Building, Lecture Hall, Library, Marron Hall (Departmental Offices), Mechanical Engineering Building, Mechanical Engineering Foundry, Mechanical Engineering Metal Shop, Mesa Vista Hall (Men's Dormitory), Meteoritics Building, Mitchell Hall (Classrooms), Music Building, New Mexico Union, North Hall (Departmental Offices), Observatory, Ortega Hall (Languages), Pharmacy Building, Physics Building, President's Home, Research Center, Rifle Range, Sara Reynolds Hall (Home Economics), Speech-Television-Radio Building, Stadium Building, State Public Health Laboratory, University Theatre (Rodey Hall), Warehouse Building (Physical Plant Dept., Receiving and Stores), Yatoka Hall (Business Administration). A Memorial Chapel and a new 30,000 seat stadium are scheduled for completion in the fall of 1960.

THE LIBRARY

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

RESOURCES. Library collections include 296,936 cataloged and processed volumes, several thousand other cataloged serials and pamphlets, 196,394 government publications, 3,885 reels of microfilm, 51,160 microcards, 47,678 maps, several thousand pamphlets and pictures, 761 sound recordings, and a large collection of archival material. These resources provide adequate study and research facilities for undergraduate work and for the special fields in which graduate work is offered.

SPECIAL COLLECTIONS. The Coronado Room contains an extensive collection of books and other materials concerning the history and culture of the Southwest in general and New Mexico in particular. It contains State publications and books about New Mexico, several hundred bound volumes of photostats of the archives

of Spain, Mexico, and New Mexico, letters, manuscripts, documents and state archival materials assembled by the U. S. Historical Records Survey.

The business history collection contains records of the First National Bank of Santa Fe, 1871-1926, the Iffeld 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 two weeks, with the privilege of renewal. 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 8:00 a.m. to 10:00 p.m., Mondays through Thursdays; from 8:00 a.m. to 5:00 p.m., Fridays and Saturdays; and Sundays, from 1:00 to 5:00 p.m.

LAW LIBRARY. The School of Law Library, housed separately with the law school, received an auspicious start through donation of the Francis C. Wilson, Francis E. Wood and other private law library collections. It contains approximately 50,000 volumes and is being augmented by approximately 250 volumes each month. The library includes comprehensive collections of British, Federal and State court reports, including special and annotated series, session laws, current State and Federal statutes, legal treatises, periodicals, encyclopedias and digests, administrative reports, and other classes of legal materials.

MUSEUMS, COLLECTIONS, AND EXHIBITIONS

ANTHROPOLOGY MUSEUM

During the period 1960-61 the collections of the Museum of Anthropology are being transferred to the new Anthropology Building. Exhibits are being con-

structed in these new quarters and in the new museum wing on the Anthropology Building. Exhibits featuring the American Southwest, Mexico, Peru, European Prehistory, Eskimos, Northwest Coast and Plains Indians will be installed. These exhibits will be available to the public as soon as they are completed.

FINE ARTS GALLERY

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

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

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

GEOLOGY MUSEUM

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

Other notable features are an exhibit illustrating how fossils are preserved; an exhibit of New Mexico metallic and nonmetallic ores; rotating exhibits of various geological materials; a series of map displays; a geologic cross-section through Mount Taylor and the Sandia Mountains, together with numerous rock samples; and an unusually fine fluorescence-phosphorescence exhibit of minerals under both long-wave and short-wave ultraviolet light.

HARWOOD FOUNDATION

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

JONSON GALLERY

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

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

MUSIC RECORD COLLECTION

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

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

RESEARCH ACTIVITIES

THE OFFICE OF DIRECTOR OF RESEARCH

Harold L. Walker, Director

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

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

- (1) to foster a more effective and more extensive program in research and other scholarly pursuits within the University;
- (2) to make a continuing survey of the research and other scholarly and creative interests, activities, and needs, as well as of the human and physical resources, within the University; and to disseminate this information to faculty members and departments, the University administration, State and Federal agencies, and possible sponsors of research in business and industry;
- (3) to coordinate, insofar as possible and desirable, the various research activities on campus;
- (4) to seek to secure funds in support of research and other scholarly and creative activities and interests in the University;
- (5) to supervise University patent policy.

UNIVERSITY RESEARCH COMMITTEE

The University Research Committee is a standing committee of the Faculty which includes in its membership the Director of Research and the Dean of the Graduate School. The Committee is concerned with matters of research policy

directly or indirectly affecting the Faculty and the University, administers the University's program of non-contract research, and supervises and allocates the University Research Fund.

THE BUREAU OF BUSINESS RESEARCH

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

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

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

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

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

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

The "New Mexico Studies in Business and Economics," a series in which research monographs under various subject titles are issued at irregular intervals.

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

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

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

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

THE DIVISION OF RESEARCH OF THE DEPARTMENT OF GOVERNMENT

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

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

The Division selects for study contemporary subjects of importance to the people of the State, publishes the completed studies, and makes them available to interested citizens and officials in New Mexico and elsewhere.

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

Care is taken in each study to gather pertinent facts with fullness and accuracy and to draw conclusions with impartiality. No conclusions concerning University policies or views are to be drawn from published studies. Opinions expressed in studies are those of the authors, who accept responsibility for them.

The Division has completed more than 50 studies on subjects pertinent to education, finance, government, and politics in New Mexico.

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

ENGINEERING EXPERIMENT STATION

Marshall E. Farris, Dean, College of Engineering, Director

The operating functions of the Experiment Station are controlled by an executive committee composed of the Director; the Chairman of Chemical Engineering, T. T. Castonguay; the Chairman of Civil Engineering, R. H. Clough; the Chairman of Electrical Engineering, Richard K. Moore; the Chairman of Mechanical Engineering, Charles T. Grace; and a faculty representative from each department having an active contract research project in the Station.

The Engineering Experiment Station was established for the purpose of studying engineering problems that will aid in the development, use, and conservation of the natural resources of New Mexico. It is also the purpose of the Station to cooperate with the industries and government agencies within the State in the study of projects that will improve the engineering work done by these organizations.

The results of studies or investigations undertaken by the Station are published as bulletins and circulars of the Engineering Experiment Station for the benefit of the people of the State.

The current research program in the Experiment Station involves approximately 16 contract research projects, with the greater portion of the work being done in Electrical Engineering.

THE INSTITUTE OF METEORITICS OF THE UNIVERSITY OF NEW MEXICO

Resident Staff:

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

Research Associates:

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

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

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

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

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

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

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

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

Professor Richard G. Huzarski, Department of Civil Engineering, 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, aerodynamisticians, and other investigators engaged in

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

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

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

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

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

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

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

As regards publications, the Institute sponsors a series of meteoritical monographs, the **University of New Mexico Publications in Meteoritics**; and, in conjunction with the Meteoritical Society, published the new journal, **Meteoritics**.

LECTURES

THE ANNUAL RESEARCH LECTURESHIP

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

CARL GRABO MEMORIAL LECTURES

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

JOHN FIELD SIMMS MEMORIAL LECTURES (1954)

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

MILITARY TRAINING

AIR FORCE ROTC

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

The course consists of four years. Veterans and students who have had previous ROTC training may be exempt from part of the course, depending upon their previous training. Students in any baccalaureate degree program are accepted. Upon completion of the Air Force ROTC course, cadets may be commissioned as second lieutenants in the Air Force Reserve. Students retain their civilian status during their training and while they are commissioned in the Air Force Reserve, unless they elect to go on active duty, or are called to active duty. There is no flying training in the Air Force ROTC course. Qualified graduates may attend an Air Force flying school as second lieutenants.

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

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

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

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

NAVAL ROTC

A. Naval Reserve Officers' Training Corps Unit, established by the Navy Department, is in operation at the University of New Mexico. The NROTC offers the opportunity for NROTC students to qualify for a commission in the U. S. Navy and Marine Corps and U. S. Naval Reserve and Marine Corps Reserve upon completion of the baccalaureate requirements.

Two types of programs are included in the NROTC. Entering male freshmen who have been selected by the Navy Department after nationwide competitive examination are enrolled as Regular NROTC students. Regular NROTC students receive \$50 per month and have their tuition, books and fees paid for by the

Navy. Examinations for the Regular Program are given each winter by the Navy Department. Additional information concerning the Regular Program can be obtained from high school principals, Navy recruiters, and the Professor of Naval Science in the University NROTC Unit.

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

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

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

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

EDUCATIONAL DEFERMENT OF CIVILIAN STUDENTS

SELECTIVE SERVICE REPORTS

The University's Records Office will, upon request, provide certifications to their draft boards for students applying for educational deferment. It is a requirement of Selective Service that the individual seeking deferment as a student must make written request for such deferment. It is the student's responsibility to file with his draft board a letter requesting deferment at the beginning of each school year. The certification supplied by the University supports the student's personal request.

ALUMNI ASSOCIATION

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

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

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

The Association's program includes: coordinating and directing Homecoming activities, arranging class reunions, organizing alumni clubs throughout the State

and nation, providing for a reserved alumni section at all athletic events, assisting with alumni placement services, promoting citizenship among undergraduates, assisting with student recruitment, and in other ways promoting the interests of alumni in the University. Currently, the Association is engaged in a fund-raising project to erect an inter-faith War Memorial Chapel on the campus.

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

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

ADMISSION AND REGISTRATION

APPLICATION AND CREDENTIALS

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

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

FRESHMEN

HOW TO APPLY

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

When the application and transcript have been received, the Office of Admissions will send to the applicant notice of eligibility or ineligibility for admission. An applicant who requires dormitory accommodations will also be sent a contract for board and room and a request for a \$25 advance housing deposit. The notice of admission will include an advisement and registration appointment, registration instructions, and a medical examination form.

WHEN TO APPLY

The application and high school transcript should be filed no sooner than the beginning of the final year in high school, nor later than August 15 preceding the fall semester or January 1 preceding the spring semester. For the student who has not yet been graduated from high school, the transcript should include all courses completed and should list any courses in progress. This partial transcript will provide a basis for extending tentative admission to the apparently eligible applicant, subject to receipt of a final transcript showing grades and credit for the senior year, and the graduation date.

ADVISEMENT TESTS

All freshmen entering the University are enrolled in the University College (see p. 107). 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 (see the Calendar).

ADMISSION BY CERTIFICATE

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

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

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

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

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

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

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

English—3 units

Social Studies—2 units (including U. S. History)

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

Mathematics—2 units (Algebra, Geometry, Trigonometry). Students planning to enter the fields of engineering, pharmacy, mathematics, premedicine, predentistry, the sciences, or business administration are advised to include

in their preparation at least intermediate algebra and plane geometry. Students who do not plan to enter these fields may satisfy the minimum 2-unit requirement with 2 units of algebra or 1 unit of algebra and 1 unit of geometry.

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

Group A—English, Journalism, Speech

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

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

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

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

Group F—Fine Arts (Music, Art, Drama)

ADMISSION WITH ENTRANCE DEFICIENCIES

An applicant who otherwise qualifies for admission to the University may be admitted with a high school record which shows no more than 4 units in subject-matter deficiencies, of which not more than 2 units are from the 9 specified units. Starting with the 1961 Summer Session and the 1961-62 Fall Semester, no student may be admitted who is deficient more than 2 units.

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 or the School of Law is required to file with the Office of Admissions and Records an application for admission (form to be obtained from that office). In addition to the application, credentials of transferred credits are required according to the following schedule:

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

An applicant for the School of Law who has not attended another law school should request the authorities at each college-level institution attended to send an official transcript of his record to the Director of Admissions of the University. (Students planning to apply for enrollment in the Combined 6-Year Program in Law and Arts and Sciences are referred to the explanation of this program on p. 178.)

An applicant for the School of Law who has attended another law school must send his completed application for admission form directly to the Dean of the School of Law. Before a transferring law student's application can be

processed, the applicant should arrange to have the following credentials sent to the Dean of the School of Law: official transcripts of all law studies, official transcripts of all prelegal studies, and a certification from the dean of the law school last attended that the student is eligible to re-enter there.

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

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

The student must indicate on the application all previous college attendance. An applicant is not permitted to ignore previous college attendance or enrollment even though he may prefer to repeat all of his previous college courses. A student found guilty of non-disclosure or misrepresentation in filling out the admission application form will be subject to disciplinary action, including possible dismissal from the University.

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

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

WHEN TO APPLY

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

UNIVERSITY COLLEGE

All students who have completed less than 26 semester hours of acceptable college credit will be required to enroll in the University College. (See p. 107.)

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

to the degree-granting college. (See the respective college sections of this catalog for admission requirements.)

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

ADMISSION PROCEDURE

When the application, Transfer Application Fee, and all required credentials have been received, the Office of Admissions will send to the applicant a notice of eligibility, or ineligibility, for admission. An applicant who requires dormitory accommodations will be also sent a request for a \$25 advance housing deposit and a contract for room and board. The notice of admission will include an advisement and registration appointment, registration instructions, and a medical examination form.

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

Every new student is required to take the psychological and the English Proficiency examinations prior to registration (see the Calendar).

REGULATIONS

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

A transferring student is required to meet the freshman entrance requirements (see p. 55) except that if he has completed 2 semesters (26 semester hours minimum) of work of C average in an accredited collegiate institution, which institution has granted him regular status, his preparatory record will be considered cleared even though the credits do not meet our requirements in full.

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

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

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

Applicants from unaccredited institutions must have the equivalent of a 1.5 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 1.0 index on his first 30 semester hours of residence study here. The maximum credit which will be allowed on a validation basis is 60 semester hours plus not more than 4 credits in physical education activity courses. Where it seems proper, examinations for the validation of credit may be required.

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

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

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

READMITTED STUDENTS

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

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

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

UNIVERSITY COLLEGE

The readmitted student in regular status who has not completed 26 semester hours of acceptable college credit will be required to enroll in the University College (see p. 107).

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

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

NON-DEGREE STUDENTS

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

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

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

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

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

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

No undergraduate college of the University will accept in a degree program in excess of 30 semester hours earned while the student has been registered in non-degree status, nor is a college obligated to accept any hours earned in non-degree status which do not fulfill college degree requirements. The student who is approaching this 30-hour limitation in non-degree status, and who wishes to continue taking courses for credit, should consult the Admissions Office concerning procedures required to establish regular degree status. Regular status

must be attained prior to the student's next registration. If regular status is not attained, the student will be allowed to register in courses as an auditor only, receiving no credit.

GRADUATE STUDENTS

Refer to "Graduate School."

LAW STUDENTS

Refer to "School of Law."

STUDENTS FROM ABROAD

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 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 one calendar year after July 26, 1947 may apply for such credit after a semester of a minimum of 12 semester hours has been completed at this University. Total semester hours of military credit to be accepted in a specific degree

program will be at the discretion of the degree-granting college of this University in which the student is registered. A maximum of 8 semester hours elective credit is allowed for basic or recruit training apportioned as follows: First Aid, 2 semester hours; Hygiene, 2 semester hours; Physical Education Activity, 4 semester hours. Eight semester hours, apportioned the same as credit granted for service in the U. S. Armed Forces, will be granted to foreign students who have completed military training, provided they can show official credentials in support of their statements. Credit earned in specialized army and navy programs conducted by college and university staffs is allowed in accordance with the recommendations of the administering institution. Credit for work done in formal training programs is allowed in accordance with the recommendations of the American Council on Education or on the basis of examinations here. U. S. Armed Forces Institute courses are acceptable if courses have been taken through university extension divisions accredited by regional accrediting associations. Other U.S.A.F.I. courses may be accepted if recommended by the American Council on Education and validated by successful scores on "End-of-Course Tests." U. S. Armed Forces Institute correspondence courses not directly transferable or validated by "End-of-Course Tests" may be established by examination in this University. The veteran has the opportunity to demonstrate his competence in any University subject, and to establish credit in that subject, by passing an examination as required by the Committee on Entrance and Credits.

MEDICAL EXAMINATIONS

A physical examination, reported on a form provided by the University, is required of full-time students enrolling in this University for the first time, and of those returning after an absence of one year or more. The report is to be filed with the Health Service prior to registration for the term in which the student enters. Students will be re-examined by the University Physicians when such examinations are indicated. Health-seeking students are accepted at the University if, in the judgment of the University Physicians, their admission does not endanger themselves or their associates. The University may refuse enrollment to, or cancel the enrollment of, any student who is physically unfit to carry on class work, or whose physical condition might be a menace to the health of other students.

REGISTRATION

ORIENTATION

At the opening of each semester a "Freshman Program" is conducted. (See the Calendar.) The purpose of this program is to acquaint the freshman 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 somewhat with University methods and life. In addition to the preliminary registration and the various tests, numerous recreational and educational events are held.

Attendance of all freshmen with less than 10 semester hours' credit is required during the entire Freshman Program period. All new students in regular status,

except enrollees in the Graduate School, are required to take the psychological and English tests, and transferring students who have less than 60 hours of college credit are advised in addition to attend all meetings.

In order to make a comparison of the ability, training, and background of the different members of the freshman class, the University administers a series of aptitude and placement tests. Advisers consider these tests quite helpful to the consultation and guidance relationships with the new student. The tests are designed principally to reveal the student's aptitude for college work, and to assist in placing the student in courses of the proper level.

Every student registered in freshman English is examined as to his ability to use clear, correct, idiomatic English. No student can pass this test who shows serious weakness in spelling, punctuation, grammar, diction, or sentence structure. Students who do not pass the test are required to attend English Workshop.

The Personnel Office issues a **Freshman Handbook** which contains information on student organizations, library rules, campus regulations, suggestions for effective study, etc.

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

TIME OF REGISTRATION

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

REGISTRATION PROCEDURE

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

COMPLETION OF REGISTRATION

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

CHANGE IN REGISTRATION

See "General Academic Regulations."

FEE PAYMENTS

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

Note: The Student Residence Status Slip must accompany payment.

STUDENT EXPENSES

FEES (REGULAR SESSION)

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

REGISTRATION FEES (Undergraduate and graduate):

	Per Semester	
	N. M. Residents	Non-Residents
Students carrying 8 or more hours:		
Tuition *	\$123.00	\$238.00
Activities Fee ¹	12.00	12.00
Total Tuition and Fees	\$135.00	\$250.00
Student Group Health and Accident Fee (optional) ²	7.50	7.50
Total Tuition and Fees with Group Insurance	\$142.50	\$257.50
All students carrying 7 hours or fewer:		
Tuition, per semester hour	\$ 15.00	\$ 15.00

Graduate students will signify formal registration for **doctoral dissertation** only once. At this registration, they will be required to pay, in addition to tuition and other fees, the special fee for the doctoral dissertation (\$45.00—see special fees). Graduate students enrolling in any one semester for dissertation only will pay the proper special fee (unless previously paid) and \$5 tuition.

Graduate students who enroll for master's thesis only will pay regular tuition rates of \$15 per credit hour.

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

HOUSING FEES

See Catalog section "Student Housing."

OTHER FEES FOR SPECIAL SERVICES

Transfer application fee	\$ 5.00
Change in program after end of second week	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.

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

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

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

‡ See definition of special examinations, p. 101.

Transcript of credit (per copy)	1.00
Deferred payment fee	5.00
Penalty for dishonored checks	2.00
Graduate Record Examination fee (Graduates only)	5.00
Handling fee, Air Force ROTC, per year, payable in full Semester I **	8.00
Speech clinic initial examination fee	5.00
Speech clinic lesson fee	2.00
Diploma fee, bachelor's or master's	10.00
Master's thesis binding fee	6.00
Doctor's dissertation fee	45.00
Riding, per semester	20.00
English A	20.00
Applied Music (see p. 66)	
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-months academic year in a course of study consisting of 8 or more semester hours, or upon enrollment in the Summer Session regardless of the number of hours of enrollment.

The following general rules govern:

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

An Adult Student is entitled to resident student status if he or she has maintained bona fide residence in New Mexico continuously for 12 months immediately preceding his or her registration or re-registration and if he or she can provide evidence satisfactory to the University of intent to retain residence in the State. The residence of a married woman is determined by the residence of her husband.

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

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

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

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

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

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

INSURANCE PLAN. See p. 91 for explanation.

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

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

REFUNDS UPON WITHDRAWAL

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

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

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

ESTIMATE OF TOTAL EXPENSE

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

Tuition and fees	\$135.00
Student health and accident insurance	7.50
Books and supplies	70.00
Board and room	338.00
Clothing, laundry, misc.	149.50
Total, per semester	<u>\$700.00</u>

Non-resident students must add \$115 per semester to the foregoing tuition. All charges are subject to change without notice.

STUDENT HOUSING

LIVING QUARTERS in residential halls are available to undergraduate men and women students. Occasionally, rooms are available to students in private homes in the city, but men and women students are not permitted to room at the same residence.

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

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

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.

No woman student may change her place of residence without the consent of the Dean of Women. The University reserves the right to determine where a student may reside.

All students who are not required to remain on the campus for Commencement activities should vacate their rooms not later than 24 hours after their last final examinations.

The University reserves the option of closing its residential halls during official recess periods. When these units are closed, they must be vacated by 5:00 p.m. on the day the holiday begins.

Animals or other pets are not permitted in University buildings or on the University premises for sanitary and health reasons. Exceptions will be made for special individual cases such as seeing-eye dogs.

Both men and women students residing in housing facilities provided or controlled by the University are subject to University rules and regulations pertaining to those facilities.

RESERVATIONS

HOUSING RESERVATION FEE

An advance housing deposit of \$25 is required of all students who desire University housing. This deposit is applicable to room and board when the student takes up residence in a University dormitory. The deposit is automatically forfeited if notice of cancellation is received later than two weeks prior to the first day of registration in the period for which the deposit has been paid.

NEW STUDENTS

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

1. The student will be informed of his acceptance and will be requested to forward a \$25 check or money order as an advance housing deposit, if he desires University housing. This remittance should be made to the Collections Office, Mesa Vista Hall, University of New Mexico. It should be accompanied by a housing contract signed by the student (and by his parent or guardian if he is under 21 years of age). By the terms of this contract, the student agrees to reside in University housing for a full academic year. (All freshmen must live in University housing if their homes are not in Albuquerque.)

2. When the student's remittance is received at the University, the Director of Hokona Hall will advise the woman student to which area of Hokona Hall she has been assigned and will provide a list of furnishings needed. The Housing Director for Men will inform the man student of his general dormitory assignment and of furnishings needed. All questions relating to housing information should be addressed by men to the Housing Director, and by women to the Office of the Dean of Women. Upon arrival at the University, the man should report directly to Mesa Vista Hall. The receipt for his advance housing deposit should be presented at this time. The woman should report directly to Hokona Hall. Both men and women students should plan to arrive between 8:00 a.m. and 10:00 p.m.

STUDENTS REQUESTING READMISSION

A student who has previously attended the University, but who is not presently enrolled and is requesting readmission, should follow the procedure outlined for new students.

STUDENTS CONTINUING ATTENDANCE

Students in attendance are required to make housing reservations for the following year not less than three weeks before the ending of the spring term. Student occupancy in residential halls is on a school-year basis. Unless advance notice of intention to remain for the following year is made in writing to the Director of Hokona Hall or to the Housing Director for Men, living space may be assigned to another student. Specific information regarding exact dates and amount of advance fees will be announced in time for the student to make necessary arrangements.

CHANGES IN STUDENT'S PLANS

Should an applicant for admission or readmission to the University find it impossible to keep a reservation, he should notify the Director of Admissions not later than two weeks before the first day of registration. The advance housing deposit is automatically forfeited if the student fails to give notice of cancellation, or if notice of cancellation is received later than two weeks previous to the first day of registration in the period for which the fee has been paid.

RATES

All students occupying rooms in residential halls are required to take their meals at the University dining halls. Room and board are therefore considered as one charge, the amount varying slightly depending upon the type of resi-

dential assignment for each student. Room and board charges are payable in advance or in three installments as described later. (**Payable at Collections Office, Mesa Vista Dormitory.**)

ROOM AND BOARD

The following current rates for campus room and board are subject to change whenever necessary to defray operating costs:

(Each fee listed below includes a \$2 social fee.)

WOMEN'S RESIDENCE HALL. Charges for room and board per semester:

Hokona Hall (Zuni and Zia areas)

Single rooms	\$362.00
Double rooms, per person	338.00

MEN'S RESIDENCE HALLS. Rates per semester for room and board:

Single rooms	\$362.00
Double rooms, per person	338.00
3 or 4 to a room, per person	332.00

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

All freshmen, men and women, and all undergraduate women who are not residents of Albuquerque must live in University housing as long as it is available.

DINING HALLS. To the extent that facilities permit, students living off-campus are permitted to eat at the University dining halls. For such students the rates for board only are:

Per semester, per person	\$210.00
Single meals (cash):	
Breakfast60
Luncheon80
Dinner	1.10
Dinner (noon Sundays and holidays)	1.35

GUESTS. With the consent of the Director or Chaperon, students may have overnight guests at the residence halls (for a maximum of seven nights). The guest will be charged \$1 to \$4 a night depending upon accommodations. When a guest is to have meals in the dormitory or dining hall, there must be advance notification and payment for the meals.

UNIVERSITY APARTMENTS

A small number of family dwelling units are maintained for married students. Rates for these units per month are:

1 bedroom, furnished	\$68.00
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PAYMENT OF ROOM AND BOARD CHARGES

Semester charges for room and board (or for board only in the case of students living off-campus) are payable in advance, or in three installments. (If the installment plan is used, a \$2 deferred payment fee will be charged.)

The first installment of at least one-third of room and board is due and payable during the first week of the fall semester when the student moves into the residence hall, and on the first day of the spring semester. The second and third installments are due and payable on the first day of the 6th and 11th weeks, respectively, of each semester.

All students who live in University residence halls must use the University dining facilities.*

REFUNDS

Refunds of room and board will be calculated on the basis of 19 weeks per semester for room rent and 4 months per semester for board. Rates for board do not provide for meals during the official recesses listed in the Calendar (NMEA convention, Thanksgiving, etc. . . .).

Whenever a room is occupied for less than 2 weeks, the student will be charged for a minimum of 2 weeks. Whenever the room is occupied for more than 2 weeks but less than 4 weeks, the student will be charged for a minimum of 4 weeks.

* Students who sign contracts for University housing must reside in assigned quarters for the full academic year if they remain enrolled in the University.

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 seniors and alumni in finding suitable and satisfactory employment in permanent positions.

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

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

LOAN FUNDS

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

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

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

Five 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, and the Donald R. Fellows Memorial Loan Fund. These five 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 Loan Fund; the State Bar of New Mexico Loan Fund; and the Lois and Harry Bruch Memorial Loan Fund.

NATIONAL LOAN FUND

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

VOCATIONAL REHABILITATION

(For the Physically Handicapped Non-Veteran)

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

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

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

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

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

HOW TO APPLY. Those students having disabilities who wish to apply should do so by writing to one of the New Mexico Rehabilitation Offices at 117 Richmond Drive NE, in Albuquerque, New Mexico; P. O. Box 881, in Santa Fe, New Mexico; 209 West 1st Street, Roswell, New Mexico; or 128 South Water, Las Cruces, New Mexico. A counselor will arrange an interview to discuss the program in detail with those who have applied. Application must be made and case accepted before obligation for tuition has been made.

SCHOLARSHIPS AND AWARDS

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

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

SCHOLARSHIPS

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

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

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

Since the number of New Mexico students needing financial aid is so great, those students who do not actually need such aid are asked to refrain from requesting it.

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

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

There are many other scholarships and prizes available to University of New Mexico students. Some of these are open to all students, others are for upper-classmen only, and some are for students who show special aptitudes. Requirements for many of the special awards and scholarships are specified by the donors. See below through p. 88.

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

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

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

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

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

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

The Alpha Delta Pi Alumnae Scholarship in Art. The Albuquerque Alumnae Club of Alpha Delta Pi Sorority has established a scholarship of \$50 to be awarded to a sophomore woman in the Department of Art who has attended the University at least one year and who is recommended by the faculty of the Department of Art on the basis of need and creative ability. The scholarship is paid to the recipient at the beginning of her junior year.

The Alpha Delta Pi Alumnae Scholarship in Nursing. An annual scholarship of \$100 established in 1956 by the Albuquerque Alumnae Club of Alpha Delta Pi Sorority to encourage students in nursing is awarded to a freshman woman. The recipient must maintain at least average scholarship.

The American Association of University Women Scholarship. A scholarship of \$150 is granted by the Albuquerque Branch of the A.A.U.W. to promote advanced training for women. It is given to a graduate woman student. Selection is made on the basis of scholarship, financial need, and ability as indicated by recommendations from professors.

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

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

The American 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 \$100 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.

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

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

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

The Thomas S. Bell Scholarship. The income from a \$40,000 trust fund is used for scholarships for worthy students. The purpose of this gift is solely to help promote and encourage among the students a higher grade of scholarship and application to studies.

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

The Bernalillo County Council of Parent Teachers Associations Scholarship. Two scholarships of \$250 each have been established by the Bernalillo County Council of Parent Teachers Associations for juniors or seniors in the College of Education preparing to teach in the elementary schools of New Mexico.

The Bernalillo County Medical Association Scholarship. A scholarship in the amount of \$250 given to a first-year medical student who must be a resident of Bernalillo County.

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

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

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

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

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

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

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

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

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

Sam and Frances Joy Dazzo Scholarship Fund. The income from a trust fund of \$5,000 established by Sam and Frances Joy Dazzo in recognition of the splendid service given to the University of New Mexico Law School by Dean A. L. Gausewitz will be awarded annually to a student in the School of Law who is in need of financial assistance and meets the academic requirements of the School of Law. The award is open to either a man or woman student whose parents or legal guardians are residents of the State of New Mexico.

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

The Doña Ana County Bar Association Law Scholarship. The Doña Ana County Bar Association awards a scholarship of \$120 per semester to a student in the School of Law who has been a resident of the State of New Mexico for five years, and who enters the School with, or thereafter achieves in the School, a "C" average. The scholarship is renewable. Applications should be addressed to the Doña Ana County Bar Association and delivered to the office of the Dean of the Law School.

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

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

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

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

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

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

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

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

The Forty and Eight Voiture 703 Scholarship in Nursing. A scholarship sponsored by Voiture 703 in Albuquerque for a student in nurse's training. The award pays \$130 per year for four years.

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

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

The Freshman Forensic Scholarship. An annual scholarship of \$100, the gift of Mr. W. Peter McAtee, is awarded to a freshman on the basis of forensic excellence, scholarship, and need.

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

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

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

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

The Alfred and Miriam N. Grunsfeld Scholarships. The income from a \$10,000 trust fund provides two scholarships for men and two for women. The conditions governing the Grunsfeld Scholarships are as follows: (1) recipients must be legal residents of the State of New Mexico; (2) recipients must have been in full-time attendance at the University during their sophomore year; (3) recipients shall not have completed more than 66 semester hours by the end of the semester in which they are awarded the scholarships; (4) at least three of the four scholarships shall be awarded to students who declare at the time of application their intention to major in the Department of History or the Department of Government and Citizenship (A subsequent change in the major from either of these two departments to another department may terminate the award); (5) in selecting the recipients, consideration shall be given to their general scholarship and to their financial need.

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

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

The Hoshour Memorial Fund. The income from a fund established in memory of Harvey Sheely Hoshour, distinguished lawyer and scholar and courageous humanitarian, a professor of law at the University of New Mexico, who died October 9, 1951, provides scholarships or prizes for one or more students in the School of Law.

The Charles Iffeld Company Scholarship. An award of \$850 provided by the Charles Iffeld Company is given to a worthy freshman who is a graduate of a New Mexico high school, the selection to be made by the Manager of Intercollegiate Athletics and the Dean of Men.

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 Altruşa Clubs and Business and Professional Women's Clubs throughout New Mexico.

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

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

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

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

The George A. Kaseman Memorial Scholarship. A trust fund established by Mrs. George A. Kaseman as a memorial to her late husband, to perpetuate his interest in the development of New

Mexico by aiding young people in obtaining a university education, provides an annual scholarship of \$750 or more to be awarded to a student in the College of Arts and Sciences, preferably a resident of New Mexico, who shall rank in the upper one-fifth of his high school graduating class and who shall have economic need for this scholarship.

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

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

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

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

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

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

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

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

The Marjorie Little Memorial Scholarship in Nursing. A scholarship of \$100 established by District 12, the New Mexico State Nurses Association, will be awarded annually for four years, beginning in September 1957, to a student recommended by the Dean of the College of Nursing.

The Mark Twain Elementary School PTA Memorial Scholarship. This scholarship was established in memory of Mrs. Lois J. Miller, a teacher at the Mark Twain Elementary School. It is an annual scholarship for \$250 for a student in the College of Education.

The Marshall Scholarships. The British Government has established 12 annual scholarships in gratitude for the Program for European Recovery. The scholarships are for 550 or 600 pounds a year for study at any university in the United Kingdom, are not subject to United Kingdom income tax, are open to students of either sex who are graduates of an American college or university, and are awarded for two years and may be extended for a third year. Detailed information may be secured at the Graduate Office.

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

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

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

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

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

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

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

The Music Performance Awards. From the proceeds of departmental concerts, the faculty of the Department of Music in 1956 established four awards of \$150 each to be given to four freshman students on the basis of auditions conducted among New Mexico high school seniors in piano, voice, stringed instruments, and wind instruments respectively, the judges to be faculty members of the Department of Music. The scholarships will be paid in two installments of \$75; in order to receive the second half of his scholarship a recipient must maintain creditable grades as defined by the Department of Music. Interested high school seniors may obtain information about auditions from the Department of Music.

The Neely Enterprises Scholarship. This scholarship of \$250 is open to an electrical engineering student above the rank of freshman who is a resident of California, Arizona, Nevada, or New Mexico.

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

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

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

The New Mexico Association of Osteopathic Physicians and Surgeons Auxiliary Scholarship in Nursing. This scholarship provides \$200 a year for four years for a student in the College of Nursing.

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

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

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

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

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

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

The New Mexico Society of Certified Public Accountants Women's Auxiliary Scholarship. Scholarships of \$50 are awarded to accounting students in the sophomore and senior years as inducements for them to continue the study of accounting.

The New Mexico Society of Professional Engineers' Wives Scholarship. A scholarship of \$50 is awarded to an engineering student upon recommendation of the Dean of the College of Engineering.

The New Mexico State Nurses Association District 1 Scholarship. The Association has set up a three-year scholarship which is awarded to a nursing student during the second semester of each academic year. The annual award is for \$100.

The Jean Norris Scholarship in Nursing of the Progress Women's Club of Albuquerque. This scholarship provides \$240 for a student in the College of Nursing upon recommendation of the Dean of that College.

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

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

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

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

Progress Women's Club of Albuquerque Scholarship. This scholarship provides \$240 for a student in the College of Nursing upon recommendation of the Dean of that College.

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

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

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

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

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

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

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

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

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

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

Sigma Chi Mothers Club Scholarships. Four scholarships of \$60 each have been provided by the Sigma Chi Mothers Club. Two of the scholarships are to be awarded in the spring semester and two in the fall. They are to be awarded to members of the Sigma Chi Fraternity who are above the rank of freshman, have financial need, and have satisfactory scholarship.

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

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

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

The Sombre del Monte Parent Teachers Association Scholarship. This scholarship of \$200 is awarded on the basis of scholarship and need to a junior or senior in the College of Education who is preparing to teach in the elementary schools of New Mexico.

The Soroptimist Scholarship Award. The Soroptimist Club of Albuquerque has established an annual scholarship of \$200 to be awarded to a woman student in the School of Law.

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

The Department of Speech Forensic Scholarship for Freshmen. A scholarship of \$50 awarded annually to a worthy freshman. The basis for awarding the scholarship is forensic excellence, good scholarship, and need. The Department of Speech is to make recommendations to the Scholarships and Prizes Committee.

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

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

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

The 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. Bertha Hurt Van Stone, Mrs. Mayer's mother, to a student majoring in the field of music.

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

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

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

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

PRIZES

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

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

The American Jurisprudence Prizes. These prizes, joint gifts of the Bancroft-Whitney Company of San Francisco and the Lawyers Co-operative Publishing Company of Rochester, New York, consist of specially-bound titles from American Jurisprudence and are awarded to the students receiving the highest grades in various law courses.

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

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

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

The Annual Student Art Show Prizes. Awards are made for the best work submitted to the Annual Student Art Show, the selection to be made by a jury of students and faculty members.

The Anonymous Award in Art. An award of \$100 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 Architectural Design Faculty Awards. Three prizes, each consisting of a current architectural book, are awarded annually to the outstanding sophomore, junior, and senior student in Architecture.

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

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

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

Brief and Argument Prize. A prize of \$25 awarded to the first-year law student making the best oral argument in the brief and argument portion of Legal Research.

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

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

The Chemical Rubber Company Handbook Award in Physics. A current copy of the *Handbook of Chemistry and Physics* will be awarded annually to the student in Physics 51L and 52L selected as most capable by the Chairman and staff of the Physics Department.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The John F. Simms Memorial Prize in Law. An annual prize of \$50 established by the late Mr. Pearce C. Rodey in memory of John Field Simms is awarded to a student for excellence in legal writing.

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

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

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

The Tile Council of America Award in Architectural Engineering. A cash prize is awarded by the Tile Council of America to the winning student in a competition in architectural design.

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

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

The Wall Street Journal Awards. Prizes consisting of a one year's subscription to the *Wall Street Journal* and a suitably engraved medallion are made annually to the graduating senior in the Finance Concentration of the College of Business Administration who has the highest scholastic average and to an outstanding student in Corporations in the School of Law.

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

MEDALS AND CERTIFICATES

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

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

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

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

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

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

The Kappa Psi Scholarship Honors Certificate. The Grand Council of Kappa Psi pharmaceutical fraternity awards annually a certificate to each member of Kappa Psi who completes the full junior and/or senior year (last two years of the professional curriculum) with a minimum grade-point average of 2.0 for each year. A member may qualify for a certificate for each of the two years.

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

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

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

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

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

STUDENT SERVICES

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

Information in regard to Admission and Registration, Student Housing, and Financial Aid will be found in those respective sections of this catalog. An explanation of the orientation and advisement program is given on p. 63.

PERSONNEL OFFICE

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

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

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

COUNSELING AND TESTING SERVICES

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

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

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

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

PLACEMENT BUREAU

The Placement Bureau is maintained (1) to assist students in finding part-time employment to supplement their incomes while they are in school, and (2) to aid graduating seniors and alumni in finding suitable and satisfactory employment in permanent positions.

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

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

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

DIVISION OF VETERANS AFFAIRS

The Division of Veterans Affairs at the University of New Mexico was established to provide every possible service to veterans, and to aid in the solution of any and all problems that may arise in the student veteran's relationship with the University and the Veterans Administration. The veteran is given assistance in obtaining a certificate of eligibility from the Veterans Administration, help with registration and orientation in the University, certification of registration to the Veterans Administration so that subsistence payments may start, assistance in withdrawing from the University or interrupting educational programs, and information on any changes in procedures and regulations of the University and the Veterans Administration. In short, the Division of Veterans Affairs helps the veteran secure the greatest good from his G.I. benefits and protects his interest in these benefits.

HEALTH SERVICE

The University Health Service operates a Dispensary and Infirmary adequately staffed by physicians and graduate nurses. Reexamination and evaluation of students whose physical examinations indicate the need of a restricted or permanent excuse from physical education will be done by staff physicians and such excuses given. The college physicians may exclude from dormitories and classrooms students suffering from contagious or communicable diseases.

The infirmary is open 24 hours a day with physicians maintaining morning and afternoon office hours and a physician available for emergencies arising after office hours. Hospitalization and treatment for acute illnesses of relatively short duration is provided. Students with illnesses requiring specialist services or those requiring major surgery are referred to the consultant staff of specialists.

The Health Service maintains a constant supervision over sanitary conditions in dormitories and classrooms, in the swimming pools, and in the food handling departments. There is also a constant supervision over water and milk supplies.

INSURANCE PLAN

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

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

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

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

NEW MEXICO UNION

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

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

STUDENT ORGANIZATIONS

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

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

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

ASSOCIATED WOMEN STUDENTS. The Associated Women Students is composed of all regularly enrolled women students of the University. The purpose of the organization is to secure uniform and broad social interests among University women. It is governed by a council, the members of which are representatives of all women's organizations on the campus.

PROFESSIONAL, HONORARY, AND SERVICE ORGANIZATIONS

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

SOCIAL GROUPS

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

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

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

Other social groups: Town Club.

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

STUDENT PUBLICATIONS

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

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

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

RELIGIOUS ACTIVITIES

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

The following religious organizations hold regular meetings on the campus: Baptist Student Union, Canterbury Club, Christian Science Organization, Hillel Counsellorship, Lobo Christian Fellowship, Lutheran Student Association, Newman Club, Presbyterian University Fellowship, Student Christian Fellowship, and Wesley Foundation.

ATHLETICS

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

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

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

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

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

OTHER RECREATIONAL OPPORTUNITIES

A number of concerts and lectures are presented by distinguished artists in the University Program Series. The Series is financed by the Associated Students with

funds from the activity fee and is open without charge to all students holding activity tickets. Rodey Theatre presents a series of plays produced by the Drama Department. The Music Department presents a number of orchestra, chorus, and wind ensemble concerts during the year. Wednesday afternoon student recitals are open to the public. In addition, students may purchase season tickets, in some instances at reduced rates, for the Community Concert series, the Albuquerque Civic Symphony concerts, and the productions of the Albuquerque Little Theatre.

GENERAL ACADEMIC REGULATIONS

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

CLASS HOURS AND CREDIT HOURS

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

GRADES

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

A, Excellent. 3 grade points per credit hour.

B, Good. 2 grade points per credit hour.

C, Average. 1 grade point per credit hour.

D, Barely Passed. No grade points.

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.

W, Dropped Without Discredit. W is given in any course which the student drops after the fourth week of the semester or second week of the summer session, while doing passing work, subject to the regulations for dropping a course or for withdrawal from the University. These regulations appear under "Change in Program of Studies" on p. 96 and under "Withdrawal from the University" on p. 98.

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

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

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

The mark of NR, No Report, is used only in official grade reports to students and parents, to indicate that the instructor has not reported a grade.

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

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

GRADE REPORTS

At mid-semester (normally the end of the eighth week of the semester), and at the end of the semester, 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 of program of studies. The student obtains signatures called for on this form and returns it to that office. The college sends the form to the Office of Admissions and Records where official entry is made on the student's record. When a student drops a course officially after the first 4 weeks of the semester or the 2d 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 12th week of the semester or the 6th 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

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

University" on p. 98. In the School of Law, a student desiring to drop a course after the first 8 weeks must petition the faculty of that School in writing to drop the course and receive a grade of W therein.

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

CHANGE IN COLLEGE. A student who desires to change his registration from one college to another shall petition the dean or director of his college. This petition requires approval by 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. When a student repeats a course in which he has previously made a grade of 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 two 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 4th week and the end of the 12th week of the semester or between the end of the 2d week and the end of the 6th week of the summer session can be made only if the student is earning a passing grade. After the 12th week of the semester or the 6th week of the summer session, a student enrolled for undergraduate credit may, subject to approval by the dean or director of his college, change from credit to audit only if he is earning a grade of C or better; a student enrolled for graduate credit may make this change only if he is earning a grade of B or better.

CLASSIFICATION

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

WITHDRAWAL FROM THE UNIVERSITY

When an undergraduate student wishes to withdraw from all the courses in which he is enrolled during the semester, he should secure a withdrawal card from the Personnel Office; the graduate student should secure the withdrawal card from the Dean of the Graduate School; and the non-degree student, from the Community College Office. Any unmarried undergraduate student under 21 years of age must have a letter of permission from parents to withdraw from the University. Grades of W or F are shown on the student's record if he withdraws 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 12th week of the semester or the 6th 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. 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 0.60 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 0.80. 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 1.0 or better, or (2) a grade-point average of 1.0 or better on all work taken while enrolled in a degree-granting college or in non-degree status. A student will be placed on academic probation at the end of any semester or summer session when his academic record fails to equal one of the two minimums set out

above. (The student is reminded that the grade-point average required for graduation from some colleges may be, in certain individual cases, higher than the grade average necessary to avoid probation.)

SUSPENSION

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

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

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

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

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

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

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

ATTENDANCE

Students are expected to attend all meetings of the classes in which they are enrolled. No extensions of the vacation periods are given to any students,

regardless of the location of their homes. Non-attendance at classes due to late registration is considered the same as absence incurred after registration.

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

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

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

DISHONESTY IN ACADEMIC MATTERS

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

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

TRANSCRIPTS OF CREDIT

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

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

SCHOLASTIC STATUS. An undergraduate student has the status: "in good standing," "on probation," or "under suspension." The student "under suspension" may, with the approval of the college dean or director, re-enroll on probation at the expiration of the suspension period.

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 with-

draws 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. 103.

SPECIAL EXAMINATIONS. A special examination is one taken at a time other than regularly with the class. Classified as special examinations are: examinations given to make up missed regular course examinations, Advanced Standing examinations, examinations to establish credit, examinations to validate unaccredited, or otherwise unacceptable, credit earned at other college-level institutions, examinations to remove a grade of I, examinations for the removal of entrance deficiencies.

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

A fee is charged for all special academic examinations administered by the faculty. Examinations for Advanced Standing and all examinations to establish credit are charged for on a per-credit-hour basis. (See p. 66.) Other types of special examinations have a per-course fee (see p. 66). 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 2.0 or more in a normal program of studies completed during the last semester (or last two summer sessions) in residence, and he shall be doing superior work at the time of taking the examination.

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

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

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

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

DEGREE REQUIREMENTS

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

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

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

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

SCHOLASTIC REQUIREMENT. The minimum University requirement for a bachelor's degree is at least a 1.0 cumulative grade-point average on the last 124 semester hours of degree work or such number as is required for the degree sought. The individual colleges, however, have the privilege of requiring for their respective degrees an average higher than this minimum. The student is referred to the various college sections for individual college requirements.

SPECIFIC COURSES REQUIRED. Four semester hours of required physical education shall be completed by all students in the University. Veterans, NROTC and AFROTC students, students over 30 years of age, and handicapped students

excused by the University Physician are exempted from the physical education requirement.

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

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

SENIOR RESIDENCE REQUIREMENTS. Residence credit is defined as credit earned by attendance in regular classes on the University of New Mexico campus or in one of its field sessions. Credits earned through the Extension Division or by examination are not counted toward the residence requirement.

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

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

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

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

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

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

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

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

EXTENSION AND CORRESPONDENCE HOURS ALLOWED TOWARD DEGREE

1. Credit is allowed for correspondence and extension courses completed at this University, or through other colleges and universities accredited by regional accrediting associations.

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

For regulations governing the addition of correspondence or extension courses to the student's program while he is in residence, refer to p. 97.

6. No credit will be given for a course taken by correspondence if the student has previously received a grade of F in the course at this University.
7. The student is solely responsible for complying with all regulations stated in the current **Correspondence Bulletin**.

COMMENCEMENT

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

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

HONORS WORK AND GRADUATION WITH HONORS

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

Graduation with Honors, either General or Departmental, is in no sense automatic. The student is required to make application for candidacy. Informa-

tion regarding Honors in General Studies and the method of gaining admission to this program can be obtained in the office of the Dean of the College of Arts and Sciences. 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 2.2; (b) completion of 18 hours in courses listed under "General Studies" in the section of this Catalog entitled "Courses of Instruction" (see page 260), including normally the program for the senior year; (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.

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 Dean of the College of Arts and Sciences.

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

THE DEPARTMENTAL HONORS PROGRAM. A Departmental Honors program is available to the qualified student in many departments of the University and will ultimately be available in nearly all departments. The student should inquire of the chairman of his major department (or of the dean of the college in colleges which are not departmentalized) as to the availability of a program. Normally, the student enters a Departmental Honors program in his junior year. He should at least make his intention of graduating with Departmental Honors known to his chairman or dean early in his junior year. Admission to Departmental Honors

candidacy can in no case be granted later than the beginning of the student's senior year.

Minimal requirements for graduation with Departmental Honors are as follows: (a) an over-all grade point average of 2.2; (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: 2.4, **cum laude**; 2.6, **magna cum laude**; 2.8, **summa cum laude**.

GRADUATION WITH DISTINCTION

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

UNIVERSITY COLLEGE

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

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

A freshman who has not decided on a specific college should develop, with the aid of his adviser, a program of first-year courses designed to help him discover areas of interest and special competence. He should also request vocational guidance. The student who uses this exploratory approach should be advised that if he later chooses to enter one of the colleges having a very specific freshman program, he may require more than the usual four 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 four-year course leading to a degree advisable. For them the University College can provide a variety of two-year programs leading to a certificate of completion.

ADMISSION REQUIREMENTS

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

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

CONTINUATION IN UNIVERSITY COLLEGE

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

SCHOLASTIC REGULATIONS

See p. 98.

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 1.0 on all hours attempted;

or

 (b) A scholarship index of at least 1.0 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 1.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. (a) A satisfactory score on the English Proficiency Examination (administered by the University of New Mexico);

or

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

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

CERTIFICATE OF COMPLETION

Upon application to the University College Office a University College Certificate will be awarded to any student who meets the following requirements: (1) completion of 60 semester hours of college work with a passing grade, of which at least 30 hours have been earned in the University of New Mexico with 15 of these 30 hours earned in the University College of the University of New Mexico; and (2) a cumulative average of 0.8 on all work attempted through the semester or session in which the total of college credits earned first becomes 60 or more. (Nonprofessional courses in physical education may not be counted in these totals.)

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

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

ART

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
Social Science 1	3	Ec/Gov/Soc 2	3
Art 3 or 9	3	Art 9 or 3	3
Electives	7	Electives	7
Physical Ed	1	Physical Ed	1

Sophomore Year

Art 71	3	Art 72	3
Art 6 or 8	3	Art Electives	9
Art Electives	6	Electives	4
Electives	4	Physical Ed	1
Physical Ed	1		

CLERICAL

Freshman Year

First Semester		Second Semester	
English 1	3	English 2	3
Social Science	3	Social Science	3
Science	3-4	Business Ad 17	2
Business Ad 12	3	Science	3-4
Elective*	2-3	Math 1	2
Physical Ed	1	Electives	2
		Physical Ed	1

Sophomore Year

Literature	3	Speech 55	3
Business Ad 5	3	Business Ad 6	3
Social Science	3	Business Ad 62	3
Electives	6-8	Electives	3-5
Physical Ed	1	Business Ad 65	3
		Physical Ed	1

HOME ECONOMICS

This curriculum in the University College is designed to prepare the student for the role of homemaker and community member, and leads to a certificate. If a degree program is desired, see the curricula outlined on pp. 145, 146 and 234.

Freshman Year

First Semester		Second Semester	
English 1	3	English 2	3
Social Science	3	Social Science	3
Home Ec 1	3	Biology 36	3
Home Ec 2L	2	†Home Ec 12L	2
Electives	3	Electives	3
Physical Ed	1	Physical Ed	1

Sophomore Year

Home Ec 53L	3	Home Ec 54L	3
Home Ec Elective	3	Home Ec 60	3
Social Science	3	Home Ec 62	2
Electives	7	Psychology 51	3
Physical Ed	1	Electives	5
		Physical Ed	1

INDUSTRIAL ARTS

Freshman Year

First Semester		Second Semester	
English 1	3	English 2	3
Social Science	3	Social Science	3
IA 1	3	IA 2	3
IA 5	1	IA 20L	3
IA 10L	3	Elective	3
CE 1L	2	Physical Ed	1
Physical Ed	1		

* Suggested Elective: Commercial Art.

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

Sophomore Year

Literature	3	Speech 55	3
Psychology 51	3	Social Science	3
Social Science	3	IA 35L	1
IA 30L	1	CE 12L	3
CE 2L	2	Art 18	2
Art 17	2	Elective	3
Elective	3	Physical Ed	1
Physical Ed	1		

MUSIC

First Semester

Freshman Year

Second Semester

English 1	3	English 2	3
Social Science 1	3	Ec/Gov/Soc 2	3
Music 5	3	Applied Music	2
Applied Music	2	Ensemble Music	1
Ensemble Music	1	Music 155	1
Music 155	1	Electives	3
Electives	3	Music 6	3
Physical Ed	1	Physical Ed	1

Sophomore Year

Dramatic Art 1	3	Dramatic Art 2	3
Music 71	2	Music 72	2
Ensemble Music	1	Ensemble Music	1
Music 65	3	Music 66	3
Electives	7	Electives	7
Physical Ed	1	Physical Ed	1

SECRETARIAL

First Semester

Freshman Year

Second Semester

English 1	3	English 2	3
Social Science	3	Social Science	3
Business Ad 12	3	Business Ad 17	2
†Business Ad 13	3	†Business Ad 14	3
Science	3-4	Science	3-4
Physical Ed	1	Physical Ed	1

Sophomore Year

Business Ad 53	3	Speech 55	3
English Lit	3	Business Ad 62	3
Mathematics 1	2	Business Ad 54	3
Electives	3-6	Social Science	3
Business Ad 65	3	Electives	5-6
Physical Ed	1	Physical Ed	1

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

COLLEGE OF ARTS AND SCIENCES

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

DEGREES

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

RELATION TO PROFESSIONAL AND VOCATIONAL COURSES

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

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE

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

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 1.0 on all hours attempted;
or
(b) A scholarship index of at least 1.0 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 1.0 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 1.0 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 1.0 on all work attempted in academic subjects.

In the first two 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 two 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 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 1.0 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 speciality 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 speciality until he has made a reasonable effort to fulfill the group requirements. The following rule, therefore, is extremely important:

A student may not take any courses numbered 100 or above (junior-senior courses) until he has completed 30 hours in the 5 groups and unless he is also concurrently enrolled in 1 course in a majority of the groups in which he still has deficiencies. (If there are deficiencies in 4 or 5 groups, at least 1 course in each of 3 of those groups must be taken; deficiencies in 2 or 3 groups, at least 1 course in each of 2 of those groups; deficiency in 1 group, 1 course in that group.) Exceptions to this rule can be made only with the written permission of the Dean of the College.

The acceptability of transferred work toward fulfilling group requirements lies in the judgment of the Director of Admissions and the Dean of the College.

No course may be counted toward the satisfaction of requirements in more than one group, but a course may be counted toward the fulfillment of both a group requirement and a major or minor requirement.

Courses in General Studies, taken in the Honors Program, may, with the approval of the Dean, be counted toward the satisfaction of requirements in similar areas in Groups III, IV, and V.

The requirements in the groups are as follows:

I. **ENGLISH.** Six semester hours must be earned in English 1, 2 (unless English 1 has been waived), and 3 additional credit hours must be earned in a course in literature numbered above 50. A student deficient in writing skill may at any time be referred to English Workshop for remedial aid. Normally, English 1 and 2 should be completed within the first 2 semesters of enrollment in the University.

II. **FOREIGN LANGUAGE.** The student is required to take as many semesters of one foreign language as he needs to complete the intermediate courses (51, 52) in that language. For the student who chooses a language which he has not previously studied, this ordinarily means a minimum of 4 semesters, as well as a minimum of 12 semester hours.

Students who have studied a language in high school, or those who believe they have some proficiency in a language, may determine the level at which they should begin language study by consulting the Chairman of the Department of Modern Languages.

To receive credit hours toward graduation for demonstrated competence in a foreign language, without actually taking courses in the language, a student must take advanced standing examinations. (See p. 101.)

III. HUMANITIES. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) History, (b) Literature (either English or foreign), (c) Philosophy, (d) Art History or Music History or Speech (to the extent of 3 semester hours).

IV. SOCIAL SCIENCE. Nine semester hours (not more than 6 from any one area) must be completed in courses in the following areas: (a) Anthropology, (b) Economics, (c) Geography, (d) Government, (e) Social Science 1, 2, (f) Sociology.

V. MATHEMATICS AND NATURAL SCIENCE. Fourteen semester hours (not more than 8 from any one area, and including 2 semesters in courses that require laboratory work) must be completed in courses in the following areas: (a) Astronomy, (b) Biology, (c) Chemistry, (d) Geology, (e) Mathematics, (f) Physics, (g) Psychology.

MAJOR AND MINOR STUDIES

At the beginning of his junior year a student shall select and declare (1) a major and a minor subject or (2) two major subjects, or (3) one of the special curricula of the College, and his program of studies thereafter shall meet with the approval of the chairman of his major department or the supervisor of the special curriculum.

Only work of at least C quality is accepted toward the major and the minor; in the case of a special curriculum, all work within the general area of the specialization must be of at least C quality. (Courses in which grades of D are earned in the University of New Mexico may be accepted as electives and in fulfillment of group requirements.)

For the Bachelor of Science degree in the College of Arts and Sciences in departments requiring a major and a minor, the major department may specify in lieu of a single minor in one department a distributed minor in courses in related departments. The distributed minor shall consist of not less than 30 semester hours nor more than 36 semester hours. Rules relating to number of hours required in courses numbered 100 or above and to penalties for excessive hours in freshman courses shall be set aside when in conflict with distributive minor requirements. The student should consult the chairman of his major department if he wishes to take a distributed minor.

CERTIFICATION TO TEACH IN HIGH SCHOOL

It is often possible for a student taking a degree in the College of Arts and Sciences to achieve certification as a secondary school teacher in New Mexico on the same basis as students graduating from the College of Education and without going beyond the 124 semester hours required by the College of Arts

and Sciences for graduation. To do this, however, requires careful planning of the program. In certain major-minor combinations a student cannot achieve the B.A. or B.S. degree from the College of Arts and Sciences and also achieve teacher certification without taking more than 124 semester hours. The plan is possible only when the major-minor combination (or double major) is in subject areas usually offered in high school (see p. 151 for approved areas).

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

ELECTIVES

A student who has fulfilled all other requirements for graduation may use electives to complete his total of 124 hours for graduation, subject to the restrictions stated below.

A maximum of 24 hours in any combination, earned in courses offered in the Colleges of Business Administration, Engineering, Law, Education,* Fine Arts,** Nursing, and Pharmacy, or in Naval Science and Air Science, is acceptable as electives in the College of Arts and Sciences, with the following exceptions:

- (1) Courses in typing or in office machines and filing in the College of Business Administration.
- (2) Ensemble music in excess of 4 hours.
- (3) Shop work in excess of 3 hours.
- (4) Courses in health, physical education, and recreation in excess of 7 hours, the 7 permissible hours to be chosen from courses 72, 103, 104, 125, 167, 169, 171, 172, 174.
- (5) Courses in educational methods, supervision, and practice teaching, except 3 hours of high school methods and 6 hours of high school practice teaching. (If the student has taken the full 21 hours in Education plus the additional courses required for certification to teach in a New Mexico high school, these 21 hours will be accepted in the College of Arts and Sciences. See "Certification," etc., immediately above.)

GENERAL RULINGS

1. Students with less than junior standing may not carry more than 8 hours in one department during one semester.
 2. Not more than 50 hours in courses open to freshmen may be taken without a penalty of 1 hour for every 3 excessive hours.
- Exceptions to these rules may be made only by the Dean.

NORMAL FRESHMAN-SOPHOMORE PROGRAMS

A student wishing ultimately to enter the College of Arts and Sciences should take the following standard program while enrolled as a freshman in the University College. Deviations from this program should be made only with the permission of the University College adviser.

* Except in the case of a Home Economics major, when a maximum of 34 hours will be accepted.

** Except in the case of an Art major, when a maximum of 32 hours will be accepted.

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

If a student intends to take a degree in the College of Arts and Sciences, his program as a sophomore (whatever college he is enrolled in as a sophomore) should be as follows. Deviations should be made only with the permission of the student's adviser.

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

PRE-PROFESSIONAL AND OTHER CURRICULA

Students are cautioned against assuming that four-year college courses always prepare for professional work. At least one 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 five-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.178, and requirements for a Minor in Law, p. 272.

CURRICULUM PREPARATORY TO DENTISTRY

The **minimum** requirement for admission to accredited dental schools is three years of acceptable academic work with a scholarship index of 1.5. However, because of the large number of applications for admission to dental schools in recent years, it is difficult for a student to gain admission to many approved dental schools without a bachelor's degree.

Because of the varying requirements of different dental schools, it is not possible to formulate a definite pre-dental program. However, among the courses

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

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. Normally, he should major in biology or chemistry.

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. 120.

FOR STUDENTS WHO PLAN TO STUDY LAW

See "School of Law"

CURRICULUM IN MEDICAL TECHNOLOGY

Certification as Medical Technologist

For requirements relating to certification as a medical technologist without a bachelor's degree, the student should consult the Chairman of the Department of Biology.

Degree of Bachelor of Science in Medical Technology

The degree of Bachelor of Science in Medical Technology as well as certification as a Medical Technologist (American Society of Clinical Pathologists) may be obtained by following the curriculum prescribed below, including completion of the 12-month medical technology program at an approved hospital in Bernalillo County, New Mexico. Before completing the year's work at the hospital, for which 16 hours of credit are allowed, the student must satisfactorily complete a minimum of 108 academic hours, of which at least 45 shall be earned while the student is in residence on the campus of the University of New Mexico. Thirty of these 45 hours shall be earned at the University of New Mexico after the student has attained junior status. Of the 53 hours of specified courses in science and mathematics, not less than 21 hours shall be earned in residence on the campus of the University of New Mexico.

The order of courses in the prescribed program should be followed as closely as possible. Only the student's adviser may give permission to vary the order of courses.

Students wishing to follow this program should make their intention known to the Chairman of either the Department of Biology or the Department of Chemistry as early in their student careers as possible.

The program prescribed below meets all Group Requirements and all requirements as to major and minor in the College of Arts and Sciences.

The number of hours from outside the College of Arts and Sciences which can be counted towards this degree is reduced from the usual 24 hours to 12 hours (not counting the 16 hours of credit from the hospital course).

PRESCRIBED PROGRAM—MEDICAL TECHNOLOGY

First Semester	Freshman Year		Second Semester
Chemistry 1L	4	Chemistry 2L	4
English 1	3	English 2	3
Foreign Language	3	Foreign Language	3
Mathematics 15	3	Mathematics 16	2
‡Social Science	3	‡Social Science	3
P.E.	1	P.E.	1
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>		<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
	16		15
	+ P.E.		+ P.E.

Sophomore Year

Biology 1L	4s	Biology 2L	4
Chemistry 101-103L	4	Chemistry 102-104L	4
English Literature	3	Foreign Language	3
Foreign Language	3	Physics 12L	4
Physics 11L	4	‡Social Science	3
P.E.	1	P.E.	1
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>		<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
	18		18
	+ P.E.		+ P.E.

Junior Year

Biology 130L	4	Biology 93L	4
Chemistry 53L	4	Biology 123L	4
*Humanities	3	Electives	6-9
Electives	3-6		
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>		<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
	14-17		14-17

Senior Year

*Humanities	3	12 months in	
‡Social Science	3	School of Medical	
Electives	7-10	Technology	
	<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>		<hr style="width: 50px; margin-left: auto; margin-right: 0;"/>
	13-16		16

Total Number of Hours Required—124 + P.E.

Upon completion of the 12-months' course in medical technology at an approved hospital, the student will submit a transcript of this work and apply for the degree of Bachelor of Science in Medical Technology from the University of New Mexico.

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

† 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.

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 physical chemistry 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 two years at the University of New Mexico.

First Year		Second Year	
English 1, 2	3-3	English, and Psychology 51	3-3
French or German	3-3	French or German	3-3
Chemistry 1L, 2L	4-4	Social Science, Chemistry 53L	3-4
Biology 1L, 2L	4-4	Biology 71L and 121L	4-5
Math 15, 16	3-2	Physics 11L, 12L	4-4
Physical Ed	1-1	Physical Ed	1-1

N.R.O.T.C. CURRICULUM

(Suggested curriculum for the first two years.)

First Year		Second Year	
English	3-3	English	3
Foreign Language	3-3	‡Physics	4-4
Social Science	3-3	Foreign Language	3-3
†Math 15, 16	3-2	*Naval Science§	3
*Naval Science	3-3	Social Science	3
Elective	2-3	Electives	6

UNDERGRADUATE CURRICULUM FOR SOCIAL WORK

The undergraduate program in social work at the University of New Mexico is planned to meet two needs: (1) to recruit personnel which could be immediately useful to a social work agency after a planned undergraduate curriculum; (2) to provide a reservoir of potentially able students who will enroll in graduate schools of social work as a progression from their undergraduate curriculum or as students returning later from practice to complete their professional training.

† Contract students see NROTC adviser.

* Two laboratory or drill periods, at hours indicated in the final Schedule of Classes, must also be reserved in student's program of studies.

‡ Required for all NROTC regular students.

§ Regular and contract midshipmen must take a general psychology course during the fall semester.

REQUIREMENTS FOR DEGREE. Candidates for the Bachelor of Arts degree must fulfill Group Requirements of the College of Arts and Sciences. The basic curriculum is designed to provide a broad background in the social, economic, and governmental fields. The student should consult the Director of the Program in order that his individual needs may be met. Those who plan to work in New Mexico, for example, should have Spanish as a foreign language. In fulfilling the Group Requirements in the natural sciences, the student is urged to take Biology 36, 39L, and 48.

In addition to Introduction to Social Science, the combined major and minor includes the following:

1. Social Work:

Sociology 65	Fields of Social Work	(3)
Sociology 165	Essentials of Interviewing	(3)
Sociology 197	Field Observation and Participation	(3)

2. Ten Courses, of which 6 courses shall be numbered above 100, elected from the following list. Three of the elected courses must be in sociology:

Government 51, 52	American Government	(3, 3)
Government 121	Public Administration	(3)
Economics 51	Introduction to Economics	(3)
Economics 103	Consumer Economics	(3)
Economics 141	Labor Problems	(3)
Psychology 51	General Psychology	(3)
Psychology 103	Abnormal Psychology	(3)
Psychology 131	Psychological & Educational Tests	(3)
Sociology 55	Principles of Sociology	(3)
Sociology 61	Courtship & Marriage	(3)
Sociology 82	Urban and Rural Sociology	(3)
Sociology 110	Juvenile Delinquency	(2)
Sociology 115	Probation & Parole	(2)
Sociology 144	Social Security	(3)
Sociology 154	Race and Culture Relations	(3)
Sociology 181	Society and Personality Development	(3)
Sociology 195	Population Problems	(3)

3. It is possible and desirable for a student to have a major or minor in one of the social science fields in addition to the combined curriculum outlined above.

4. Electives: Electives may be chosen to round out a student's interest. Courses in English, history, anthropology, biology, child development or nutrition courses in home economics, statistics, or accounting are recommended.

DIVISION OF FOREIGN STUDIES

Miguel Jorrín, Professor of Government, Director

The Division of Foreign Studies is an administrative unit of the College of Arts and Sciences and the Graduate School. From its founding, in 1941, until 1959, this division functioned under the name of School of Inter-American Affairs, offering Bachelor of Arts and Master of Arts degrees in the field of Latin American studies. In 1959, a new major in Western European studies was added to the program, requiring the change of name to Division of Foreign Studies. The Latin American curriculum and the facilities of the Division continue as in the past.

THE UNDERGRADUATE CURRICULUM

The Division offers the degree of Bachelor of Arts in the College of Arts and Sciences with combined majors and minors in: (1) Latin American studies; (2)

Western European studies. 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 the Western European major. Students are expected to use the languages as tools in various advanced courses in the program.

Students will, of course, complete all the basic group requirements of the College of Arts and Sciences. In lieu of the ordinary major and minor requirements, the student will follow a program of specific required courses.

I. MAJOR IN LATIN AMERICAN STUDIES

FOREIGN LANGUAGES, 33 hours

Spanish 1, 2, 51, 52.

Spanish 92. Introduction to Spanish Literature

Spanish 101, 102. Advanced Composition and Conversation

Spanish 157, 158. Spanish-American Literature

Portuguese 75, 76. Beginning (Accelerated)

HISTORY, GEOGRAPHY, GOVERNMENT, & ECONOMICS, 36 hours

History 1, 2. Western Civilization

History 11, 12. The Americas

History 161, 162. Latin America

History 165. Inter-American Relations

Geography 101, 102. South America; Middle America

Government 73. Introduction to Latin America

Government 155. Latin America

Economics 121. Economically Underdeveloped Countries

BASIC GROUP REQUIREMENTS, 23 hours

English, 9 hours

Science and Mathematics, 14 hours

(The basic group requirements in Foreign Language, Humanities, and Social Science, are taken care of in the general degree requirements.)

FREE ELECTIVES, 32 hours

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

TOTAL, 124 hours plus 4 P.E.

II. MAJOR IN WESTERN EUROPEAN STUDIES

FOREIGN LANGUAGES, 36 hours

French 1, 2, 51, 52.

French 101, 102. Advanced Composition and Conversation

French 105, 106. Modern French Literature

German 1, 2, 51, 52 or Russian 1, 2, 51, 52.

HISTORY, 20 hours

1-2. Western Civilization

145. Europe 1815-1914

146. Europe since 1914

149. Soviet Russia since 1917

151. American Diplomacy

Three additional hours chosen from:

- 143. French Revolution
- 135. British Empire
- 148. Modern Russia
- 178. Recent United States

GOVERNMENT, SOCIOLOGY, and GEOGRAPHY, 18 hours

Government:

- 51. American
- 141. International Politics
- 143. International Law
- 162. Recent Political Theory
- 169. European

Three additional hours chosen from:

Government:

- 121. Public Administration
- 168. American Political Theory
- 105. Public Opinion

Sociology:

- 154. Race and Culture Relations

Geography:

- 132. Western Europe

ECONOMICS, 9 hours

- 51. Introduction
- 154. Comparative
- 181. International Economic Relations

BASIC GROUP REQUIREMENTS, 23 hours

English, 9 hours.

Science and Mathematics, 14 hours.

(The basic group requirements in Foreign Language, Humanities, and Social Science are taken care of in the general degree requirements.)

FREE ELECTIVES, 18 hours

TOTAL, 124 hours plus 4 P.E.

THE GRADUATE CURRICULUM

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

SCHOLARSHIPS

ALL-UNIVERSITY LATIN AMERICAN SCHOLARSHIPS. In the academic year 1960-61, the University of New Mexico is offering 2 scholarships covering tuition and room and board, and 4 covering tuition only, to qualified graduate and undergraduate students from any Latin American countries who are planning to pursue studies in any of the departments of the University. These scholarships have been established by the Regents and are administered jointly by the University and the Institute of International Education. Information may be obtained from the Director of the Division of Foreign Studies. **All applications must be received not later than May 1.**

SCHOLARSHIPS IN INTER-AMERICAN AFFAIRS. The Division of Foreign Studies is offering in the academic year of 1960-61 six tuition scholarships in the general

course leading to a B.A. in Latin American Studies. These scholarships are open to well-qualified graduates of high schools in the State of New Mexico who deserve financial assistance and who are planning to enter the University as freshmen. It also offers three tuition scholarships to undergraduates above the freshman level or graduate students from New Mexico or outside the State. For application forms and further information address the Director of the Division. **All applications must be received not later than May 1.**

DEPARTMENTS OF INSTRUCTION

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

Anthropology	History
Biology	Journalism
Chemistry	Mathematics and Astronomy
Comparative Literature	Modern and Classical Languages
Economics	Philosophy
English	Physics
English-Philosophy	Psychology
Geography	Sociology
Geology	Speech
Government and Citizenship	

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

TRAINING FOR business careers is the primary objective of the College of Business Administration. A career in business may mean working for a large and complex corporation or it may mean the ownership and operation of one's own enterprise. Modern business enterprise, whether large or small, simple or complex, demands knowledge of principles and practices along many lines if it is to be successful. Not only should prospective business men be trained in the practices of business itself, but also in the broader aspects of the economic system in which the enterprise must operate.

The program of studies designed to achieve the objective of the College has three main divisions. The first includes courses in a number of areas of knowledge outside the fields of economics and business. This division comprises about 40 percent of the entire four-year program. The second division is that of a group of courses in economics and business 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 a knowledge of a specialized field, a broad knowledge of business in general, plus an even broader knowledge of the institutions and culture of the society in which he will live and work.

Students upon graduation should not expect to secure positions of executive responsibility immediately, but they may expect to advance more rapidly toward such positions than they would if they did not possess the degree. It is to be recognized that business success depends upon many factors including actual experience on the job, sometimes many years of it.

While the College of Business Administration prepares students for business careers as a major aim, those planning to teach, enter government service, continue in graduate work, or to enter another professional school, such as Law, usually will acquire the necessary training and background for such pursuits by following the four-year course.

The College of Business Administration maintains a Bureau of Business Research. For details of the Bureau's purposes and activities, see p. 46.

ADMISSION

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

ADMISSION FROM THE UNIVERSITY COLLEGE. The minimum requirements for transfer from the University College to the College of Business Administration are:

1. Twenty-six hours of earned credit.
 2. (a) A scholarship index of at least 1.0 on all hours attempted;
- or
- (b) A scholarship index of at least 1.0 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 1.0 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 1.0 on all Business Administration and Economics hours attempted.
4. Completion of the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score, or a grade of C or better in a remedial English course offered on a non-credit basis by the University of New Mexico English Department.
5. The successful completion of College Algebra (Mathematics 15).

TRANSFERS. Students seeking to transfer from other degree-granting colleges of the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a grade-point average of 1.0 or better on all work attempted while enrolled in the other degree-granting colleges or other collegiate institutions. 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 1.0 cumulative grade-point average as specified under "Scholastic Regulations" below. To receive the degree, the student must have completed satisfactorily at least 128 semester hours, including 4 semester hours of physical education and to have met all the requirements of the University and of the College of Business Administration.

For the degree of Master of Business 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. 95-106). 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 an over-all C average 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 an over-all C average on all Business Administration and Economics hours attempted.

3. To graduate with the B.B.A. degree a student must have earned a minimum of 124 hours of degree work.

4. To graduate with a B.B.A. degree a student must have earned a minimum of 50 hours in courses in Business Administration and Economics.

5. The maximum load for students in the College of Business Administration shall be 17 hours (not counting PE). Students wishing to carry more than 17 hours may petition to do so.

6. The following will count as laboratory science: Physics, Chemistry, Biology, Geology, Psychology, and Home Economics courses 53L, 54L.

7. The successful conclusion of the Proficiency Examination in English or 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.)

C. More than 4 hours in ensemble music.

D. More than 3 hours of shop work.

10. Credit is allowed toward a degree in the College of Business Administration for type-writing, but not to exceed a one-semester course except for those in the Secretarial-Office Training concentration.

DEGREE REQUIREMENTS

Requirements for the degree of Bachelor of Business Administration (for description of courses, see section "Courses of Instruction"):

A. GENERAL REQUIREMENTS	Credit
1. English 1 and 2 (6 hrs.) Literature (3 hrs.) and Speech 55 (3 hrs.)	12
2. Social Science (other than Economics), 6 hrs.; American Government (6 hrs.)	12
3. Two semesters of laboratory science within a single department	6-8
4. Option. Either one of the following:	
(a) A single foreign language (12 hrs.)	
(b) History (6 hrs.), English 55 and English 64 (6 hrs.)	12
5. College Algebra	3
6. Philosophy	3
7. Physical Education	4
Total	52-54
B. SPECIFIC REQUIREMENTS IN ECONOMICS AND BUSINESS COURSES COMMON TO ALL CONCENTRATIONS	
BA 5, 6, Principles of Accounting	3-3
BA 89, Business Statistics	3
BA 106, 107, Business Law	3-3
BA 108, Marketing	3
BA 110, Corporation Finance	3
BA 130, Principles of Organization and Management	3
Ec 51, 52, Intro to Economics	3-3
Ec 111, Money and Banking	3
Total	33
C. CONCENTRATION REQUIREMENTS (varies with concentration)	14-21
D. FREE ELECTIVES	17-29
Total hours of credit for degree	128

FRESHMAN PROGRAM (Taken in the University College)

(Be sure to read explanations and exceptions)

First Semester		Second Semester	
English 1	3	English 2	3
Elective*	3	Math 15 or elective	3
Laboratory Science	3-4	Laboratory Science	3-4
Math 15, or Math 2	3	Elective	3
Foreign Language or History	3	Foreign Language or History	3
Physical Ed	1	Physical Ed	1

SOPHOMORE YEAR

(Be sure to read explanations and exceptions)

Economics 51	3	Economics 52	3
Government 51	3	Government 52	3
BA 89	3	Elective	3
BA 5*	3	BA 6	3
Foreign Language or English 55	3	Foreign Language or English 64	3
Physical Ed	1	Physical Ed	1

EXPLANATIONS AND EXCEPTIONS

Students in the University College who do not follow the freshman program as set forth must take the courses they have missed after they enter the College of Business Administration. For such students this may mean prolonging their attendance in the University for a semester, or even longer.

Students looking forward to a concentration in Accounting will enroll for BA 63 (Intermediate Accounting) and BA 84 (Cost Accounting) in place of elective courses in the first semester of the sophomore year, and BA 89 (Statistics), BA 65 (Business Communications) in the second semester.

Students in Finance will enroll in BA 63 in the sophomore year.

Secretarial-Office Training students should follow the 4-year program as outlined on p. 131.

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, Biology, and Home Economics 53L, 54L.

Social Science. Anthropology, History, Sociology, Philosophy, and Government courses are acceptable for Social Science requirements.

Option. If a student chooses option (a) and is admitted with high school language credits and wishes to enter courses above the elementary level, he should consult the Chairman of the Modern and Classical Languages Department (in the College of Arts and Sciences).

If a student chooses option (b) and can display a satisfactory aptitude in vocabulary and composition, evidenced by a grade of B in both English 1 and 2, he may substitute other courses in the arts or sciences for either or both English 55 and 64.

Mathematics. During the freshman year the student must take Mathematics 2 (Intermediate Algebra) as a prerequisite to Mathematics 15 if the score on his

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

entrance examination in Mathematics is not satisfactory. Mathematics 2 will not count toward a degree in Business Administration.

JUNIOR AND SENIOR YEARS

Not later than the beginning of the junior year students should choose a field of concentration. During the junior and senior years students must take any of the General Requirements, as listed on p. 126, which were not taken in the first two years. A general prerequisite to all upper division courses is Economics 51 and 52 and BA 5 and 6, but any course may have a specific prerequisite which will be stated in its description. At the end of the sophomore year or the beginning of the junior year, the student should file in the Dean's office an application for the B.B.A. degree; a graduation summary sheet will then be made out, 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.

CONCENTRATIONS

1. ACCOUNTING. Advisers: Mr. Mori, Mr. Christman, Mr. Smith, Mr. Strahlem.

Those students who are looking toward careers in either private accounting or public accounting should follow the Accounting concentration. Knowledge of accounting principles and practices is basic to any business venture both for the purpose of internal control and for guiding policy. The proper keeping of records and their analysis, a proper function of the accountant, is especially necessary in tax matters, both federal and local. Those students who aspire to become Public Accountants probably should take more than the minimum number of courses required in the Concentration.

	Junior Year		
	First Semester		Second Semester
BA 106	3	BA 147	3
BA 121	3	BA 107	3
Elective	3	BA 111	3
Postpone one of the following three courses to the senior year:		English Literature	3
BA 108	3	Electives	5
BA 110	3		
BA 130	3		
	<hr/> 15		<hr/> 17
	Senior Year		
Philosophy	3	Speech	3
Social Science Elective	3	Social Science Elective	3
BA 108, 110, or 130 postponed from junior year	3	Electives	9
BA 149	3		
Electives	5		
	<hr/> 17		<hr/> 15

Note: Students in this concentration will have enrolled in BA 64 and BA 84 in the second semester of their sophomore year. BA 65 is required in this concentration.

Recommended Electives: BA 102, 122, 127, 128, 148, 150, 191, and 196.

2. FINANCE. Adviser: Mr. Parish.

A survey of the courses offered in this concentration will reveal that they have been carefully selected to give the student a sound basic understanding of the principles and practices of both private and public finance. Thus the program serves not only those who plan to enter the banking, insurance, investment security, and similar businesses; it will also provide highly useful training for

the average citizen who will almost certainly deal with banks, buy life insurance, make some investments, vote on fiscal proposals, and pay the tax collector. To provide the student with an informed and intelligent approach to such problems is the aim of the concentration.

		Junior Year			
First Semester				Second Semester	
BA 106		3	BA 107		3
BA 108		3	BA 111		3
BA 110		3	BA 113		2
BA 130		3	BA 127		3
Elective		3	Literature		3
			Elective		3
		<u>15</u>			<u>17</u>
Senior Year					
Philosophy		3	Speech		3
Social Science Elective		3	Social Science Elective		3
BA 115		3	Economics 152		3
Electives		8	Electives		6
		<u>17</u>			<u>15</u>

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

Recommended Electives: BA 128, 162, 190, 198.

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.

		Junior Year			
First Semester				Second Semester	
BA 106		3	BA 107		3
BA 108		3	BA 111		3
BA 110		3	BA or Econ Elective		3
BA 130		3	Electives		5
Elective (BA or Econ)		3	Literature		3
		<u>15</u>			<u>17</u>
Senior Year					
BA or Econ Elective		6	BA or Econ Elective		6
Social Science Elective		3	Speech		3
Philosophy		3	Social Science Elective		3
Electives		5	Electives		3
		<u>17</u>			<u>15</u>

Concentration requirements in addition to specific requirements:

- a. 11 or 12 hours in BA from the following: BA 63, 84, 113, 114, 115, 127, 128, 143, 190, and 195.
- b. 6 hours in Economics from the following: Econ 141, 152, 154, 159, 160, and 186.

4. INDUSTRIAL ADMINISTRATION. Adviser: Mr. Finston.

This concentration is designed to develop competency for lifetime careers in the management of business and economic affairs. Students interested in the fields of industrial, personnel, or labor relations administration should choose this concentration. The importance of the functions of Management is steadily growing in recognition whether the enterprise is large or small, and whether

it is industrial, commercial, financial, or governmental. The emphasis is on sound principles and best practices with a recognition that a successful manager must learn much from actual experience on the job after he has left school.

Junior Year			
First Semester		Second Semester	
BA 106	3	BA 107	3
BA 108	3	BA 111	3
BA 110	3	Sociology 160	3
BA 130	3	Electives	8
Elective	<u>3</u>		
	15		<u>17</u>

Senior Year			
BA 132	2	BA 133	3
Economics 141	3	BA 195	3
Philosophy	3	Social Science Elective	3
Social Science Elective	3	Speech	3
Electives	<u>6</u>	BA 190	<u>3</u>
	17		15

Recommended Electives: BA 84, Soc. 150, Econ 180, Psych 158.

5. MARKETING. Adviser: Mr. Welch.

Those students who are looking forward to positions in selling, purchasing, advertising, and merchandising, or who are interested in establishing businesses of their own, especially in retailing and wholesaling, should follow the Marketing concentration. Opportunities exist in manufacturing, agriculture, mining, petroleum, building, and other industries, for those trained in the field. The problem of the proper and efficient movement of merchandise from the original producer through various channels to the consumer is often a very complex one in modern society and demands well-trained people all along the line.

Junior Year			
First Semester		Second Semester	
BA 106	3	BA 107	3
BA 108	3	BA 111	3
BA 110	3	BA 113	2
BA 130	3	BA 143	3
Elective	3	BA 183	3
		Literature	<u>3</u>
	<u>15</u>		17

Senior Year			
BA 182	3	BA 185	3
Philosophy	3	Speech	3
Social Science Elective	3	Social Science Elective	3
Electives	<u>8</u>	Electives	<u>6</u>
	17		15

Recommended Electives: BA 63, 114, 134, 127, 128; Geography 63; Economics 152.

6. SECRETARIAL-OFFICE TRAINING. Advisers: Mrs. Glaese, Mrs. Reva.

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 for employment for college-trained men and women. Those students who wish to teach business subjects in high schools, and who take courses in the College of Education to fulfill teacher certification requirements, may wish to choose this concentration.

		Freshman Year			
		First Semester		Second Semester	
BA 12		3		BA 17	2
Elective		3		Elective	3
Mathematics 15 or 2		3		Elective or Mathematics 15	3
Foreign Language or History		3		Foreign Language or History	3
English 1		3		English 2	3
Physical Ed		1		Physical Ed	1
		<u>15</u>			<u>14</u>
		+ PE			+ PE
Sophomore Year					
BA 62		3		Laboratory Science	3-4
Laboratory Science		3-4		Economics 52	3
Economics 51		3		BA 6	3
BA 5		3		Foreign Language or Engl 64	3
Foreign Language or Engl 55		3		Physical Ed	1
Physical Ed		1		BA 65	3
		<u>15-16</u>			<u>15-16</u>
		+ PE			+ PE
Junior Year					
Elective		2		BA 107	3
Elective or BA 13		3		BA 111	3
BA 106		3		BA 14	3
BA 108 or 110		3		BA 89	3
BA 130		3		Literature	3
Government 51		3		Government 52	3
		<u>17</u>			<u>18</u>
Senior Year					
BA 53		3		BA 54	3
BA 108 or 110		3		BA 158	3
Philosophy		3		Social Science Elective	3
Social Science Elective		3		Speech	3
BA 157		3		Electives	5
Elective		2			
		<u>17</u>			<u>17</u>

Recommended Electives: BA 113, 114; Geography 63; and English.

AIR FORCE AND NAVAL ROTC

Students enrolled in the Air Force ROTC and Naval ROTC may receive the degree of Bachelor of Business Administration and their commissions at the end of 4 years. To do this the student must use his required Naval and Air Force courses as his "free electives." Thus, each student enrolled in the College of Business Administration must be sure he is taking the required courses for the degree. Naval and Air Force students are not required to take Physical Education.

BUSINESS ADMINISTRATION STUDENTS IN THE AIR FORCE ROTC

Freshman		Sophomore	
Engl 1	Engl 2	Econ 51	Econ 52
Elective	Elective	Govt 51	Govt 52
Lab Sci	Lab Sci	BA 5	BA 6
Math 2 or 15	Elective	BA 89	Elective
For Lang or Hist	For Lang or Hist	For Lang or Engl 55	For Lang or Engl 64
AS 11	AS 12	AS 51	AS 52

Junior		Senior	
BA 106	Lit	Philosophy	Speech
6 hrs. from BA 108, 110, or 130	BA 107	Soc Sci	Soc Sci
AS 101	BA 111	BA 108, 110, or 130	BA Elective
Elective	BA Elective	BA Elective	BA Elective
	AS 102	AS 151	AS 152

BUSINESS ADMINISTRATION STUDENTS IN THE NAVY ROTC

Freshman		Sophomore	
Engl 1	Engl 2	Econ 51	Econ 52
BA 5	BA 6	Govt 51	Govt 52
Lab Sci or Soc Sci	Lab Sci or Soc Sci	Lab Sci	Philos or Lab Sci
Math 15	Speech	BA 89	Lit
NS 11	NS 12	General Psych	NS 52

Junior		Senior	
BA 106	BA 107	6 hrs. from	BA Elective
BA 108, 110, or 130	BA 111	BA 108, 110, 130	BA Elective
For Lang or Hist	BA Elective	Soc Sci or Phil	Soc Sci
NS 101	For Lang or Hist	For Lang or Engl 55	For Lang or Engl 64
BA Electives	NS 102	NS 151	NS 152
		BA Elective	

COLLEGE OF EDUCATION

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

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

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

ACCREDITATION

The University of New Mexico is an active member of the American Association of Colleges of Teacher Education, and is accredited by The National Council for the Accreditation of Teacher Education.

CERTIFICATION

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

UNDERGRADUATE PROGRAMS

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

GRADUATE PROGRAMS

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

seminars in professional education. For further information, consult the current **Graduate Bulletin**.

DOCTOR'S DEGREE PROGRAMS. The College of Education offers through the Graduate School two doctoral programs in Education, one leading to the degree Doctor of Philosophy, and the other leading to the degree Doctor of Education. Both of these degree programs allow a concentration of work in any 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 current **Graduate Bulletin** for details of these programs.

PRINCIPLES GOVERNING THE COLLEGE OF EDUCATION

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

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

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

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

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

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE. All persons enrolled in the University College who wish to transfer to the College of Education are advised to follow during the freshman year at the University the suggested curriculum leading to the desired College of Education degree. The various curricula are outlined in this section of the Catalog.

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

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 1.0 on all hours attempted;
or
(b) A scholarship index of at least 1.0 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 1.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Completion of the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score, or a grade of C or better in a remedial English course offered on a non-credit basis by the English Department of the University of New Mexico.
4. A successful interview with a College of Education faculty member, in which the student (a) indicates a positive desire and intent to enter the teaching profession; and (b) gives evidence of physical, personal, and emotional qualities deemed adequate for successful teaching.

TRANSFERS. Students seeking to transfer from the other degree-granting colleges of the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a grade-point average of 1.0 or better on all work attempted while enrolled in the other degree-granting colleges or other collegiate institutions. They must also comply with specific College of Education requirements listed above under "Admission from University College" with the exception that requirements in Nos. 3 and 4 must be accomplished by students transferring from other institutions during the first semester in which the transfer student is enrolled in the College of Education. The College reserves the right to reject transfer credits in professional education which were earned 15 years or more prior to the student's admission to this institution.

MAXIMUM NUMBER OF HOURS

No student in this College may enroll for more than 17 semester hours, plus 1 hour of physical education (or military drill in the case of NROTC and AFROTC students), unless his standing for the previous semester was at least B in two thirds of his studies, with no grade below C; and then only by presenting a written petition to the chairman of his department, who may, in his discretion, grant permission to enroll for extra hours, not to exceed 21.

STUDENT TEACHING FACILITIES

The College of Education has made arrangements with the Albuquerque public school authorities whereby student teaching is carried on under the personal direction of selected teachers in the Albuquerque schools and a professor of education in the College of Education. When it is feasible, students may be placed in other school systems for their student teaching assignments.

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

COOPERATING TEACHERS

The University of New Mexico is deeply indebted to the cooperating teachers in the Albuquerque school system who supervise the student teachers during their assignments for the actual classroom experience.

This group of carefully selected teachers who work closely with the University faculty representatives in planning and carrying out these practical experiences for the student teachers are in every sense of the word temporary members of the University faculty, and are, therefore, accorded some of the privileges extended to the permanent faculty members. It is hoped these privileges may be extended as the cooperation between the University and the Albuquerque school system is increased.

The names of the cooperating teachers are published each year in the **Student Teaching Handbook**, published and distributed by the University.

LABORATORIES

LEARNING MATERIALS CENTER. Students pursuing undergraduate and graduate programs may make use of the learning materials center which includes samples of all textbooks used in New Mexico elementary and secondary schools, courses of study, curriculum guides, manipulative materials used in the teaching of mathematics and science, globes, charts, and other miscellaneous materials. There are also study and work spaces where 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. This laboratory has been added to meet a recognized need in the public schools.

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

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

EDUCATION PLACEMENT

Education placement is a function of the Placement Bureau of the University. See p. 90 for description of services.

SCHOLASTIC REGULATIONS

See pp. 98-99.

REQUIREMENTS FOR GRADUATION

Upon the completion of all specified requirements, candidates for degrees in the College of Education who major in business education, elementary education, home economics, mathematics, or a science, receive the degree of Bachelor of Science in Education; those who major in health and physical education receive the degree of Bachelor of Science in Health and Physical Education; those who major in industrial arts receive the degree of Bachelor of Science in Industrial Arts Education; and those who major in other subjects receive the Bachelor of Arts in Education.

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

1. Students who plan to be secondary school teachers should complete a *teaching major and a teaching minor in subjects usually taught in secondary schools*. See description of programs in Secondary Education for details.

2. All students 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 1.0 grade-point average on the 124 semester hours being counted toward graduation.

3. *In addition to the required work in teaching majors and minors, professional courses in education are required as outlined in the various curricula*. All candidates for degrees are required to take a course in observation and student teaching.

4. Students who plan to teach in the elementary schools are not required to have a major or a minor in a subject area, but it is strongly recommended that they do so. They will be expected to follow the curriculum as outlined on pp. 141-142.

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

6. All students in the College of Education are required to pass the English Proficiency Examination (administered by the University of New Mexico) or earn a grade of C or better in a remedial English course offered on a non-credit basis by the Department of English of the University of New Mexico. No student shall be recommended for graduation unless he shows ability to write and speak clear and correct English.

7. Every candidate for graduation must take the Graduate Record Examination. (See p. 103.) Any person wishing to take the National Teacher Examination in addition to the Graduate Record Examination may do so at his own expense.

8. For minimum residence requirements, see p. 103.

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

Studies, but in no case may it exceed eight semester hours of credit including the master's degree program.

GENERAL 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 are required. | 12 sem. hrs. |
| 3. Social Sciences. At least 2 courses must be taken in one department and at least 3 semester hours must be taken in another department. The following fields are accepted in this area: anthropology, economics, geography, history, philosophy, sociology, and government and citizenship. | 12 sem. hrs. |
| 4. Natural Sciences and Mathematics. This requirement must include work in at least 2 departments and a minimum of 6 hours in laboratory science. The following departments offer work acceptable for meeting this requirement: Physics; Chemistry; Biology; Geology; Mathematics and Astronomy; Home Economics 53L, 54L. | 11 sem. hrs. |
| 5. Fine Arts. This requirement may be met by work in art, crafts, industrial arts, music, drama, or contemporary dance. | 2-3 sem. hrs. |
| 6. Physical Education. | 4 sem. hrs. |
| 7. Electives. Electives are to be chosen from the departments listed in paragraphs No. 1, 2, 3, 4, and 5 above. Physical education courses are not accepted as electives in this area. | 8-7 sem. hrs. |
| Total <u>52 sem. hrs.</u> | |

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 as prescribed by the dean.

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

ART EDUCATION

CERTIFICATION (Art and Provisional Secondary Certificates)

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

CURRICULUM FOR STUDENTS PREPARING TO TEACH ART IN GRADES 1-12 AND TO TEACH IN A SECOND SUBJECT AREA IN GRADES 7-12

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

Freshman Year	
First Semester	Second Semester
English 1	English 2
Social Studies	Social Studies
Math or Science	Math or Science
Art 3 or 9	Art 9 or 3
Art 6 or 8	Art 8 or 6
Physical Ed	Physical Ed
3	3
3	3
4	4
3	3
3	3
1	1
Sophomore Year	
Literature	Speech 55
Math or Science	Social Studies
Social Studies	Psychology 51
Art Ed 48	Art Ed 49
Art 71	Art 72
Physical Ed	Physical Ed
3	3
3	3
3	3
3	3
1	1
Junior Year	
Psychology 110	Secondary Ed 153
Art Ed 124	Art Ed 125
Secondary Ed 141	Art History
Major Group in Art	Major Group in Art
Art Electives	
3	3
3	3
3	3
6	6
2	
Senior Year	
Ed Electives	‡Secondary Ed 156-157
Art Electives	General Electives
General Electives	
3	6 or 9
6	6
6	

CERTIFICATION (Art and Provisional Elementary Certificates)

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

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

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

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

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
Social Studies	3	Social Studies	3
Math or Science	4	Math or Science	4
Art 3 or 9	3	Art 9 or 3	3
Art 6 or 8	3	Art 8 or 6	3
Physical Ed	1	Physical Ed	1
Sophomore Year			
Literature	3	Speech 55	3
Social Studies	3	Social Studies	3
Math or Science	3	Psychology 51	3
Art Ed 48	3	Art Ed 49	3
Art 71	3	Art Electives	4
Physical Ed	1	Physical Ed	1
Junior Year			
Psychology 110	3	Ed & Ad Serv 102	3
Art Ed 124	3	Physical Ed 72	3
Elementary Ed 119	2	Elementary Ed 135	2
Elementary Ed 121	3	Art Ed 125	3
Elementary Ed 122	2	Electives	7
Art Electives	4		
Senior Year			
*Elementary Ed 123	2	†Elementary Ed 136	9
Art Electives	4	General Electives,	3
General Electives	9		

BUSINESS EDUCATION

SECRETARIAL CURRICULUM

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

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
Laboratory Science	4	Laboratory Science	4
Social Studies	3	Social Studies	3
Business Ad 12	3	Math 1	2
Fine Arts Elective	3	Business Ad 17	2
Physical Ed	1	Physical Ed	1
Sophomore Year			
English (Literature)	3	Speech 55	3
Math or Science	1-3	Economics 51	3
Business Ad 62	3	Psychology 51	3
§Business Ad 5	3	Business Ad 6	3
‡Business Ad 13	3	‡Business Ad 14	3
Physical Ed	1	Physical Ed	1
Junior Year			
Business Ad 53	3	Economics 103	3
Psychology 110	3	Business Ad 54	3
Business Ad 106	3	Business Ad 107	3
Business Ad 65	3	Business Ad 158	3
Electives & Minor	3-5	Secondary Ed 141	3
		Electives or Minor	2-3

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

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

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

‡ Certain elementary courses may be waived on the basis of a placement test if the student has had shorthand in high school, but 6 hours of credit must be earned in shorthand and 6 in typewriting.

Senior Year

Business Ad 157	3	Secondary Ed 156 (in two subjects)	6
Secondary Ed 155g	3	Secondary Ed 153	3
§Secondary Ed 143 or Ed Elective	3	Electives	2
Electives & Minor	8-9	Education Elective	3

GENERAL BUSINESS CURRICULUM

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

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
Laboratory Science	4	Laboratory Science	4
Fine Arts Elective	3	Fine Arts Elective	3
Social Studies	3	Social Studies	3
Math	3	Electives or Minor	3
Physical Ed	1	Physical Ed	1
Sophomore Year			
English (Literature)	3	Speech 55	3
Economics 51	3	Economics 52	3
*Business Ad 89	3	Psychology 110	3
Psychology 51	3	Business Ad Elective	3
†Business Ad 5	3	Business Ad 6	3
Physical Ed	1	Physical Ed	1
Junior Year			
Secondary Ed 141	3	Business Ad 111	3
Business Ad 106	3	Business Ad 107	3
Ed Elective	3	Ed Elective	3
Business Ad 65	3	Business Ad 108	3
Electives or Minor	3	Electives or Minor	5
Senior Year			
Secondary Ed 156-157	6-9	Business Ad 110	3
Secondary Ed 153	3	Business Ad 130	3
Education Elective	3	Electives or Minor	9
		Business Ad Elective	3

MINOR STUDY IN BUSINESS EDUCATION (SECRETARIAL)

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

MINOR STUDY IN BUSINESS EDUCATION (GENERAL BUSINESS)

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

ELEMENTARY EDUCATION

CURRICULUM FOR STUDENTS PREPARING TO TEACH IN ELEMENTARY GRADES

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

§ As approved by the Chairman of the Department of Secondary Education.
 * Prerequisite: Mathematics 2 or equivalent.
 † Business Ad 5 is open to freshmen who are eligible to enroll in, or have completed, Mathematics 15.

	Freshman Year		
First Semester			Second Semester
English 1	3	English 2	3
Biology 1L	4	Biology 2L	4
History 1 or 11	3	History 2 or 12	3
Art Ed 17	3	Art Ed 18	3
Language or Geography	3	Language or Geography	3
Physical Ed	1	Physical Ed	1
Sophomore Year			
English 54	3	Speech 55	3
Geology 1	3	Geology 2	3
History 51	3	History 52	3
Language or Engl 53 or Anth 1	3	Language or Anthropology 2	3
Psychology 51	3	Math 1	2
Music Ed 93	2	Music Ed 94	2
Physical Ed (W81 Recommended)	1	Physical Ed (W80 Recommended)	1
Junior Year			
Elementary Ed 121	3	Elementary Ed 124	3
Elementary Ed 119	2	Elementary Ed 135	2
Elementary Ed 122	2	Psychology 110	3
Home Ec 138L	4	Sociology 82 or 117	3
Sociology 110	2	Physical Ed 72	3
†Electives	4	†Electives	4
Senior Year			
Elementary Ed 123	2	Ed & Ad Serv 102	3
Government 103	3	English 82	3
Elementary Ed 136	5-9	Elementary Ed 120	2
†Electives	6-9	†Electives	6-9

EDUCATIONAL AND ADMINISTRATIVE SERVICES

See pp. 225-228 for course descriptions, and the **Graduate Bulletin** for detailed descriptions of master's and doctoral programs.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

MAJOR STUDY IN HEALTH AND PHYSICAL EDUCATION FOR MEN

Outlined for men preparing to teach physical education. This curriculum leads to the degree of Bachelor of Science in Health and Physical Education.

	Freshman Year		
First Semester			Second Semester
English 1	3	English 2	3
Social Science	3	Social Science	3
Physical Ed 64	2	Physical Ed 72	3
Physical Ed 44	2	Physical Ed 74	2
Physical Ed 45	2	Physical Ed 75	2
Fine Arts Electives	2-3	Elective	3
Physical Ed	1	Physical Ed	1
	15-16		17

† It is recommended that part of the electives be selected from the following:

Dramatic Art	Anthropology	Art	Home Economics
Corrective Speech	Sociology	Music	Astronomy
Geography	Library Science	Psychology	

Sophomore Year

English (Literature)	3	Speech 55	3
Social Science	3	Social Science	3
Biology 12L	4	Biology 36 and 39L	5
Psychology 51	3	Physical Ed 46	2
Physical Ed 40	2	Physical Ed 76	2
Physical Ed 77	2	Physical Ed	1
Physical Ed	1		
	<u>18</u>		<u>16</u>

Junior Year

Biology 126L	3	Secondary Ed 141	3
Psychology 110	3	Elementary Ed 118	3
Physical Ed 41	2	Physical Ed 128	2
Physical Ed 119	2	Physical Ed 104	4
Physical Ed 138	3	Physical Ed 172	3
Physical Ed 171	3	Elective	2
	<u>16</u>		<u>17</u>

Senior Year

Secondary Ed 153	3	Elementary Ed 136 or Secondary Ed 156	3
Secondary Ed 156	3-6	Physical Ed Elective	3
Physical Ed 164	3	Physical Ed 125	3
Education Elective	3	Physical Ed 185	3
Physical Ed 169	3	Elective	3-4
	<u>15-18</u>		<u>15-16</u>

MINOR STUDY IN ATHLETIC COACHING FOR MEN

This minor of 24 semester hours is offered to qualify men to meet the demands of high schools and colleges for coaches and athletic supervisors who are also prepared to teach some academic subject. Practical work which is required, but given no academic credit, is to be arranged at the discretion of the Department according to the student's needs.

Physical Ed 46	2	Physical Ed 75	2
Physical Ed 74	2	Physical Ed 77	2
Physical Ed 76	2	Physical Ed 104	4
Physical Ed 128	2	Physical Ed 125	3
Physical Ed 171	3		
Physical Ed 45	2		

MINOR STUDY IN PHYSICAL EDUCATION FOR MEN

This minor of 25 semester hours is intended to meet the needs of those students who wish to combine the teaching of physical education with their major subjects.

Physical Ed 72	3	Physical Ed 41	2
Physical Ed 44	2	Physical Ed 172	3
Physical Ed 64	2	Physical Ed 104	4
Physical Ed 40	2	Physical Ed 171	3
Physical Ed 45	2		
Physical Ed 46	2		

MAJOR STUDY IN HEALTH AND PHYSICAL EDUCATION FOR WOMEN

This curriculum leading to a degree of Bachelor of Science in Health and Physical Education is designed to prepare the student to teach health and physical education in the schools, to supervise physical education in the elementary schools, and to serve as the health coordinator in a school system.

		Freshman Year			
		First Semester		Second Semester	
English 1		3	English 2		3
Social Science		3	Social Science		3
Art		3	Biology 36 & 39L		5
Biology 12L		4	Physical Ed 49		1
Physical Ed 48		1	Physical Ed 72		3
Physical Ed		1	Physical Ed		1
Sophomore Year					
English (Literature)		3	Speech 55		3
Social Science		3	Social Science		3
Psychology 51		3	Psychology 110		3
Physical Ed 64		2	Physical Ed 99		1
Physical Ed 98		1	Physical Ed		1
Physical Ed		1	Electives		5
Electives		4			
Junior Year					
Biology 126L		3	Secondary Ed 141		3
Physical Ed 107		3	Physical Ed 104		4
Physical Ed 119		2	Physical Ed 108		3
Physical Ed 121 or 156		2	Physical Ed 155p		3
Physical Ed 138		3	Physical Ed 151		2
Physical Ed 151		1			
Elementary Ed 118		3			
Senior Year					
Secondary Ed 153		3	Secondary Ed 156		6
Elementary Ed 136 (Physical Ed)*		3	Physical Ed 172		3
Physical Ed 151		1	Physical Ed 185		3
Physical Ed 164		3	Physical Ed 125		3
Physical Ed 171		3			
Electives		4			

MINOR STUDY IN PHYSICAL EDUCATION FOR WOMEN

This minor is designed to prepare students to teach physical education in the elementary or secondary schools.

Physical Ed 171	3	Physical Ed 64	2
Physical Ed 172 or 119	3 or 2	Physical Ed 48, 49 or 98	1
Physical Ed 155p	3	Physical Ed 151	1
Physical Ed 107 or 108	3	Electives	3 or 4

MAJOR STUDY IN RECREATION

The recreation major, leading to the degree of Bachelor of Science in Health and Physical Education, is designed to prepare students for positions as recreation leaders and supervisors in public and private agencies.

		Freshman Year			
		First Semester		Second Semester	
English 1		3	English 2		3
Social Science		3	Social Science		3
Art, Art Ed, or Ind Arts		3	Natural Science		4
Natural Science		4	Art, Art Ed, or Ind Arts		3
Physical Ed		1	Physical Ed		1
Electives		3	Electives		3
		17			17

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

Sophomore Year

English (Literature)	3	Speech 55	3
Natural Science	3	Psychology 60	3
Music (Recreational)	2	Social Science	3
Social Science	3	Music (Recreational)	2
Psychology 51	3	Physical Ed 90	2
Physical Ed 64	2	Physical Ed	1
Physical Ed	1	Electives	2-3
	<u>17</u>		<u>16-17</u>

Junior Year

Physical Ed 103	3	Physical Ed 119	2
Sociology	3	Physical Ed 131	3
Dramatic Art 110	3	Elementary Ed 118	3
Physical Ed 45 or 107	2-3	Physical Ed 41 or 108	2-3
Physical Ed 44 or 121	2	Physical Ed 174	3
Electives	3	Physical Ed 40 or Electives	2-3
	<u>16-17</u>		<u>15-17</u>

Senior Year

Physical Ed 175	3	Physical Ed 176	3
Psychology 101	3	Government (City, State, Nat'l.)	3
Physical Ed 125	3	Sociology	3
Electives	7	Electives	7
	<u>16</u>		<u>16</u>

MINOR STUDY IN RECREATION

The Recreation minor is designed to prepare students to lead recreation activities.

Physical Ed 103	3	Specialty in one area (in addition to major field)	8
Physical Ed 175	3	Electives (chosen from the following):	4
Courses advised for Specialty:		Music 5, 6, 39, 40	
Art 3, 8; Art Ed 17, 18		Physical Ed W69, W80, W81, 64, 90, 107, 108, 119, 121, 125, 131, 151, 171	
Drama 1, 29, 30			
Industrial Arts 10L, 61L, 54L, 55L			

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.

Physical Ed 72	3	Physical Ed 64	2
Physical Ed 138	3	Physical Ed 185	3
Home Ec 104	2	Electives	3
Physical Ed 164	3		

HOME ECONOMICS

MAJOR STUDY

See curriculum. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 234.

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

MINOR STUDY

Home Economics 1, 2L, 12L, 53L, 104, 109, 128, and 62 or 132. These courses are from the following four areas:

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

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

CURRICULUM FOR STUDENTS 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 six weeks. Costs for such assignments are to be assumed by students.

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

		Freshman Year			
		First Semester		Second Semester	
English 1		3	English 2		3
Art Ed 30		3	Biology 36		3
Home Ec 1		3	Art Ed 31		3
†Home Ec 2L		2	†Home Ec 12L		2
Social Science		3	†Home Ec 53L		3
Physical Ed		1	Physical Ed		1
Sophomore Year					
Social Science		3	Social Science		3
Chemistry 41L		4	Chemistry 42L		4
Psychology 51		3	Speech 55		3
Home Ec 54L		3	Home Ec 60		3
Home Ec 109		3	Home Ec 62		2
Physical Ed		1	Physical Ed		1
Junior Year					
Secondary Ed 141		3	Economics 103		3
Home Ec 107L		3	Secondary Ed 153		3
Psychology 110		3	Home Ec 128		3
Home Ec 63L		3	Home Ec 64L		3
Electives		4	Electives		6
Senior Year					
Home Ec 127L		4	Home Ec 132		3
Home Ec 138L		4	Home Ec 133L		4
English (Literature)		3	Home Ec 196		1-2
Secondary Ed 155d		3	Secondary Ed 156		6
Electives		2-3			

† Certain elementary 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			
	First Semester		Second Semester	
English 1		3	English 2	3
IA 1		3	IA 2	3
IA 10L		3	IA 5	1
CE 1L		2	IA 20L	3
Social Science		3	CE 12L	3
Physical Ed		1	Social Science	3
			Physical Ed	1
Sophomore Year				
English (Literature)		3	Speech 55	3
Psychology 51		3	IA 60L	2
IA 30L		1	IA 80L	2
IA 35L		1	CE 62L	3
CE 2L		2	Social Science	3
Social Science		3	Psychology 110	3
†Elective‡		3	Physical Ed	1
Physical Ed		1		
Junior Year*				
Science & Lab		4	Science & Lab	4
Secondary Ed 141		3	Secondary Ed 153	3
IA 102L		2	IA 105L	2
Art 17		2	IA 145L	4
†Elective‡		3	Art 18	2
Technical Elective		2		
Senior Year				
Ed & Ad Serv 115		3	§Secondary Ed 156	6
Secondary Ed 155i		3	Secondary Ed 166	2
IA 162L		3	IA 159L	2
IA 165L		3	†Elective‡	6
†Elective‡		3		

MUSIC EDUCATION**NASM MEMBERSHIP**

The University of New Mexico is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the published regulations of the National Association of Schools of Music.

CERTIFICATION (Music and Provisional Elementary Certificates)

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

† Students enrolled in Air Force ROTC or Navy ROTC may substitute ROTC courses.

‡ Electives selected after consultation with adviser.

§ Student teaching may be divided between 2 semesters in the senior year.

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

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

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
*Social Science elective	3	*Social Science elective	3
Music Ed 93	2	Music Ed 94	2
Music 5	3	Music 6	3
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed elective	1	Physical Ed elective	1
	<u>16</u>		<u>16</u>
Sophomore Year			
English (Literature)	3	Speech 55	3
Psychology 51	3	Psychology 110	3
Music 65	3	Music 66	3
Music 63	1	Music 64	1
Applied Music elective	3	Applied Music elective	3
Music history	2	Music history	2
Ensemble elective	1	Ensemble elective	1
Physical Ed elective	1	Physical Ed elective	1
	<u>17</u>		<u>17</u>
Junior Year			
Science elective	4	Science elective	4
†Fine Arts elective	2	†Fine Arts elective	2
Elementary Ed 121	3	Elementary Ed 135	2
Elementary Ed 122	2	Math or Science elective	3
Music Ed 145	2	Music Ed 146	2
Music 109	2	Music 110	2
Applied Music elective	2	Applied Music elective	2
Music 113	1	Music 114	1
	<u>18</u>		<u>18</u>
Senior Year			
*Social Science elective	3	*Social Science elective	3
†Fine Arts elective	2	Philosophy of Education	3
Elementary Ed 136	5	Secondary Ed 156	4
Elementary Ed 123	2	Music 157 or 158	2
Music 153	2	Music 163 or 167	2
Applied Music elective	2	Applied Music elective	2
Ensemble elective	1	Ensemble elective	1
	<u>17</u>		<u>17</u>

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

	Freshman Year		
	First Semester		Second Semester
English 1	3	English 2	3
‡Social Science elective	3	‡Social Science elective	3
Music Ed 93	2	Music Ed 94	2
Music 5	3	Music 6	3
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed elective	1	Physical Ed elective	1
	<u>16</u>		<u>16</u>

* Should include 6 hours of music history.

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

‡ Should include 6 hours of music history.

Sophomore Year

English (Literature)	3	Speech 55	3
Psychology 51	3	Psychology 110	3
Music 65	3	Music 66	3
Music 63	1	Music 64	1
Applied Music elective	3	Applied Music elective	3
Music history	2	Music history	2
Ensemble elective	1	Ensemble elective	1
Physical Ed elective	1	Physical Ed elective	1
	<u>17</u>		<u>17</u>

Junior Year

Science elective	4	Science elective	4
*Fine Arts elective	2	*Fine Arts elective	2
Secondary Ed 141	3	Math or Science elective	3
Music Ed 145	2	Music Ed 146	2
Music 109	2	Music 110	2
Applied Music elective	3	Applied Music elective	3
Music 113	1	Music 114	1
Ensemble elective	1	Ensemble elective	1
	<u>18</u>		<u>18</u>

Senior Year

‡Social Science elective	3	‡Social Science elective	3
*Fine Arts elective	2	Secondary Ed 156	5
Elementary Ed 136 (music)	4	Music 157 or 158	2
Music 153	2	Music 163 or 167	2
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
	<u>15</u>		<u>16</u>

MINOR IN MUSIC EDUCATION

Music 5, 6	6	Music 63, 64	2
Music 71, 72	4	Music Ed 93 and 94	
Music, Piano	4	or 145 and 146	4
Music, Voice	2	Ensemble	2
			<u>2</u>
		Total	24

PROFICIENCY EXAMINATIONS IN MUSIC EDUCATION

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

RECITAL AND CONCERT ATTENDANCE REGULATIONS

All students registered for five or more hours in the Department are required to attend a specified number of the departmental recitals and concerts each semester as a regular part of their musical education. The number of recitals and concerts required is posted by the Department at the beginning of each semester. Failure to observe attendance requirements results in the addition of one-half hour of credit to the total graduation requirement for each unexcused excessive absence.

SENIOR COMPREHENSIVE EXAMINATION

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

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

‡Should include 6 hours of music history.

PHYSICAL EDUCATION

See Health, Physical Education, and Recreation, p. 142.

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 four semesters prior to his expected date of graduation. The general conditions under which students may select these curricula are to be found under "Degree Requirements" of the "General Academic Regulations."

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

For graduation from the College of Education in Secondary Education the candidate must have successfully completed, in conformity with the regulations prescribed for the several major and minor concentrations, not less than one departmental major concentration and one departmental minor concentration. These concentrations shall total at least 51 semester hours of credit.

Acceptable as major or minor concentrations are: Biology, Chemistry, English, French, Government and Citizenship, History, Mathematics, Physics, Spanish, and Speech. Acceptable as minor concentrations only are: Air Science or Naval Science (if the major concentration is an acceptable science); Anthropology, Astronomy, Business Administration, Dramatic Art, Economics, German, Geography, Geology, Journalism, Latin, Library Science, Psychology, and Sociology.

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

GENERAL EDUCATION. The General Education program for students in Secondary Education is the same as that required of other undergraduate students in Education. (See p. 138 of this Catalog.)

PROFESSIONAL EDUCATION

	Semester Credits
Educational Psychology 110	3
Secondary Education 141	3
Secondary Education 153	3
Secondary Education 155 or Education substitute	3
*Secondary Education 156	6
Ed & Adm Services 115 or equivalent	3
Elective in Education	3
Total Professional Education	24

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

SUBJECT SPECIALIZATION FOR TEACHING

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

1. English: Major or Minor teaching subject
2. Foreign Languages:
 - French: Major or Minor teaching subject
 - German: Minor teaching subject only
 - Latin: Minor teaching subject only
 - Portuguese: Minor teaching subject only
 - Spanish: Major or Minor teaching subject
3. Government and Citizenship: Major or Minor teaching subject
4. History: Major or Minor teaching subject
5. Mathematics: Major or Minor Teaching Subject
6. Sciences:
 - Biology: Major or Minor teaching subject
 - Chemistry: Major or Minor teaching subject
 - Physics: Major or Minor teaching subject
7. Speech: Major or Minor teaching subject
8. Art Education: For details see p. 139.
9. Business Education: For details see p. 140.
10. Home Economics: For details see p. 145.
11. Industrial Arts Education: For details see p. 147.
12. Music Education: For details see p. 147.
13. Health and Physical Education for Men: For details see p. 142.
14. Health and Physical Education for Women: For details see p. 143.
15. Other Subjects:
 - Students who wish to elect teaching major and minor subjects not listed above will consult the Chairman of the Department of Secondary Education, and of the department concerned for information as to detailed requirements.

COMPOSITE TEACHING AREAS

The composite teaching major area is designed to enable the prospective teacher to acquire unified learning within a broad field of closely related subject matter disciplines which would not be possible in a single subject-matter major teaching area.

The application of this unified knowledge to the teaching of currently unified or generalized secondary school subjects (e.g., Communication Arts, General Science, Social Studies) is an avowed purpose of this form of preparation.

The composite also prepares students to teach adequately in several closely related subjects. This type of preparation will be of advantage to novice teachers beginning their careers in small secondary schools in which they must expect multiple rather than single subject teaching assignments.

COMPOSITE IN SOCIAL STUDIES IN SECONDARY EDUCATION. The composite major in general social studies shall consist of at least 51 hours, including freshman courses, of which at least 18 hours must be in the Department of History, 9 hours in the Departments of Government and Citizenship, and Economics, 12 hours in the Departments of Sociology, Anthropology, and Philosophy, and in Geography courses, and 12 hours in electives from these departments and divisions. No minor is required with the general social studies major, but one is strongly recommended.

COMPOSITE IN SCIENCE IN SECONDARY EDUCATION. The composite major in science shall consist of 51 hours including freshman courses, in the Departments

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

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

SUGGESTED SEQUENCE OF COURSES

	Freshman Year	
	First Semester	Second Semester
English 1	3	English 2 3
Math or Science	3-4	Math or Science 3-4
Social Studies	3	Social Studies 3
Electives or Major	3-6	Electives or Major 3-6
Physical Ed	1	Physical Ed 1
Sophomore Year		
English (Literature)	3	Speech 55 3
Psychology 51	3	Psychology 110 3
Social Studies	3	Social Studies 3
Math or Science	3-4	Electives 6-7
*Fine Arts or Major	2-3	Physical Ed 1
Physical Ed	1	
Junior Year		
Secondary Ed 141	3	Secondary Ed 153 3
Electives, Major or Minor	11-14	Electives, Major or Minor 11-14
Senior Year		
Secondary Ed 155, or Elective	3	Education Elective 3
†Secondary Ed 156	6	Electives, Major or Minor 14-17
Ed & Ad Serv 115 (or equivalent)	3	

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

† Student teaching may be taken in either or both of the senior semesters.

COLLEGE OF ENGINEERING

THE PURPOSE of the College of Engineering is to train the student in the fundamentals of engineering and to develop honesty, loyalty, industry and thoroughness, so that he may be a credit to his profession.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE

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

1. Completion of 26 semester hours of the freshman engineering program.
2. (a) A scholarship index of at least 1.0 on all hours attempted;

or

(b) A scholarship index of at least 1.0 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 1.0 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 1.0 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.

ENGLISH PROFICIENCY EXAMINATION

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, or have completed three additional hours in English, with a grade of C or better, by the end of the second semester that they are enrolled in the College of Engineering. The English course must have the approval of the student's department chairman, and the course will increase the hours required for graduation.

ADVANCED STANDING FOR FRESHMEN

If a beginning student is placed in Mathematics 50 because of high test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by five. If a student is placed in English 2 because of high test scores and completes the course with a grade of C or better, the hours required for graduation will be reduced by three.

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.

SCHOLASTIC REGULATIONS

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

COURSES OF STUDY

The College of Engineering offers 4-year programs of study leading respectively 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.

The 4-year programs of study have been designed for students who enter without deficiencies and for students who are capable of carrying the required load without a failure; otherwise, a student should plan on 5 years or 4 years plus 1 or more summer sessions to complete the program.

AIR SCIENCE, NAVAL SCIENCE

It is possible for students enrolled in Air Science or Naval Science to complete the programs of study in 4 years; however, most students may need an extra semester to complete the requirements for both a degree and a commission. The student should consult the department chairman concerned in planning his program. Students enrolled in the ROTC will not be required to take the physical education courses or CE 3L listed in the first 2 years.

NUCLEAR ENGINEERING

An elective course in this field is available to all seniors and a complete program is offered by the Department of Mechanical Engineering in the Graduate School leading to the Master of Science degree.

GRADUATE STUDY

A program of graduate work is offered in Engineering leading to the Master of Science degree in the department in which the student desires to major, and to the Doctor of Science degree in Engineering in all departments. For complete details regarding the requirements for graduate work, consult the **Graduate Bulletin**.

REQUIREMENTS FOR GRADUATION

Candidates for the degree of Bachelor of Science in any of the departments must complete all of the work outlined in their respective curricula and maintain a grade-point average of 1.0 on the total hours attempted in completing the curricula. Three-fourths of the semester hours offered toward a degree must be of C grade or better.

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

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

NOTES:

1. Students deficient in mathematics will be required to take a preparatory course in this subject before taking Mathematics 15 or 16.
2. Students deficient in English will be required to take English workshop.
3. For a description of the freshman courses refer to p. 276 for Mathematics; to p. 256 for English; to p. 218 for Chemistry; and to p. 243 for Civil Engineering.

CHEMICAL ENGINEERING

Chemical engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of material are involved.

The course in Chemical Engineering is designed to afford the student broad training in the fundamentals of mathematics, physics, chemistry, and engineering

to meet the needs of the chemical or related industries where men competent to design, develop, and operate new processes and to improve existing processes are required. The chemical engineer is not specifically trained for only one industry. The distinctly professional courses of Unit Operations and Unit Processes enable him to apply his knowledge to any chemical or process industry with relatively little difficulty.

The graduate chemical engineer will find many avenues of opportunities in research and development; production, operation, and maintenance; management and administration; design, construction, and installation; technical service and sales; consulting; teaching, and technical writing, etc., in such industries as industrial chemicals, petroleum, explosives, plastics, rubber products, paper and allied products, synthetic rubber, food products, drugs, insecticides, glass, cement, clay, iron and steel, paints and varnishes, oils, soaps, rayon and synthetics.

CHEMICAL ENGINEERING LABORATORY. The Chemical Engineering building has a floor space of over 8,000 sq. ft. and contains a laboratory adequately equipped with pilot plant equipment for use in the study of Unit Operations of Chemical Engineering such as fluid flow, heat flow, evaporation, distillation, air conditioning, absorption, filtration, crystallization, etc., and Unit Processes such as nitration, sulfonation, hydrogenation, etc.

The process development laboratory is well equipped for the study of small scale manufacture of chemical products. Smaller laboratories are provided for the testing of fuels, gases, water, etc.

Adequate classroom space and design laboratory are available. Shop facilities are in conjunction with the well-equipped Industrial Arts Shop.

CURRICULUM IN CHEMICAL ENGINEERING

First Semester		Sophomore Year		Second Semester		
		Hrs.			Hrs.	
	Cr.	Lect.-Lab.			Cr.	Lect.-Lab.
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)	
Physics 61 Gen	3	(3-0)	Physics 62 Gen	3	(3-0)	
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)	
Chem 101 and 103L Organic	4	(3-3)	Chem 102 and 104L Organic	4	(3-3)	
ChE 51 Chem Calculations	3	(3-0)	ChE 52 Ind. Stoichiometry	3	(3-0)	
Ec 51 Intro to Ec	3	(3-0)	Chem 53L Quant Analysis	4	(2-6)	
	18	(16-6)		19	(15-12)	
PE	1		PE	1		
Junior Year						
ChE 111 Unit Oper I	3	(3-0)	ChE 112 Unit Oper II	3	(3-0)	
ChE 168L Lub, Fuels, & Comb	3	(2-3)	ChE 114L Unit Oper Lab I	2	(0-6)	
Chem 111 and 113L Physical	4	(3-3)	Chem 112 and 114L Physical	4	(3-3)	
CE 60 Engr Statics	3	(3-0)	ChE 162 Inorg Unit Proc	2	(2-0)	
†Elective (tech)	3	(3-0)	CE 102 Mech of Mat'ls	3	(3-0)	
	16	(14-6)	†Elective (tech)	3	(3-0)	
				17	(14-9)	

† Technical electives may be chosen from Ch E 117, 160

Students enrolled in the ROTC program may, with the approval of the department chairman, substitute 6 hours of Air or Navy courses for 6 hours of technical electives.

Senior Year

ChE 113 Unit Oper III	3	(3-0)	ChE 164 Org Unit Proc	3	(3-0)
ChE 115L Unit Oper Lab II	2	(0-6)	ChE 172 ChE Econ	2	(2-0)
ChE 191 Prin of Chem Proc & Thermo I	3	(3-0)	ChE 192 Prin of Chem Proc & Thermo II	3	(3-0)
ChE 181L Process Lab I	2	(0-6)	ChE 182L Process Lab II	2	(0-6)
ChE 151 Seminar	1	(1-0)	ChE 152 Seminar	1	(1-0)
Elective (non-tech)	3	(3-0)	EE 56L Circ Bases of Elec Engr	4	(3-3)
†Elective (tech) or ChE 153 Adv ChE Calc	2	(2-0)	Elective (non-tech)	2	(2-0)
	16	(12-12)	ChE 194L Design	2	(1-3)
			ChE 198 Field Trip	0	(0-0)
				19	(16-12)

CIVIL ENGINEERING

The work of the civil engineer continues to expand both in magnitude and variety. In addition to the traditional areas such as highway, railroad, irrigation, water supply, sewage disposal, flood control, and bridge and structural design, new specialties unknown a few years ago now demand the training of the civil engineer. Management and administrative work, in both public and private organizations, offer increasing opportunities. The training offered by this department is designed to give the younger engineer a broad background of knowledge to allow him the maximum latitude of choice in his career.

CIVIL ENGINEERING LABORATORIES. The Civil Engineering Laboratories have been especially designed for the experimental verification of the fundamental principles of theories as developed in the lecture courses.

The Civil Engineering Building comprises 13,000 sq. ft. of floor space, and is representative of the most modern type of construction. This building was especially designed to house thoroughly modern equipment in a number of separate laboratories.

The Strength of Materials laboratory is well equipped for the torsion, bearing, compression, tension, shear, flexure, impact, and hardness testing of engineering materials, and includes the latest mechanical, electrical, photoelastic, and stress-coat strain measuring devices.

The combined Concrete and Soils laboratory is equipped with a 300,000 lb. testing machine, direct shear machine, tri-axial apparatus, and other modern equipment which is used for the engineering testing of soils, concrete, masonry, and other construction materials.

The Bituminous laboratory contains equipment for making standard tests on road oils and asphalts, and for designing and testing bituminous mixes for highways, airports, and other pavements.

A separate Cement laboratory is completely equipped for making the standard physical tests on Portland cement. Equipment includes the most advanced type of temperature control mechanisms for maintaining constant temperatures during tests.

A completely equipped Sanitary laboratory affords the student the oppor-

† Technical electives may be chosen from Ch E 117, 160.

Students enrolled in the ROTC program may, with the approval of the department chairman, substitute 6 hours of Air or Navy courses for 6 hours of technical electives.

tunity 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 fluid metering and the flow of liquids through pipes, orifices, weirs, and open channels.

The Civil Engineering Building also includes a separate research laboratory for use in graduate study and in engineering research problems.

Field equipment for classes in surveying includes a large number of transits, levels, alidades, plane tables, computing machines, and similar items. Precision theodolites of both American and foreign manufacture, including optical theodolites of latest design, constitute the most modern equipment procurable.

CURRICULUM IN CIVIL ENGINEERING

Sophomore Year					
First Semester		Second Semester			
	Cr.	Hrs. Lect.-Lab.			
	Cr.	Hrs. Lect.-Lab.			
Math 51 Calc & Anal Geom	4	(4-0)	Math 52 Calc & Anal Geom	4	(4-0)
Physics 61 Gen Physics	3	(3-0)	Physics 62 Gen Physics	3	(3-0)
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)
CE 51L Engr Measurements	3	(1-6)	CE 52L Engr Surveys	3	(2-3)
Econ 51 Intro to Economics	3	(3-0)	CE 60 Engr Statics	3	(3-0)
Geol 4 Engr Geology	3	(3-0)	*Elective	3	(3-0)
	<u>17</u>	<u>(14-9)</u>		<u>17</u>	<u>(15-6)</u>
PE	1		PE	1	
Junior Year					
CE 102 Mech of Materials	3	(3-0)	CE 118 Transportation Engr	3	(3-0)
CE 117L Construction Materials	2	(1-3)	ME 101 Thermodynamics	3	(3-0)
CE 107 Fluid Mechanics	3	(3-0)	CE 140 Struc Analysis II	3	(3-0)
CE 103L Mechanics of Mat'ls Lab 1	1	(0-3)	CE 112L Soil Mechanics	3	(2-3)
ME 106 Dynamics	3	(3-0)	CE 108L Fluid Mech Lab	1	(0-3)
CE 121 Structural Analysis I	3	(3-0)	CE 120 Hydrology & Engr Hydr	2	(2-0)
**Elective	3	(3-0)	**Elective	3	(3-0)
	<u>18</u>	<u>(16-6)</u>		<u>18</u>	<u>(16-6)</u>
Senior Year					
CE 157 Reinforced Concrete Design	3	(3-0)	CE 166L Struc Design in Metals	4	(2-6)
CE 161L Water Supply & Waste-Water Disposal	3	(2-3)	CE 168L Civil Engr Proj	3	(2-3)
EE 55L Fld Bases of Elec Engr	3	(2-3)	CE 152 Professional Problems in Engineering	2	(2-0)
**Elective	3	(3-0)	**Elective	3	(3-0)
†Tech Elective	6	(6-0)	‡Tech Elective	6	(6-0)
	<u>18</u>	<u>(16-6)</u>		<u>18</u>	<u>(15-9)</u>

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

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

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

‡ Technical electives for the second semester may be chosen from the following courses: CE 174, 176, 178L, 188, 190, 196L. Air Science 151-152 and Naval Science 151-152 can be substituted for a total of 6 hours of Technical Electives. Students may elect to substitute 3 hours of advanced mathematics in lieu of 3 hours of Technical Electives.

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 (five years). Exceptional students should plan to continue formal training through the doctorate. The Doctor of Science degree is granted in this department.

The curriculum provides considerable freedom in choice of electives. Students planning graduate study should concentrate on mathematics and physics. Those interested in sales and administrative work may take up to 14 hours in business administration. Other possible combinations include "human engineering" (up to 23 hours of psychology) and medical electronics (up to 14 hours of biology).

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

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

The electronics laboratory provides an opportunity to design electronic devices, quickly make experimental hook-ups, and test performance with a variety of electronic laboratory instruments. The circuits studied form the basis for radio, radar, television, automatic control, telephone, electronic computer, and other systems.

The power laboratory provides facilities for determining characteristics of various power conversion devices, including dc and ac rotating machines, transformers, rectifiers, and the associated control devices. Specialized industrial electronic devices such as induction heaters are also available.

The microwave laboratory makes possible the study of tubes and transmission devices at wave lengths below 5 meters. Standard microwave power and impedance measurement techniques are taught.

CURRICULUM IN ELECTRICAL ENGINEERING

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

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

Junior Year

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

Senior Year

EE 132 Electronics II	3	(3-0)	EE 152L Elec Mach II	3	(2-3)
EE 132L Electronics Lab II	1	(0-3)	EE 172 Seminar	1	(1-0)
EE 151L Elec Mach I	3	(2-3)	EE 188 Servomechanisms	3	(3-0)
EE 171 Seminar	1	(1-0)	ME 156 Indus Engr	2	(2-0)
ME 101 Thermodyn	3	(3-0)	Elective	7	(6-3)
Physics 110 Atomic & Nuclear	3	(3-0)			
Elective	4	(3-3)			
	18	(12-9)		16	(14-6)
Probable EE Electives			Probable EE Electives		
EE 182, 182L, 191, 191L, 194			EE 183, 190, 192, 192L		

ELECTIVES:

1. At least 12 hours of electives are to be taken in the humanities and social sciences.
2. At least 3 hours of electives are required in other engineering, mathematics, science, or business administration, including Nav S 101 or Air S 102.
3. The remaining electives may be taken in any field, with departmental approval. Six hours of Air Science or Naval Science may be used for this purpose. An elective plan must be approved by the end of the first semester of the junior year.
4. Electives in the senior year shall, in general, be numbered 100 or higher. They must have the approval of the Department.

MECHANICAL ENGINEERING

Mechanical Engineering is divided into three main fields: design, power, and production. The courses in Mechanical Engineering present the theory and practice of the generation and utilization of power and of the design, construction, and operation of mechanical equipment of all kinds. In the laboratories, emphasis is placed on basic engineering principles, standard test procedures, and the economics of various types of equipment. 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 sheet metal shop has a very good assortment of tools and equipment. The welding shop contains ac and dc welding machines and oxy-acetylene welding and cutting equipment. The foundry has molding benches and molding tools, a furnace for melting non-ferrous metals, and a cupola.

AERONAUTICAL ENGINEERING, PETROLEUM ENGINEERING

Students working toward a degree in Mechanical Engineering may take technical electives in these fields.

OPPORTUNITIES FOR GRADUATES

The graduate mechanical engineer will find many openings in a great variety of fields which fall within the three main classifications: power, design, and production. A short list of possible opportunities might include: research; machine design; product design and development; heating and air conditioning design; production; production control; installation and operation; test engineering; power plant design, construction, and operation; refrigeration engineering; sales and purchasing engineering; consulting engineering; transportation; aeronautical engineering; petroleum production.

CURRICULUM IN MECHANICAL ENGINEERING

(Hours required for graduation: 134 + 4 PE)

First Semester	Sophomore Year		Second Semester	Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 51 Calc & Anal Geom	4	(4-0)	Math 51 Calc & Anal Geom	4	(4-0)
Phys 61 General	3	(3-0)	Phys 62 General	3	(3-0)
Phys 63L Gen Lab	1	(0-3)	Phys 64L Gen Lab	1	(0-3)
Econ 51 Intro	3	(3-0)	CE 60 Engr Statics	3	(3-0)
ME 63L Mfg Processes (Req'd)	4	(2-6)	Engr Elect	3	(3-0)
OR			OR		
Engr Elect	3	(3-0)	ME 63L Mfg Processes (Req'd)	4	(2-6)
ME 73L Kinematics	3	(2-4)	EE 55L Field Bases of EE	3	(2-3)
	<u>17 or 18 + 1 PE</u>			<u>17 or 18 + 1 PE</u>	
Junior Year					
ME 101 Thermodynamics	3	(3-0)	ME 102 Thermodynamics	3	(3-0)
ME 106 Dynamics	3	(3-0)	ME 117 Fluid Mech	3	(3-0)
EE 56L Circuit Bases EE	4	(3-3)	ME 118L ME Lab I	2	(0-6)
‡Math Elect	3	(3-0)	ME 120 Heat Transfer	3	(3-0)
*Hum or Soc Sci	3	(3-0)	CE 102 Mech of Mat'ls	3	(3-0)
	<u>16</u>		ME 114L Dyn of Mach	3	(2-4)
				<u>17</u>	
Senior Year					
ME 151L ME Lab II	2	(0-6)	ME 152L ME Lab III	2	(0-6)
ME 157 Design Anal I	3	(3-0)	ME 156 Indus Engr	2	(2-0)
ME 158L Design Anal Lab	1	(0-3)	ME 173 Seminar	1	(2-0)
ME 161 Engr Metallurgy	3	(3-0)	†Tech Elect	3	(3-0)
ME 163 Anal Fluid Sys	3	(3-0)	†Tech Elect	3	(3-0)
ME 172 Seminar	1	(1-0)	*Hum or Soc Sci	3	(3-0)
*Hum or Soc Sci	3	(3-0)	*Hum or Soc Sci	3	(3-0)
CE 103L Mech of Mat'ls Lab	1	(0-3)		<u>17</u>	
	<u>17</u>				

* To be chosen with the approval of the department chairman.

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

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

COLLEGE OF FINE ARTS

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

DEPARTMENTS AND DEGREES OFFERED

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

The College of Fine Arts offers the following degrees:

Bachelor of Architecture

Bachelor of Fine Arts in Art with programs in:

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

Bachelor of Fine Arts in Dramatic Art

Bachelor of Fine Arts in Music with programs in:

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

Bachelor of Arts in Fine Arts

See Combined Curriculum, p. 164.

TAOS FIELD SCHOOL

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

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE

Any student enrolled in the University College who wishes to transfer to the College of Fine Arts is advised to follow during the freshman year the suggested *first-year curriculum* in the particular field of his interest. The various curricula are set forth in this section of the Catalog.

The requirements for transfer from the University College to the College of Fine Arts are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 1.0 on all hours attempted;
or
(b) A scholarship index of at least 1.0 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 1.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. All students must make a satisfactory score on the English Proficiency Examination (administered by the University of New Mexico), or make a grade of C or better in a remedial English course to be offered on a non-credit basis by the University of New Mexico English Department.
4. A student majoring in Architecture, Art, Music, or Dramatic Art must have achieved a grade of C or better in every course attempted within the field of his proposed concentration.
5. A student majoring in Music Education or Art Education must have: (a) given satisfactory evidence (by personal interview with the appropriate adviser in his major field) of physical, personal, and emotional qualities adequate for successful teaching; and (b) expressed his intention and desire to enter the teaching profession.

TRANSFERS

A student will be eligible for transfer to the College of Fine Arts from other degree-granting colleges of the University or from other accredited institutions if he has completed at least 26 hours of acceptable college credit, has a grade-point index of 1.0 or better on all work attempted in the other degree-granting colleges or institutions and if he qualifies for item 4 or 5 of "Admission from University College" above. Students transferring from other institutions who plan to major in Music Education or Art Education may satisfy the requirements listed in item 5 during the first semester here. Transfer students from other institutions may satisfy the English Proficiency Examination requirement, item 3 above, during the first semester of residence at the University of New Mexico. All transfer students must follow one of the prescribed departmental programs of study in the College of Fine Arts.

GRADUATION REQUIREMENTS

Candidates for degrees must complete all requirements outlined in the respective curricula, and must receive a grade of C or better in all required courses

in their major fields in order to receive credit for such courses toward graduation. Students must maintain a C average to remain in the College of Fine Arts. Students must also pass the English Proficiency Examination or make a grade of C or better in the non-credit remedial English course offered by the University's Department of English. All graduating seniors must make official application for degree prior to the last semester of residence.

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

SCHOLASTIC REGULATIONS

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

College of Fine Arts majors who wish to enroll for more than 18 hours in a given semester must first secure the written permission of the department chairman and then the approval of the Dean of the College.

COMBINED CURRICULUM—BACHELOR OF ARTS IN FINE ARTS

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

	Freshman Year		
	First Semester		Second Semester
Major Field	6	Major	7
Minor Field	5	Minor	5
English 1	3	English 2	3
Physical Ed	1	Physical Ed	1
	<u>15</u>		<u>16</u>
	Sophomore Year		
Major	6	Major	6
Minor	4	Minor	4
Foreign Language	3	Foreign Language	3
Social Science	3	Social Science	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>
	Junior Year		
Major	5	Major	5
Minor	2	Minor	2
Science or Math	4	Science or Math	4
Foreign Language (Music Majors Only)	3	Foreign Language (Music Majors Only)	3
Elective	3-6	Elective	3-6
	<u>17</u>		<u>17</u>

Senior Year			
Major	5	Major	5
Minor	3	Literature	3
Literature	3	Electives	8
Science or Math	3		
Elective	3		
	<u>17</u>		<u>16</u>

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

DEPARTMENTS OF INSTRUCTION

The College of Fine Arts offers work in the departments listed in alphabetical order on the following pages. Curricula requirements are set forth under each department. Descriptions of the courses offered will be found, listed by departments, in the Catalog section "Courses of Instruction."

ARCHITECTURE

The curriculum below is designed to meet the academic requirements of a student who is undergoing training to practice architecture. Most states, including New Mexico, require 8 years of training, 5 of which may be in a university offering architecture. The remaining 3 years are to be spent in an architectural office, prior to taking the State Board Examination.

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

All work, drawings and designs made by the student and presented for credit will become the property of the Department of Architecture; their return will be at the discretion of the Architecture faculty.

CURRICULUM IN ARCHITECTURE

(Leading to the degree of Bachelor of Architecture. Hours required for graduation, 172.)

First Semester		First Year		Second Semester	
	Hrs.		Hrs.		Hrs.
	Cr. Lect.-Lab.		Cr. Lect.-Lab.		Cr. Lect.-Lab.
Arch 31L Elem of Arch	3 (0-9)	Arch 32L Elem of Arch	3 (0-9)		
Arch 83 Mat'ls & Constr	2 (2-0)	Arch 84 Mat'ls & Constr	2 (2-0)		
Arch 3 Two Dimen Design	3 (0-6)	Arch 9 Three Dimen Designs	3 (0-6)		
Math 15 Algebra	3 (3-0)	Math 16 Plane Trig	2 (2-0)		
Engl 1 Writ with Rdgs in Expos	3 (3-0)	Engl 2 Writ with Rdgs in Lit	3 (3-0)		
Social Sci Elective	3 (3-0)	Social Sci Elective	3 (3-0)		
	<u>17 (11-15)</u>		<u>16 (10-15)</u>		
PE	1	PE	1		
Second Year					
Arch 81L Arch Design I	4 (0-12)	Arch 82L Arch Design II	4 (0-12)		
Art 6 Begin Draw	3 (0-6)	Art 103 Landsc (WaterClr)	2 (0-6)		
Math 50 Calc & Anal Geom	4 (4-0)	Math 51 Calc & Anal Geom	4 (4-0)		
Phys 60 Gen Physics	3 (3-0)	Phys 61 Gen Physics	3 (3-0)		
Engl 64 Info Writing	3 (3-0)	Phys 63 Gen Physics Lab	1 (0-3)		
	<u>17 (10-18)</u>	CE 60 Engr Statics	3 (3-0)		
PE	1		<u>17 (10-21)</u>		
		PE	1		

Third Year

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

Fourth Year

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

Fifth Year

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

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. 205.

UPPER DIVISION REQUIREMENTS

The candidate for the B.F.A. must complete at least 38 hours of upper division work (courses numbered above 100) in which he has maintained at least a 1.0 average; of this requirement at least 22 hours must be in art courses (or, in the case of Teacher Certification, Art and Art Education).

MAXIMUM NUMBER OF HOURS

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

CURRICULA IN ART

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

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

Group I —Painting, Sculpture and Drawing

Group II —Crafts and Commercial Art

Group III—Art History

TEACHER CERTIFICATION (curriculum on p. 168.)

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

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

Freshman Year			
First Semester		Second Semester	
Art 3 or 9	3	Art 9 or 3	3
Art 6 or 8	3	Art 8 or 6	3
English 1	3	English 2	3
Social Studies	3	Social Studies	3
*Foreign Language	3	*Foreign Language	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

CURRICULUM FOR GROUP I OR GROUP II MAJORS

Sophomore Year			
First Semester		Second Semester	
Art (Major Group)	4	Art (Major group)	4
Art 71	3	Art 72	3
Art (other than major)	2	Natural Science	4
Natural Science	4	Physical Ed	1
English 64	3	Free Elective	2
Physical Ed	1	‡Elective	3
	<u>17</u>		<u>17</u>
Junior Year			
Art (Major group)	3	Art (Major group)	3
Art Group III	3	Art Group III	3
Art (other than Major)	2	Free Elective	5
Social Science	3	‡Elective	6
Free Elective	3		
‡Elective	3		
	<u>17</u>		<u>17</u>
Senior Year			
Art (Major group)	3	Art (Major group)	3
Art Group III	3	Free Elective	7
Literature	3	‡Elective	6
Free Elective	4		
‡Elective	3		
	<u>16</u>		<u>16</u>

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

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

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

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

CURRICULUM FOR GROUP III MAJORS

Sophomore Year			
First Semester		Second Semester	
Art 71	3	Art 72	3
Art (other than Major)	2	Art (other than Major)	2
Anthropology 1	3	Anthropology 2	3
English 64	3	Physical Ed	1
Physical Ed	1	Free Elective	3
Free Elective	2	‡Elective	5
‡Elective	3		
	<u>17</u>		<u>17</u>

* The student who has had 2 years of foreign language in high school and is able to pass the qualifying examination for an intermediate course in that language may be excused from the language requirements. The Art Faculty, however, strongly advises the student to take at least a year of foreign language at the college level.

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

Junior Year

Art (Major group)	3	Art (Major group)	3
Art (other than Major)	3	Philosophy 102	3
Natural Science	4	Natural Science	4
Free Elective	4	Free Elective	4
‡Elective	3	‡Elective	3
	<u>17</u>		<u>17</u>

Senior Year

Art (Major group)	3	Art (Major group)	6
Art (other than Major)	3	Art (other than Major)	3
Literature	3	Free Elective	4
Free Elective	4	‡Elective	3
‡Elective	3		
	<u>16</u>		<u>16</u>

PUBLIC SCHOOL CERTIFICATION

A student may enroll in either the Department of Art or Department of Art Education and satisfy requirements for public school certification at the secondary level.

Curriculum leading to the degree of Bachelor of Fine Arts in Art and meeting the requirements for provisional secondary teachers certificate in New Mexico:

Freshman Year

First Semester		Second Semester	
English 1	3	English 2	3
Social Studies	3	Social Studies	3
Math or Science	4	Math or Science	4
Art 3 or 9	3	Art 9 or 3	3
Art 6 or 8	3	Art 8 or 6	3
Physical Ed	1	Physical Ed	1
	<u>17</u>		<u>17</u>

Sophomore Year

Speech 55	3	Literature	3
Math or Science	3	Social Studies	3
Social Studies	3	Psychology 51	3
Art Ed 48	3	Art Ed 49	3
Art 71	3	Art 72	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>

Junior Year

Psychology 110	3	Secondary Ed 153	3
Art Ed 124	3	Art Ed 125	3
Secondary Ed 141	3	Art History	3
Major Group in Art	6	Major Group in Art	6
Art Electives	2		
	<u>17</u>		<u>15</u>

Senior Year

Ed Electives	3	*Secondary Ed 156-157	6 or 9
Art Electives	6	General Electives	6
General Electives	6		
	<u>15</u>		<u>15</u>

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

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

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. 221.

CURRICULA IN DRAMATIC ART

(Leading to the degree of Bachelor of Fine Arts in Dramatic Art. Hours required for graduation, 132.)

First Semester	Freshman Year		Second Semester
English 1	3	English 2	3
Elective in Social Science	3	Elective in Social Science	3
D A 15	2	D A 16	2
D A 1	3	D A 2	3
D A 29	3	D A 30	3
Physical Ed	1	Physical Ed	1
	<u>15</u>		<u>15</u>
Sophomore Year			
Art Elective	3	Art Elective	3
Foreign Language	3	Foreign Language	3
D A 55	3	D A 56	3
D A 75	3	D A 76	3
D A 85	3	D A 86	3
Physical Ed	1	Physical Ed	1
	<u>16</u>		<u>16</u>
Junior Year			
English 57	3	Psychology 51	3
D A 89	3	D A 90	3
D A 95	3	D A 96	3
D A 185	3	D A 186	3
Philosophy Elective	3	English Elective	3
Music 39	3	Music 40	3
	<u>18</u>		<u>18</u>
Senior Year			
D A 175	3	D A 176	3
D A 161	3	D A 162	3
English 141 or 142	3	English Elective	3
Electives	8	Other Electives	8
	<u>17</u>		<u>17</u>

Students who wish the B.F.A. in Dramatic Art with an **Emphasis in Television-Radio** may substitute the following courses for 18 hours of the required Dramatic Art courses as listed in the above curriculum: Speech 51, 65, and 6 hours selected from 165, 166, and 180. Dramatic Art 52 and 152. All course substitutions shall be made with the consent of a departmental adviser.

PUBLIC SCHOOL CERTIFICATION

(Curriculum leading to the degree of Bachelor of Fine Arts in Dramatic Art and meeting the requirements for provisional secondary teachers certificate in New Mexico.)

Freshman Year
(Same as Freshman year outlined above)

First Semester	Sophomore Year	Second Semester	
English Elective	3	Social Science	3
Math or Science	4	Math or Science	4
D A 55	3	D A 56	3
D A 85	3	D A 86	3
Psychology 51	3	Psychology 110	3
Physical Ed	1	Physical Ed	1
	17		17
Junior Year			
English 57	3	Philosophy Elective	3
D A 75	3	D A 76	3
Secondary Ed 141	3	Secondary Ed 153	3
D A 89	3	D A 90	3
D A 185	3	D A 96	3
English Elective	3	Ed & Ad Serv 115 (or equiv)	3
	18		18
Senior Year			
D A 161	3	D A 162	3
Speech 170 (or Ed Elective)	3	Secondary Ed 156	6
English 141 or 142	3	Speech 130 (or Ed elective)	3
D A 175	3	Math or Science	3
Other Electives	5		
	17		15

It is strongly urged that the student broaden his field of study by choosing electives from the curricula of other colleges of the University, especially courses in the social sciences, so as to gain better insight into the problems of contemporary society.

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. 286.

NASM MEMBERSHIP

The University of New Mexico is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this Catalog are in accordance with the published regulations of the National Association of Schools of Music.

RECITALS, PUBLIC PERFORMANCE, AND ATTENDANCE REGULATIONS

Music majors are required to participate in certain specified recitals and public performances. All students registered for five or more hours in the Depart-

ment are required to attend a specified number of the departmental recitals and concerts each semester as a regular part of their musical education. The number of recitals and concerts required is posted by the Department at the beginning of each semester. Failure to observe these requirements results in the addition of one-half hour of credit to the total graduation requirement for each unexcused excessive absence.

PROGRAM FOR FRESHMAN YEAR IN MUSIC DURING ENROLLMENT IN THE UNIVERSITY COLLEGE

Freshmen in **all** music curricula, except Music Education, should enroll for the following courses:

English 1, 2	}	10 hours each Semester
Music 5, 6		
P. E.		
One of the following:		
Social Science Language Mathematics or Science		

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

Applied music, instrumental	}	5 hours each semester
Music 1, 2 (major instrument)		
Ensemble		
Applied music, vocal	}	5 hours each semester
Music 1, 2		
Music 19, 20 (piano)		
Theory and Composition	}	3 hours each semester
Music 19, 20 (piano)		
Music 135 each semester		
Ensemble each semester		
Music Literature	}	3 hours each semester
Music 19, 20 (piano)		
Music 155 each semester		
Ensemble each semester		

Freshmen in Music Education should enroll for the following courses:

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

	Freshman Year		
	First Semester		Second Semester
English	3	English	3
*Social Science elective	3	*Social Science elective	3
Music Ed 93	2	Music Ed 94	2
Music 5	3	Music 6	3
Applied Music elective	3	Applied Music elective	3
Ensemble elective	1	Ensemble elective	1
Physical Ed elective	1	Physical Ed elective	1
	<u>16</u>		<u>16</u>

* Should include 6 hrs. of music history.

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

	Freshman Year			
	First Semester		Second Semester	
English		3	English	3
‡Social Science elective		3	‡Social Science elective	3
Music Ed 93		2	Music Ed 94	2
Music 5		3	Music 6	3
Applied Music elective		3	Applied Music elective	3
Ensemble elective		1	Ensemble elective	1
Physical Ed elective		1	Physical Ed elective	1
		<u>16</u>		<u>16</u>

FIELDS OF CONCENTRATION

THEORY AND COMPOSITION (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.
 Applied music (14 hours): Piano, 8 hrs.; orchestral instruments, 155, 4 hrs.; voice, 2 hrs.
 Theory (35 hours): 5, 6, 63, 65, 66, 105, 106, 109, 110, 153, 157, 158, 163, 191, 192.
 History and literature (16 hours): 71, 72, 111, 112, 175, 177, plus 4 hrs. selected from 73, 74, 147, 149, 178, 179.
 Ensemble: 6 hours.
 Elective: 21 hours.

APPLIED MUSIC (PIANO) (132 hours)

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

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

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

APPLIED MUSIC (VOCAL) (132 hours)

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

MUSIC LITERATURE (132 hours)

Required liberal arts subject areas (40 hours): English, 12 hrs.; mathematics or science, 6 hrs.; social science, 6 hrs.; modern language, 12 hrs.; physical education, 4 hrs.
 Applied music (8 hours): piano, 4 hrs.; elective, 4 hrs.

‡ Should include 6 hrs. music history.

Theory (30 hours): 5, 6, 63, 64, 65, 66, 105, 106, 109, 110, 153, 155 (2 hrs.); 167 or 165.
 History and literature (26 hours): 71, 72, 111, 112, 147, 149, 175, 177; other music literature or musicology, 10 hours.
 Ensemble: 6 hours.
 Electives: 22 hours.

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

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

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

(Qualifies the graduate for the Music Certificate.)
 General Education (48 hours): English, 9 hrs.; Speech 55, 3 hrs.; ‡ social science, 12 hrs.; math or science, 11 hrs.; fine arts, 6 hrs.*; Psychology 51, 3 hrs.; physical education, 4 hrs.
 Professional Education (24 hours): Psychology 110, 3 hrs.; education elective, 3 hrs.; Music Education 64, 93, 94, 145, 146, 9 hrs.; Elementary Education 136, 4 hrs.; Secondary Education 156, 5 hrs.
 Music (61 hours):
 Theory (20 hours): 5, 6, 65, 66, 109, 110, 153, 163 or 167.
 Music history: 4 hours.
 Applied music: 24 hours.
 Conducting (5 hours): 63, 113, 114, 157 or 158.
 Ensemble: 8 hours.

****PIANO PROFICIENCY**

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

‡ Should include 6 hrs. music history or literature.

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

** For Proficiency Examinations in Music Education, see p. 149.

THE GRADUATE SCHOOL

GRADUATE WORK leading to the master's degree is offered in the following fields: Anthropology, Art, Art Education, Biology, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Comparative Literature, Economics, Educational Administration, Electrical Engineering, Elementary Education, English, Geology, Government and Citizenship, Guidance and Counseling, History, Latin American Studies, Mathematics, Mechanical Engineering, Music, Music Education, Philosophy, Physical Education, Physics, Psychology, Science Education, Secondary Education, Sociology, Spanish, the teaching of Spanish (Secondary Curriculum), and Speech.

The degree of Doctor of Philosophy is offered in American Studies, Anthropology, Biology, Chemistry, Education, English, Geology, History, Ibéro-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 candidates should consult the chairman of the department concerned and the Dean of the Graduate School before registering.

ADMISSION

Graduates of any recognized college or university may apply for admission to the Graduate School. All communications regarding admission, as well as all inquiries concerning graduate study, should be addressed to the Dean of the Graduate School.

A formal application is required of all students, including graduates of the University of New Mexico, who seek admission to the Graduate School. Application blanks and the **Graduate Bulletin** may be obtained by writing the Dean of the Graduate School. Applicants from other institutions must have two transcripts of all undergraduate and graduate work sent **directly to the Graduate Office** from **each** institution previously attended. Even though a master transcript may carry records from other institutions, University regulations require that these records be sent from each institution. **Transcripts in the possession of students will not be accepted for entrance purposes. In order to be assured of consideration for admission, students must have their applications, transcripts, and the \$5.00 transfer application fee* on file in the Graduate Office at least one month in advance (for Semester I, August 15; for Semester II, January 1) of the beginning date of the session in which they plan to enroll. Failure to observe this requirement may result in indefinite delay in obtaining permission to register.** No student is assured of admission until he has received an official certificate of admission from the Director of Admissions.

Although each application is reviewed individually, it may be observed that in general an over-all average of near B and a full B average in the preparation for the intended major field are required for admission to a degree status (provisional or regular). Under no circumstances are out-of-state students accepted on the special validation basis. For status categories, consult the **Graduate**

* Not required of University of New Mexico graduates.

Bulletin. Any student may be refused admission if his previous scholastic record indicates inability to pursue advanced work satisfactorily. The Graduate School also reserves the right to refuse admission to any student for other than scholastic reasons.

EXTENSION AND CORRESPONDENCE COURSES

The University accepts no correspondence credit toward its advanced degrees. A minimum of extension credit from the University of New Mexico is acceptable, but no extension credit may be transferred from other institutions.

FELLOWSHIPS AND ASSISTANTSHIPS

A number of fellowships and assistantships are available for graduate students. Application blanks may be obtained from the Office of the Graduate School.

INFORMATION

For further information regarding advanced work and the conditions under which higher degrees may be obtained, consult the **Graduate Bulletin** or the Graduate Office.

SCHOOL OF LAW

THE STATE BAR OF NEW MEXICO having previously adopted a resolution to that end, and the Legislature of New Mexico having made financial provision, the Regents of the University of New Mexico, on March 31, 1947, as expressly authorized by Laws 1889, Ch. 138, Sec. 15, approved the establishment of a School of Law. The School admitted its first class in September, 1947.

ACCREDITATION

The School has met the standards of the American Bar Association and of the Association of American Law Schools. It was approved by the American Bar Association on February 24, 1948. Membership in the Association of American Law Schools was granted in December, 1948. The School is fully accredited.

AIMS AND METHODS

The lawyer who functions in his profession, whether as private practitioner or as public servant, is an integral part of the system by which a democratic society governs itself. If he is properly to discharge the responsibilities of this role, his education for the profession must be both broad and intensive. In its breadth it must encompass a full understanding of and belief in the democratic respect for the individual personality and the democratic processes designed to allow the individual to develop and participate in a free, self-governing society. In its intensification it must impart a high degree of competence in the craftsmanship of the law—in those skills and insights essential to an adequate performance of the lawyer's function as advocate, judge, legislator, teacher, administrator, or civic leader.

Such education neither begins nor ends in the law school, and the School of Law is continually concerned not only with its own curriculum but also with the quality of prelegal education and with the continuing self-education which should be pursued by all members of the profession. In consequence, it is urged that students enter the School with as broad a cultural and educational background as it is possible for them to obtain. Accordingly, the basic requirement for admission is now a baccalaureate degree from an approved college or university, although exceptional students who have completed at least one year and not more than two years of college work may be permitted to enter upon a combined course of college and law school study leading to the acquisition of a B.A. or B.S. and the LL.B. degrees.

Under either method of admission, the student will spend the equivalent of six semesters of study in the law school in courses designed both to bring the teachings of history, philosophy, and the social sciences to bear upon the solution of legal problems and to develop the skills and insights essential to research, analysis, synthesis, criticism and exposition. Due to the low ratio of students to teacher (less than 15 to 1), substantially more individual and small group work is possible in the School than in most law schools.

FACILITIES

LAW BUILDING

The School of Law building is of modified Pueblo Indian design and is colorfully decorated and furnished throughout. Facilities include a moot court room, student and faculty lounges, law review offices, and Student Bar Association offices. The classrooms, library, and halls are sound-proofed. The building was designed to accommodate comfortably 150 students. Built on the modular plan, it can be rearranged or expanded.

THE LIBRARY

The law library, housed separately with the law school, received an auspicious start through the donation of the Francis C. Wilson, Francis E. Wood, and other private law library collections. It contains approximately 50,000 accessioned volumes and is being augmented by approximately 250 volumes each month. Since 1958 generous gifts from the Journal Publishing Company of Albuquerque in memory of the founder, T. M. Pepperday, have made possible special collections in fields designated by the law faculty. The research value of the library is greatly enhanced by a collection of unbound pamphlets, appeal papers for the New Mexico Supreme Court and the U. S. Court of Appeals, Tenth Circuit, and micro-reproductions of the records and briefs of the United States Supreme Court and of other materials too rare or costly to be made available in the original form.

COURTS AND THE BAR

State and municipal courts and the United States District Court are convenient to the law school. All of these courts are very busy, and the students may not only visit them but are brought into contact with them through their work with the Legal Aid Society. Members of the bench and bar, both state and local, are very generous in giving their time to speak to the students and in serving as judges and lecturers.

JOHN FIELD SIMMS MEMORIAL LECTURES (1954). See p. 50.

ADMISSION

TESTS

All students entering the School of Law are required to take the Iowa Legal Aptitude Test (LAT) and the Educational Testing Service's Law School Admission Test (LSAT). These tests are administered by the University of New Mexico's Director of Counseling and Testing in the spring of each year. In 1960 the Director will administer the LSAT on April 9 and the LAT on May 7. Arrangements to take the tests should be made with the Director not later than March 15, 1960.

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

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

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

Beginning and transfer students may also be required to take speech, hearing, interest and other tests after their entrance into the School.

BEGINNING STUDENTS

The basic requirement for admission to the law school is a baccalaureate degree from an accredited college or university. However, students of exceptional qualifications who are eligible to transfer from the University of New Mexico University College to the College of Arts and Sciences of the University, or students with equivalent qualifications, may be permitted to enter upon a combined course of college and law school study leading to the acquisition of a B.A. or B.S. degree in Arts and Sciences and the LL.B. degree. For the student entering this program at the beginning of his sophomore year in the University, an additional 5 years will normally be required to complete the combined course. Students with more than 30 semester hours' credit are not encouraged to apply for admission to the combined course, and students who have completed more than 60 semester hours are not eligible to enter the combined program but must earn a baccalaureate degree before making application for law school admission. Applicants for permission to take the combined course should arrange to take, and to have the School of Law advised of their scores in, the Iowa Legal Aptitude Test and the Law School Admission Test (see "Tests," p. 177, *supra*). Permission to pursue the combined course will be based upon the student's total scholastic record in all college work attempted, his scores in the above-mentioned tests and upon such oral interviews as the School of Law may require in each case. Students planning to apply for the combined course should take the tests and file their requests for permission with the School of Law no later than April 1 of the calendar year in which they wish to begin the combined course.

All students pursuing the combined course will be required to take a B.A. or B.S. degree in Arts and Sciences prior to or simultaneously with the receipt of the LL.B. degree. For this purpose, they may credit against the B.A. or B.S. degree a minor in Law as defined on p. 272, *infra*. In all other respects, they must meet the normal degree requirements of the College of Arts and Sciences. Such students will be advised, with respect to major and group requirements for the B.A. or B.S. degree, by the faculty of the College of Arts and Sciences and, with respect to minor requirements and electives for such degree, by the faculty of the School of Law.

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

In a few exceptional cases a student with fewer than the academic credits required of candidates for the law degree may be admitted. Such students must be at least 23 years of age and will be required to establish by examinations that their experience and training have equipped them to engage successfully in the study of law despite the lack of required college credit; they are not candidates for the law degree and upon completion of their law study, unless the faculty should then waive this rule because of the outstanding quality of their law work, will not be granted a degree and will not be eligible to take the bar

examinations in New Mexico or in other states that require graduation from an accredited law school.

Save for requests for permission to pursue the combined course, all correspondence regarding law work and entrance, all applications for admission, and all transcripts should be addressed to the Director of Admissions, University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the University Office of Admissions and Records. A \$5 transfer application fee is required with the application except in the case of students who have formerly attended this University in degree status.

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

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

Applications and transcripts should be filed not later than August 15 in order to afford time for evaluation and, if necessary, supplementation and correction.

TRANSFER STUDENTS

A student may transfer from an accredited law school if he is in good standing at that school (i.e. not on probation or under suspension) and if his scholastic record is such that, had it been made at this School, he would be in good standing here. (The requirements for good standing in this School are set out under "Probation and Suspension," p. 181, *infra*.) The transferring student must have sent to the Dean of the School of Law:

1. An official transcript of his prelegal course of study from each college or university attended. The School of Law will not accept transfer law credit unless it was preceded by such prelaw study as was then required by this School for beginning law students.
2. An official transcript of his law study from each school attended.
3. A letter from the dean of the law school from which he transfers to the effect that he is presently not on probation or under suspension and is eligible to reregister and advance in that law school.

Credits earned at other law schools with a grade of D are not acceptable for subject credit, but grades of D and F will be included in determining whether the transfer student has the over-all C average necessary to enter this School in good standing. In some cases a transfer student may not be permitted, and in marginal cases he may be required, to retake some or all courses passed with a grade of D.

After admission under the above requirements for transfer with advanced standing, a student's standing in this School is based entirely upon his work done here (see "Scholarship Index," this Catalog).

A student transferring to the School of Law will not be given credit toward the law degree for credit earned at a school not a member of the Association of American Law Schools or provisionally approved by the American Bar Association, except that credit earned within 3 calendar years of provisional approval

by the American Bar Association may be accepted. Time during which a person was in active military service will be disregarded in computing the 3-year limitation.

Credit earned at law schools located in other countries may be accepted with certain limitations.

Transferring students who have not previously taken the Iowa Legal Aptitude Test and the Educational Testing Service's Law School Admission Test will be required to do so. (See "Tests," p. 177, *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 Dean of the School of Law, University of New Mexico, Albuquerque, New Mexico. An application for admission may be obtained from the School of Law. A \$5 transfer application fee is required with the application.

Applications will be processed upon receipt of required test scores, required official transcripts, and required letter from the dean of the law school from which the student is transferring. The transcripts should be forwarded to the School of Law directly by the institution certifying such transcripts.

Transfer students may be admitted in either the fall or the spring semester. Applications for transfer, together with required test scores, letters and transcripts should be filed not later than August 15 for fall semester registration and not later than January 1 for spring semester registration.

THE DEGREE

To secure the bachelor of laws degree from the University of New Mexico, a candidate for such degree must:

1. Have met fully all prelegal requirements.
2. Have spent at least 3 full academic years in resident study of law in accredited law schools. Resident study means that a student has been enrolled in a schedule of work represented by a minimum of 10 class hours a week and has passed a minimum of 9 such class hours, but in case a student fails to pass work equal to 9 class hours a week, he will not receive residence credit in excess of the ratio that the hours passed bear to 9. A student enrolled in a schedule of less than 10 class hours a week will receive residence credit in the ratio that the hours passed bear to 10. **Both subject credit and residence, or time, credit are required. A student cannot earn additional residence credit by earning excessive subject credit.** At least the last year of resident study must be done at the University of New Mexico, and if but 1 year is done here, it must comprise not less than 12 semester hours of law credit each semester.
3. Have secured by and during such 3 or more years of resident study, not less than 83 semester hours of credit in prescribed courses of law study with a C average on all work attempted for law credit. (For specific grade requirements on certain required courses, see p. 182, *infra*.)

THE DEGREE WITH HONORS. For requirements for graduation honors in the School of Law, see p. 106, *supra*.

PART-TIME STUDENTS AND OUTSIDE WORK

No student will be permitted to register for less than 10 credit hours in the law school in any one semester without the approval of the Dean. The following classifications will apply to all students enrolled in one or more courses in the law school and not enrolled in degree status elsewhere in the University:

- (1) **School of Law, degree status**—all students previously so enrolled, regardless of the number of hours in the law school for which they are currently enrolled, and all other students currently enrolled for 7 or more hours in the law school.
- (2) **Community College, non-degree status**—all other students enrolled for less than 7 hours in the law school. Such students who later acquire degree status in the School of Law may be permitted to apply credits earned in non-degree status toward the LL.B. degree.

If a student spends 19 or more hours a week in outside work, he will normally be required to drop one semester hour of law study for each three hours of outside work in excess of 19 hours per week. A corresponding or greater reduction may be required for any student spending less than 19 hours per week in outside work whose cumulative grade average in the Law School falls below 1.2 ($C = 1.0$).

PROBATION AND SUSPENSION

A student enrolled in the School of Law is placed on probation at the end of any semester in which his cumulative grade average on all law courses taken at the University, and on all non-law courses taken after enrollment in the School of Law in which he receives a grade below C, falls below 1.0 (i.e., a C average), regardless of the number of credit hours for which he is currently enrolled. If at the end of his next semester in the law school he has not qualified for removal from probation status, he is subject to suspension. A student who has been suspended is not eligible to apply for readmission for a period of one calendar year from the date of suspension. The readmission of a suspended student after the expiration of the suspension period is contingent upon the approval of the faculty of the School of Law, which approval will be granted only if there is good reason to believe that his prior record was not the result of lack of capacity for law school work and that the prior record was occasioned by factors which would not be present on readmission.

BAR EXAMINATIONS

The degree in law from this University will not confer the privilege of practicing law in New Mexico or elsewhere. The degree will satisfy the requirement of graduation from a law school approved by the American Bar Association as a prerequisite to completing other requirements for bar admission. The curriculum of the School of Law has been registered in full with the Department of

Education of the State of New York. Information concerning the New Mexico bar examinations can be obtained from the Secretary, State Board of Bar Examiners, Supreme Court Building, Santa Fe, New Mexico.

CURRICULUM

LAW SCHOOL COURSES

The course of study, casebooks and other study materials, class schedules and the like will be determined by the faculty and may be changed at any time. Attendance at special lectures and the performance of special services may be required although not listed as courses.

Legal Analysis, Legal Research, Legal Writing and two seminars, as offered, must be taken and passed. All first-year subjects must be taken, but, except as indicated in the preceding sentence, a passing grade in each course is not essential to graduation unless the faculty so rules in a particular case. A satisfactory performance in Legal Aid and Practical Problems 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.

OFFERINGS

	1960-61		
	First Year		Second Semester
First Semester			
101 Criminal Law	3	104 Contracts and Contract Remedies	4
103 Contracts and Contract Remedies	3	108 Torts	2
107 Torts	2	112 Legal Research	2
109 Civil Procedure I	4	119 Conveyancing	4
118 Estates	3	140 Civil Procedure II	3
	<u>15</u>		<u>15</u>

Second Year

123 Constitutional Law	4	119 Conveyancing	4
147 Commercial Transactions	4	140 Civil Procedure II	3
160 Evidence	4	141 Legal Writing	2
171 Law of Oil and Gas Seminar	2	165 Trade Regulation	2
	2	173 Conflict of Laws Seminar	3
	<u>16</u>		<u>16</u>

Third Year

127 Family Law and Community Property	3	132 Estate Planning II	3
131 Estate Planning I	2	135 Administrative Law	3
152 Security	3	156 Debtors' Estates	3
167 Federal Income Taxation	3	165 Trade Regulation	2
171 Law of Oil and Gas	2	173 Conflict of Laws	3
198 Legal Aid Seminar	0	198 Legal Aid Seminar	0
	<u>2</u>		<u>2</u>
	<u>15</u>		<u>16</u>

Seminars

¹ 190 Seminar in Water Law	2	⁸ 194 Seminar in Taxation	2
² 191 Seminar in Civil Liberties	2	⁴ 196 Seminar in Law and Psychiatry	2

STUDENT AIDS

LOAN FUNDS

The State Bar of New Mexico Law Student Loan Fund. With the approval of J. D. Weir, Las Cruces, then President, and other officials of the State Bar, a sponsoring committee to establish a student loan fund was set up in 1954 under the chairmanship of Sam G. Bratton, then Chief Judge of the United States Court of Appeals, Tenth Circuit. Responses by members of the bar to solicitations from this committee and from a committee of the alumni of the School of Law have been most generous and have demonstrated a sincere interest in legal education and in this School. The fund so created is administered by a committee made up of three members of the faculty, one of whom serves as Loan Fund Administrator, and two members of the bar, the Honorable Augustus T. Seymour, former justice of the Supreme Court of New Mexico, and Mr. Jackson G. Akin, both of whom are members of the Albuquerque Bar and active in practice.

AWARDS, PRIZES AND SCHOLARSHIPS

See "Scholarships and Awards," pp. 75-88.

LEGAL AID

Seniors in the School of Law serve in the office of the Legal Aid Society of Albuquerque. Schedules are made up in advance, and one student reports for Legal Aid work each week. The Legal Aid Society, a Community Chest Agency serving the city and county, was incorporated March 16, 1950 and opened its office in the County Courthouse on August 1, 1950. The office is under the supervision of Georgina Radosevich, General Counsel of the Society.

¹ Prerequisite: 118 Estates.

² Prerequisite: 123 Constitutional Law.

⁸ Prerequisite: 167 Federal Income Taxation.

⁴ Prerequisite: 101 Criminal Law.

STUDENT BAR ASSOCIATION

All students registered in the School of Law become members of the University of New Mexico Student Bar Association. Through this organization they perform their part in the work and life of the School and assume a substantial measure of responsibility both for its administration and for the course and method of study. An Honor Code administered by the students has been in operation since the establishment of the School.

COLLEGE OF NURSING

THE PURPOSE of the College of Nursing is to provide opportunities for students to acquire the basic knowledge and skills which they will use as professional nurses in giving nursing care, in helping individuals and families to understand their responsibilities for the maintenance of health and the prevention of disease, and in working with members of other health professions toward the goal of health for individuals and communities.

METHODS

The purpose of the College of Nursing is achieved through general liberal arts courses which contribute to the cultural development of students, through professionally-related courses in the natural sciences and the social sciences which provide a foundation for professional courses, and through professional courses which incorporate specific nursing content.

Beginning in the sophomore year and increasing in the junior and senior years, students have daily opportunities to correlate and apply their cumulative knowledges and skills as they are supervised in the nursing care of individuals and families in hospitals, homes, and clinics.

ACCREDITATION

The College of Nursing was accredited by the Accrediting Service of the National League for Nursing in December, 1959; this includes accreditation of the program in public health nursing.

LICENSURE OF GRADUATES

Graduates of the College of Nursing are eligible to take the State Board Examinations which provide the legal basis for becoming registered nurses.

OPPORTUNITIES IN NURSING

In New Mexico and throughout the country, there is urgent need for professional nurses in all categories of service. The continuing expansion of hospital facilities and public health programs demands increasing numbers of staff nurses, head nurses, supervising nurses, nursing administrators, and teachers of nursing.

Graduates of the College of Nursing will be prepared to accept staff positions in hospitals, out-patient departments, health departments, visiting nurse associations, industries, schools, and the military services. They may also become head nurses in hospitals after suitable experience.

Supervisory, administrative, and teaching positions in hospitals, health departments, and schools of nursing require advanced preparation. Those graduates of the College of Nursing who wish preparation beyond the baccalaureate program will be qualified to seek the master's degree in the special nursing field of their choice.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE

Transfer from the University College to the College of Nursing requires:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 1.0 on all hours attempted;
or
(b) A scholarship index of at least 1.0 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 1.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. (a) A satisfactory score on the English Proficiency Examination administered by the University of New Mexico;
or
(b) A grade of C or better in a remedial English course offered on a non-credit basis by the English Department of the University of New Mexico.

TRANSFERS

Students seeking to transfer from other degree-granting colleges of the University or from other accredited institutions must present at least 26 semester hours of acceptable credit with a grade-point average of 1.0 or better on all work attempted while enrolled in the other degree-granting colleges or other collegiate institutions.

BOARD AND ROOM

Students are responsible for their living arrangements and costs. They must comply with the University regulations as stated in the "Student Housing" section of this Catalog.

UNIFORMS

Students are expected to purchase the uniforms which are worn in nursing practice periods.

HEALTH SUPERVISION

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

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

REQUIREMENTS FOR GRADUATION

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

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

2. Maintenance of a grade average of not less than 1.0 for all courses attempted in the College of Nursing and, for students transferring from the University College, for courses attempted in the two semesters previous to admission to the College of Nursing (minimum of 26 hours).

No student will be permitted to enroll in the professional courses of the senior year unless the grade average is 1.0 or better.

CURRICULUM

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

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

Freshman Year	
First Semester	Second Semester
Engl 1 Writings with Readings in Expos	Engl 2 Writings with Readings in Lit
*Chem 41L Elem of Gen Chem	*Chem 42L Elem of Org Chem
Anthro 2 Develop of Cult	*Biol 36 Human Anat & Physiol
Nursing 1 Intro to	*Biol 39L Human Anat & Physiol Lab
Elective (Anthropology, Biology, Foreign Language, History, Philosophy, Sociology, Speech)	Elective (Anthropology, Biology, Foreign Language, History, Philosophy, Sociology, Speech)
Physical Ed	Physical Ed
<u>1</u>	<u>1</u>
16	16
Sophomore Year	
*Biol 93L Gen Bacteriology	Pharmacology 66L Prin of
Psych 51 Gen	Home Ec 104 Nutrition
Home Ec 138L Child Care & Development	Soc 55 Prin of
†Nursing 51L Fund of	Nursing 52L Fund of
Elective (Anthropology, Economics, English, Foreign Language, Government, History, Sociology, Speech)	Elective (Anthropology, Economics, English, Foreign Language, Government, History, Psychology, Sociology, Speech)
Physical Ed	Physical Ed
<u>1</u>	<u>1</u>
18	16
Junior Year	
Soc 165 Essentials of Interviewing	Soc 117 Social Problems of New Mexico
Nursing 121L Pediatric Nursing	Nursing 101L Medical Nursing
Nursing 122L Obstetric Nursing	Nursing 102L Surgical Nursing
Elective (Anthropology, English, Foreign Language, Government, History, Psychology, Sociology)	Elective (Anthropology, English, Foreign Language, Government, History, Psychology, Sociology)
<u>3</u>	<u>3</u>
16	16

* Prerequisites for Nursing 51 in sophomore year.

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

Senior Year

Nursing 151L Psychiatric Nursing	9	Nursing 161L Medical-Surgical	
Nursing 152L Public Health Nursing	9	Nursing Processes	5
		Nursing 162L Adv Obstetric-Pediatric	
		Nursing	5
		Nursing 182 Seminar: Problems & Trends	
		in Nursing	2
		Elective (Anthropology, English,	
		Foreign Language, Government,	
		History, Psychology, Sociology)	3
	<hr/>		<hr/>
	18		15

BACCALAUREATE PROGRAM FOR GRADUATES OF HOSPITAL SCHOOLS OF NURSING

ADMISSION REQUIREMENTS

Registered nurses who have been graduated from accredited hospital schools of nursing will be accepted as candidates for the degree of Bachelor of Science in Nursing if evaluation of previous professional and general education qualifies them to meet the minimum requirements listed under "Transfers" on p. 186.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING

- Completion of the following group requirements, including at least 40 semester hours of upper division courses:
 - Natural Sciences — 23 semester hours
 - Social Sciences — 19 semester hours
 - English — 6 semester hours
 - General Electives — 21 semester hours
 - Nursing — 58 semester hours
- Completion of 30 semester hours in residence during regular or summer sessions, including a minimum of 15 semester hours in Nursing. (Extension and correspondence hours are not counted as part of the residence requirements. As many as 40 semester hours in correspondence and extension courses will be acceptable toward the bachelor's degree provided that at least 10 hours are earned in extension courses taught by regular resident instructors of the University and that the remainder are taken through universities accredited by regional accrediting associations.)
- Completion of all course requirements with a grade average of not less than 1.0. No student will be permitted to enroll in the professional courses of the senior year if the grade average is less than 1.0.
- Completion of the English Proficiency Examination with a satisfactory score, or completion of a stipulated course in remedial English with a grade of C or better.

COLLEGE OF PHARMACY

IT IS THE primary purpose of the College of Pharmacy to provide the fundamental training requisite to success in the practice of the profession of pharmacy. Incident to this training, the College purposes to inculcate in its students those habits of industry and thoroughness and the qualities of loyalty and ethical behavior which the profession demands of its practitioners.

The College of Pharmacy also provides a consultant service to the profession in the State of New Mexico in connection with unusual prescriptions and other aspects of pharmaceutical practice.

OPPORTUNITIES IN PHARMACY

The profession of pharmacy offers, to properly trained individuals, a wide variety of opportunities for service in interesting and satisfying positions. Most of the graduates of colleges of pharmacy enter the retail field. Many, however, occupy positions as manufacturing pharmacists, sales representatives, hospital pharmacists in civilian and governmental hospitals, analysts for state and federal food and drug departments, and as pharmacists in the Army, Navy, Air Force, Public Health Service, and Veterans Administration. Limited numbers are engaged in editing or writing for pharmaceutical publications and as managing officers of local, state, and national pharmaceutical organizations. Positions as research workers in manufacturing plants and as teachers in colleges of pharmacy are open to those who prepare themselves by pursuing graduate work toward advanced degrees.

RECOGNITION

The College of Pharmacy is accredited by the American Council on Pharmaceutical Education, the national accrediting agency in pharmaceutical education, and holds membership in the American Association of Colleges of Pharmacy.

SCHOLARSHIPS AND LOANS

The College of Pharmacy annually grants freshman scholarships to a number of deserving graduates of New Mexico high schools who follow the freshman Pharmacy program in the University College. They are normally awarded for the academic year but may be withdrawn at the end of the first semester should the student not maintain a satisfactory academic average. Other scholarships and loans are available to those who qualify. For information apply to the Dean, College of Pharmacy.

LAWS RELATING TO LICENSURE AS A PHARMACIST

The laws relating to the requirements for licensure as a registered pharmacist by examination in the State of New Mexico are presented below in simplified form.

Persons of good moral character who have satisfactorily completed not less than 30 semester hours in an approved college of pharmacy shall, upon applica-

tion and payment of the required fee, be issued a certificate of registration as a pharmacy interne.

An applicant for examination for licensure as a registered pharmacist by the New Mexico State Board of Pharmacy must be a graduate of a recognized college of pharmacy, must be not less than 21 years old, of good moral character, and not addicted to the use of narcotic drugs or alcoholic beverages. However, before he can receive a certificate as a registered pharmacist he must have had not less than one year of pharmaceutical experience under the direction of a qualified pharmacist. Further information regarding licensure as a pharmacist may be obtained from the Secretary of the New Mexico State Board of Pharmacy whose address is available in the office of the College of Pharmacy.

ADMISSION

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

ADMISSION FROM UNIVERSITY COLLEGE. The **minimum** requirements for transfer from the University College to the College of Pharmacy are:

1. Twenty-six hours of earned credit.
2. (a) A scholarship index of at least 1.0 on all hours attempted;

or

 (b) A scholarship index of at least 1.0 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 1.0 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's total hours attempted to at least 30.
3. Completion of the English Proficiency Examination (administered by the University of New Mexico) with a satisfactory score or a grade of C or better in the remedial English course offered on a non-credit basis by the University of New Mexico English Department.

In addition to the foregoing **minimum** requirements, the student who wishes to transfer to the College of Pharmacy from the University College should have completed Chemistry 1L and 2L and Biology 1L and 2L with grades of C or better. Students who do not obtain a grade of C or better in each of these courses may be admitted to the College of Pharmacy but will be required to obtain grades of C or better in each of these courses before being allowed to enroll in other courses in these fields or in courses for which these are prerequisite.

Students who do not complete the recommended freshman Pharmacy program in the University College will almost certainly find it necessary to spend more than the normal time to complete the requirements for graduation.

TRANSFERS. Students who wish to transfer to the College of Pharmacy from other degree-granting colleges of the University or from other accredited non-pharmacy institutions must present at least 26 semester hours of acceptable credit

with a grade-point average of at least 1.0 on all hours attempted in other degree-granting colleges or institutions and should have completed essentially the recommended freshman Pharmacy program. Those who do not meet these requirements will usually be advised to apply for admission to the University College. Transfer students must complete the English Proficiency Examination or the remedial English course as specified in **3** above during the first semester of enrollment in this University.

Admission of those *desiring to transfer from other colleges of pharmacy* will be based on the requirements specified 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 senior year if his grade average is less than 1.0.

MAXIMUM NUMBER OF HOURS

Students in the College of Pharmacy may not enroll for more than 19 credit hours per semester including physical education.

ACADEMIC ADVISEMENT

In order to provide proper assistance to students in the election of courses and other academic matters, the College of Pharmacy has established a system of academic advisement. Each class is assigned to a faculty adviser who is authorized to act in all academic matters which do not require the approval of the Dean. The faculty advisers assist students in planning their programs, approve all elections of courses, authorize changes in programs, and furnish advice on other

academic matters. The advisers are: Dr. Kenneth H. Stahl, University College; Drs. William C. Fiedler and Marvin H. Malone, second-year students; Dr. George L. Baker, third-year students; Dr. Elmon L. Cataline, fourth-year students. Students are urged to consult with their advisers regularly.

AFROTC AND NROTC

Students who are accepted by the Air Force ROTC or Navy ROTC (contract students only) may be permitted to substitute the courses in Air Science or Naval Science for certain specified courses in the Pharmacy curriculum in order to expedite completion of the requirements for the degree. (These courses are marked with an asterisk in the curriculum outlined below.)

MINIMUM RESIDENCE REQUIREMENT

Students entering the College of Pharmacy with advanced standing from non-pharmacy colleges are required to complete not less than six 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 one year 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 enter the College of Pharmacy **before** April 1, 1961.

The student who has entered the College of Pharmacy before 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.
2. Complete a total of not less than 134 semester hours plus 4 semester hours of physical education or its equivalent.
3. Maintain a grade average of not less than 1.0, the calculation of the grade average being based on (a) all work attempted* while enrolled in the College of Pharmacy or another degree-granting college of the University of New Mexico, and, (b) in the case of a student who was enrolled in the University College, the work upon which his admissibility to the College of Pharmacy was determined.
4. Receive grades of C or better in all the required courses in the fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology, except that a candidate who has received grades of D in no more than a total of three such required courses may, upon written petition to the faculty of the College of Pharmacy, be granted credit toward graduation for the work in such courses. (For the purposes of administering this exception, each semester of a course which runs throughout the year shall be considered as a separate course.)

* Exclusive of hours in non-professional physical education and ensemble music.

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.

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 will be required to complete a 5-year program including at least 1 year of preprofessional college-level studies. The pre-pharmacy courses of the first year should include the following, taken in the University College, or their equivalent at any accredited institution of higher education:

English 1-2	6 Semester Hours
Chemistry 1L-2L, General	8 Semester Hours
Biology 1L-2L, General	8 Semester Hours
Mathematics 15-16, College Algebra and Trigonometry	5 Semester Hours
Non-science electives	6 Semester Hours
Total	<u>33 Semester Hours</u>

If the student wishes to present 2 years of preprofessional work, the following courses, in addition to those listed above, are strongly recommended:

Chemistry 101-103L-102-104L, Organic	8 Semester Hours
Physics, 11L-12L, General	8 Semester Hours
Biology 93L, Bacteriology	4 Semester Hours
Economics 51, Introductory	3 Semester Hours
Non-science Electives	6 Semester Hours
Total	<u>29 Semester Hours</u>

The requirements for the degree of Bachelor of Science in Pharmacy will be similar to those of the 4-year program except that a total of not less than 160 semester hours, plus 4 semester hours of physical education or equivalent will be required.

The 5-year curriculum will be printed in the 1961-62 catalog issue of this bulletin. In the meantime, copies of the curriculum may be obtained from the College of Pharmacy.

FOUR-YEAR CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

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

First Year
(Preprofessional Year)

(Program recommended for Freshmen in the University College)

First Semester		Second Semester	
English 1 Writing with Rdgs in Expos	3	English 2 Writing with Rdgs in Lit	3
Chem 1L Gen	4	Chem 2L Gen	4
Biology 1L Gen	4	Biology 2L Gen	4
Math 15 College Algebra	3	Math 16 Plane Trig	2
*Electives	3	*Electives	3
*Physical Ed	1	*Physical Ed	1
	18		17

The above is the recommended freshman Pharmacy program for University College students who wish to enter the College of Pharmacy. At the time of their first enrollment, such students will be assigned to an adviser from the College of Pharmacy. See p. 190 for specific requirements for admission to the College of Pharmacy.

PHARMACY CURRICULUM

Second Year
(First Professional Year)

Phm 51L Intro	3	Phm 52 Phm Calculations	2
Phm 61 Hist of Pharmacy	2	Phmcog 72L General	4
Phm Chem 71 Inorg Med	3	Chem 102 Organic Chem	3
Chem 101 Organic Chem	3	Chem 104L Organic Lab	1
Chem 103L Organic Lab	1	Acct 5 Prin of Acct	3
Physics 11L Gen	4	Physics 12L Gen	4
*Physical Ed	1	*Physical Ed	1
	17		18

Third Year
(Second Professional Year)

Phm 151L Phm Preps I	4	Phm 152L Phm Preps II	4
Biol 93L Bacteriology	4	Phm 122 Pharmaceutical Law	2
Chem 53L Quant Analysis	4	Biol 102L Human Physiology	4
*Speech 55 Public Spkg	3	Biol 123L Biological Chemistry	4
Phmcol 191 Biol Med	3	*Economics 51 Intro	3
	18		17

Fourth Year
(Third Professional Year)

Phm 155 Drug Store Management	2	Phm 182L Disp Phm II	5
Phm 181L Disp Phm I	5	Phm Chem 164L Org Med II	4
Phm 193 Inspection Trip	0	Phmcol 196L Phmcol II	5
Phm Chem 163L Org Med I	5	*Electives	2-4
Phmcol 195L Phmcol I	4		
*Electives	1-3		
	17-19		16-18

* With the approval of the Dean of the College of Pharmacy, Air Force ROTC or NROTC courses may be substituted for these courses.

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 by television receive residence credit, applicable to degree programs of the University. Instructional television is 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, 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. 97.

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

SUMMER SESSION

A summer session of 8 weeks is conducted each year on the campus. (For dates, see the Calendar.) Every attempt is made to meet specialized needs of the particu-

lar student group of the session. Emphasis is placed on advanced and graduate work. A special program is offered for teachers and school administrators. The summer climate is warm but delightful; nights are cool. The residential halls are regularly operated during the Summer Session. A separate bulletin on the Summer Session may be obtained by addressing the Director of the Summer Session, 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. 61 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. The classes are open to any adult interested in these offerings either as a means of professional training, or to better enjoyment of 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, 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.

AIR FORCE RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Air Force under rules promulgated by the Department of the Air Force and the University of New Mexico.

The purpose and mission of the Air Force ROTC is to select and train students who possess the character, intelligence, desire, and sense of duty to become Air Force officers and responsible citizens.

Students may enter the Air Force ROTC from any college of the University. Completion of Air Science requirements may constitute the completion of a minor study in the College of Arts and Sciences, the College of Education, or the College of Fine Arts, with the approval of the dean concerned.

Processing of both old and new students for supplies and special records begins **two days before** registration for Semester I. AFROTC students must complete this processing before academic registration. The \$8 fee for Military Property and Special Handling must be paid to the University Cashier before AFROTC processing. This fee is collected only at the beginning of the fall semester. Students entering during the spring semester pay a \$5 fee.

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

DEPARTMENT OF AIR SCIENCE

First Semester
Selected and approved
University courses

Freshman Year
(Air Science I)

Second Semester
Air S 12 (2)

	Sophomore Year (Air Science II)	Selected and approved University courses
Air S 51 (2)		
	Junior Year (Air Science III)	
Air S 101 (4)		Air S 102 (4)
	Senior Year (Air Science IV)	
Govt 141 (3) Air S 151 (1)		Air S 152 (4)

Juniors and seniors should note that Air Science III and IV are offered in alternate years (Air Science IV in academic year 1960-61, and Air Science III in 1961-62, etc.) Government 141 must be completed in the junior or senior year as offered.

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

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

NAVAL RESERVE OFFICERS TRAINING CORPS

This department is administered by officers of the United States Navy and Marine Corps under rules promulgated by the Navy Department.

The mission of the NROTC is to provide, by a permanent system of training and instruction in essential naval subjects at the University of New Mexico, a source from which qualified officers may be obtained for the Navy and Marine Corps, and for the Naval Reserve and Marine Corps Reserve.

DEPARTMENT OF NAVAL SCIENCE

Students enrolled in the NROTC Unit may be enrolled in most colleges in the University. Completion of the Naval Science requirements will constitute completion of a minor study in the College of Arts and Sciences.

	Freshman Year		Second Semester	
NS11. Naval Orientation	3	NS12. Evolution of Sea Power		3
	Sophomore Year			
		NS52. Naval Weapons		3
	Junior Year			
NS101. Naval Engineering	3	NS102. Navigation		3
	Senior Year			
NS151. Naval Operations	3	NS152. Naval Administration and Leadership		3

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

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

NROTC students are required to attend 2 hours of Naval Science drill and laboratory per week. For further information refer to section of this bulletin entitled Naval ROTC.

COURSES OF INSTRUCTION

ON THE following pages, under the respective department and division headings, are listed all the courses offered for residence credit by the University as well as requirements for major and minor studies in the various departments.

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

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

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

When a prerequisite course number is not preceded by a department designation, reference is to the department under which the prerequisite statement appears.

A schedule of course offerings, including hours of meeting, is issued at the opening of each session. The University reserves the right to cancel any listed course or to make a substitution in instructors when necessary.

The departments and fields of study are arranged in alphabetical order in accordance with the table below:

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

Law
 Library Science (See Education, Library Science)
 Mathematics & Astronomy
 Mechanical Engineering (See Engineering,
 Mechanical)
 Modern & Classical Languages
 Music
 Music Education (See Education, Music)
 Naval Science
 Nursing
 Pharmaceutical Chemistry (See Pharmacy)
 Pharmacognosy (See Pharmacy)
 Pharmacology (See Pharmacy)
 Pharmacy

Philosophy
 Physical Education (See Education, Health,
 Physical Education & Recreation)
 Physics
 Portuguese (See Modern & Classical Languages)
 Psychology
 Recreation (See Education, Health, Physical
 Education & Recreation)
 Russian (See Modern & Classical Languages)
 Secondary Education (See Education,
 Secondary)
 Sociology
 Spanish (See Modern & Classical Languages)
 Speech

ACCOUNTING

See Business Administration.

AIR SCIENCE

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

CURRICULUM

See p. 197.

Note: Government 141 must be completed prior to graduation.

11. AIR SCIENCE I. (2-3)

Selected and approved University courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences.

12. AIR SCIENCE II. (2)

Foundations of Air Power—1. The elements of air power, and basic aeronautical science.

51. AIR SCIENCE II. (2)

Foundations of Air Power—2. The development of aerial warfare, with emphasis on principles of war, concepts of employment of forces, and changing weapon systems. Treatment of aerial warfare covers targets, weapon systems, delivery vehicles, bases and operations.

52. AIR SCIENCE II. (2-3)

Selected and approved University courses from the areas of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences.

101-102. AIR SCIENCE III. (4, 4)

Air Force Officer development. The knowledge and skills required of a junior officer in the Air Force with special emphasis on staff duties and leadership. Includes Air Force leadership doctrine, staff organization and functions, communicating, instructing, problem solving techniques, leadership principles and practices, and the military justice system. Offered 1961-62 and alternate years; alternates with 151-152.

151-152. AIR SCIENCE IV. (4, 4)

Global Relations. Global relations of special concern to the Air Force officer with attention to such aspects as weather, navigation, geography, and international relations. Offered 1960-61 and alternate years, alternates with 101-102.

AMERICAN STUDIES

An interdepartmental offering at the doctoral level presupposing a Master of Arts degree in such majors as history, English, education, sociology, government, philosophy, and economics. For requirements for the degree of Doctor of Philosophy, consult the **Graduate Bulletin**.

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

*400. **Dissertation.**

ANTHROPOLOGY

Professors Hill (Chairman), Ellis, Hibben, Newman; Associate Professor Basehart; Assistant Professor Hammel.

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 5 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, Hammel, Hibben
2. **General Anthropology: Development of Culture.** (3) Basehart, Ellis, Hammel, Hill, Newman
8. **Survey of Southwestern Anthropology.** (3) Ellis
Non-technical. Not credited toward the major or minor in Anthropology.
- 60L. **Beginning Museum Techniques and Methods.** (3)
Museum administration, publicity, exhibits and curatorial techniques. 1 lecture, 5 hrs. lab. (Offered at the State Museum by Extension only).
- 66F. **Archaeologic Field Method.** (2)
73. **Introduction to Latin America.** (3)
(Same as Economics 73, Government 73, and Sociology 73.)

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) Hammel, 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
- *120. **Races and Cultures of Europe.** (3) Hammel
- *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:

- *113. **Linguistic Field Methods.** (3) Newman
No prerequisites.
- *117. **Phonetics and Phonemics.** (3) Hammel, Newman
No prerequisites.
- *118. **Structural Analysis.** (3) Newman
A continuation of 117. Deals with grammatical structures in the same way that 117 concerns itself with phonemic systems. Prerequisite: 113 or 117.
- *146. **Native Languages of America.** (3) Newman
Prerequisite: 113 or 117.
- *154. **The Nature of Language.** (3) Newman

Technical:

- *103L. **Chronology.** (3) Ellis
Methods of dating in relationship to archaeological problems. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- *107L. **Physical Anthropology: Osteology.** (3) Basehart, Hammel
2 lectures, 2 hrs. lab.
- *108L. **Physical Anthropology: Somatology.** (3) Basehart
Racial variation and constitution. Prerequisite: 107L. 2 lectures, 2 hrs. lab.
- *109L. **Southwestern Pottery.** (3) Ellis
Prehistoric development of ceramic art. Prerequisite: 155 or 156. 2 lectures, 2 hrs. lab.
- *160L. **Advanced Museum Techniques and Methods.** (3)
Specialized work and highly technical training in one area of anthropology, art, or folk art. 1 lecture, 5 hrs. lab. (Offered at the State Museum by Extension only.)
- *174L. **Problems in Advanced Dendrochronology.** (2) Ellis
Prerequisite: 103L. 1 lecture, 2 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 individual culture carrier; the possibility of application of anthropological principles to the problems of foreign peoples, minority groups, and primitive tribes.

- *102. **Perspectives of Anthropology.** (3) Hammel
Essential concepts of the nature of culture and of racial relationship. No prerequisite.
- *104. **Comparative Social Structure.** (3) Basehart
- *111. **Law and Society.** (2) Weihofen
(Same as Law 111.) The evolution of legal institutions. Not allowed for undergraduate credit in Anthropology.
- *150. **Methods in Cultural Anthropology.** (3) Ellis
Methods used in the collection and ordering of anthropological data for historical, scientific, and administrative problems.
- *152. **Primitive Literature.** (3) Newman
- *193. **History of Anthropology.** (2) Basehart, Hill
- *198. **Primitive Religion.** (3) Hill

Field Courses:

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

Graduate Courses:

- *205. **Proseminar: Introduction to Research.** (2) Hill
- *208. **Processes of Culture Change.** (2) Basehart, Hammel
- *210. **Kinship Studies.** (2) Basehart
- *212. **Seminar: Ethnology.** (2) Basehart, Hill
- *214. **Seminar: South American Archaeology.** (2) Hammel
- *251-252. **Problems.** (2, 2) Basehart, Ellis, Hammel, 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: 113 or 117.
- *282. **Seminar: American Archaeology.** (2) Hibben
- *294. **Seminar: Southwestern Archaeology and Ethnology.** (2) Ellis
- *300. **Master's Thesis.** (6) Basehart, Ellis, Hammei, Hibben, Hill, Newman
- *400. **Dissertation.** Basehart, Ellis, Hammel, Hibben, Hill, Newman

ARCHITECTURE

Professor Heimerich (Chairman); Associate Professors Bunting, Schlegel; Assistant Professor Mallary; Lecturers (Part-time) Bryan, Conron, Reed.

CURRICULUM

See p. 165.

- 3. **Two Dimensional Design.** (3)
(Same as Art 3.)
- 9. **Three Dimensional Design.** (3)
(Same as Art 9.)

31L-32L. Elements of Architecture. (3, 3)

Principles of architectural design, shades, shadows, perspective and delineation. 9 hrs. lab.

61. History of Architecture, Ancient and Medieval. (3)

(Same as Art 61.)

62. History of Renaissance Architecture. (3)

(Same as Art 62.)

81L-82L. Architectural Design I and II. (4, 4)

Design and planning of small buildings involving horizontal circulation, their relation to the site; development and coordination of construction details. Prerequisite: 32L. 12 hrs. lab.

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. Prerequisite: CE 1L or Arch 31L.

111. The Sources of Modern Architecture. (2)

(Same as Art 111.)

112. Survey of Contemporary Architecture in Europe and the Americas. (2)

(Same as Art 112.)

131L-132L. Architectural Design III and IV. (4, 4)

Original problems in plan, elevation, and section of various types of buildings, involving horizontal and vertical circulation, planning and relationship of building types with their neighborhood, and coordination of structural systems. Prerequisite: 82L. 12 hrs. lab.

181L-182L. Architectural Design V and VI. (5, 5)

Advanced problems in plan, elevation and section of buildings, involving horizontal and vertical circulation, site planning, with multiple units and irregular terrain, and coordination of mechanical equipment. Prerequisite: 132L. 15 hrs. lab.

191L. Architectural Design VII. (5)

A continuation of 182L with emphasis on city planning and team projects. Prerequisite: 182L. 15 hrs. lab.

193L-194L. Working Drawings. (3, 3)

The preparation of working drawings, showing the quantity and method of construction of a specified type of building. Prerequisite: senior standing. 9 hrs. lab.

***195. Specifications and Estimating. (2) Heimerich**

Analysis of various specification forms and writing of specifications, showing the quality of the material and erection procedure for a building. Methods of estimating buildings and cost analysis of materials. Prerequisite: senior standing.

***196. Office Practice. (2) Heimerich**

Duties of the architect, relationship of architect-client-contractor, professional ethics, office management, and requirements for licensing. Prerequisite: senior standing.

***197-198. Seminar. (1, 1) Schlegel**

Discussion of, and oral and written reports on, the theory and creative process of architectural design and related fields. Prerequisite: senior standing.

199L. Problems. (5)

Solution of an architectural problem which is written by the student, and approved by the faculty. Prerequisite: 191L. 15 hrs. lab.

ART

Professors Haas (Chairman), Adams, Douglass, Masley, Tatschl; Visiting Professor Monroe; Associate Professors Bunting, Smith; Assistant Professors Mallary, Paak; Instructors Brown, Lewis, Reeves (Part-time), Wright.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts, a 51-hour major is offered leading to the degree of B.F.A. in Art. (See curricula, p. 166.)

2. For the student enrolled in the College of Arts and Sciences, a 32-hour Art major may be taken in one of three fields of specialization: Group I (Painting and Design), Group II (Crafts), Group III (Art History).

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

Those specializing in Group I or II take the following:

- 6 hours chosen from Art 3, 6, 8, 9, or 100.
- 8 hours Group III including Art 71 or 72.
- 18 hours additional in the field of specialization.

Those specializing in Group III take the following:

- 6 hours consisting of Art 3, 6.
- 6 hours Group I or II.
- 20 hours additional of Group III courses including Art 71 and 72.

If a student majors in Art in the College of Arts and Sciences, he may not count toward graduation any other hours taken outside that College.

3. For the student enrolled in the College of Fine Arts and pursuing the Combined Curriculum (see p. 164) a 45-hour art major is offered. This consists of: Art 3, 6, 8, 9, 71 and 72; Group I, 6 hours; Group II, 5 hours; Group III, 3 hours; 13 hours of Art electives in field of specialization. A total of 15 hours must be taken in courses numbered over 100.

MINOR STUDY

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

MATERIALS AND STUDENT WORK

Students enrolling in Art courses furnish their own materials except certain studio equipment provided by the University.

All work when completed is under the control of the Department until after the exhibitions of student work. Each student may be required to leave with the Department one or several pieces of original work to be added to the permanent collection.

CREDIT

For 1 semester hour of credit it is expected that the student do 3 clock hours' work per week through the semester. This includes time spent in recitation, preparation, and studio. If full studio hours are not assigned in the schedule, outside assignments will be given by the instructor.

(GENERAL)

- 100. Art Appreciation.** (3) Brown, Haas, Tatschl
Introduction to the visual arts; acquaints the general student with various fields, media, and masterpieces.
- 110. Interior Decoration.** (3) Brown
Contemporary materials for home decoration, furnishings, and interior planning will be fully investigated. Sketches, plans, and models will be executed. Prerequisites: 3, 8.

(GROUP I)

Painting, Sculpture, and Drawing

- 3. Two Dimensional Design.** (3)
The elements of design (line, color, value, shape, etc.) and the principles of composition underlying their application in painting, drawing, advertising, crafts, etc. No prerequisites.
- 6. Beginning Drawing.** (3)
Training in understanding the form of objects and of the human figure. Teaching of elementary drawing techniques. No prerequisites.
- 9. Three Dimensional Design.** (3)
Acquaints the student with various materials (paper, wood, metal, plastics, etc.) and with the various modern techniques used in such fields of three dimensional design as sculpture, architecture, store display, etc.
- 63. Painting and Design.** (2) Adams, Haas, Mallary, Smith
Introductory study of the painter's craft; various media; figure, portrait, and still life. Prerequisites: 3, 6. May be repeated to a maximum of 6 hours.
- 65. Drawing.** (2) Adams, Douglass, Mallary, Smith, Tatschl
Craftsmanship of drawing in various media, including still life, anatomy, and figure drawing. Prerequisite: 6. May be repeated to a maximum of 4 hours.
- 89. Sculpture.** (2) Monroe, Tatschl
Technique, executed in various media of sculpture. Prerequisites: 3, 6. May be repeated to a maximum of 4 hours.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- *103. Landscape.** (2) Adams, Douglass, Haas, Lewis, Smith
Landscape painting in watercolor, gouache, or oils. Prerequisite: 63. May be repeated to a maximum of 8 hours.
- *154. Materials and Media.** (3) Haas
Experimentation in the various media of painting including tempera, mixed technique, gouache, plastics, etc. Prerequisite: 63.
- *163. Advanced Painting and Design.** (3) Adams, Haas, Mallary, Smith
Prerequisite: 63. May be repeated to a maximum of 18 hours.
- *165. Advanced Life Drawing.** (3) Adams, Douglass, Mallary, Smith, Tatschl
Prerequisite: 65. May be repeated to a maximum of 12 hours.
- *189. Advanced Sculpture.** (3) Monroe, Tatschl
Prerequisite: 89. May be repeated to a maximum of 12 hours.
- 199. Special Problems.** (2)
Advanced work in projects or fields not covered in the regular catalog courses. Maximum 2 hours per semester with a total of 8 hours toward graduation. Open to juniors and seniors having a B average in their art courses. (Undergraduates only.)
- *251-252. Problems.** (2-3 each semester) Adams, Douglass, Haas, Mallary, Monroe, Smith, Tatschl
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.
- *273-274. Seminar in Painting and Design.** (2, 2) Adams, Douglass, Haas, Tatschl
- *300. Master's Thesis.** (6) Adams, Douglass, Haas, Smith, Tatschl
The thesis should be taken over 2 semesters.

(GROUP II)**Crafts and Commercial Art**

- 8. General Crafts.** (3)
Introduction to the basic processes involved in ceramics, jewelry, textiles, and the study of form as related to these materials. No prerequisites.
- 17-18. Crafts for Industrial Arts.** (2, 2)
Introduction to design and processes involved in jewelry, art metal work, ceramics, plastics, book binding, leather work, and graphic arts.
- 27. Manuscript Lettering.** (2) Douglass
The essential form of the Roman alphabet and its derivatives as applied to calligraphy. No prerequisite.
- 28. Commercial Lettering.** (2) Douglass
Creative lettering with the brush and pen as used in advertising. No prerequisite.
- 57. Beginning Jewelry.** (2) Lewis, Reeves
Beginning jewelry design in various media, with emphasis upon the inherent qualities of the materials used. Of interest to teachers. Prerequisites: 3, 8.
- 58. Beginning Textiles.** (2) Brown
An experimental approach to textile design with emphasis on the use of new materials. Prerequisites: 3, 8.
- 67. Graphic Arts.** (2) Tatschl
Techniques and methods in lithography, etching, and woodcuts. Prerequisites: 3, 6, 65. May be repeated to a maximum of 4 hours.
- 77-78. General Commercial Art.** (2, 2) Douglass
Art and layout in advertising, various techniques and methods of reproduction; optional work in cartooning. Prerequisites: 3, 6, and 27 or 28.
- 87-88. Photography.** (2, 2) Haas
Elementary photography including shooting, dark room procedure, and photographic composition. (An adequate camera is necessary for this course.) 87 must be taken prior to 88.
- 97. Beginning Ceramics.** (2) Paak
Beginning ceramics, including practice in casting, shaping, wheel throwing, firing and glazing. No prerequisite.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- 117. Calligraphy.** (3) Douglass
Research and practice in historic manuscript hands. Prerequisite: 27.
- *127. Advanced Jewelry** (3) Lewis
Jewelry design in various media with emphasis upon the inherent qualities of the materials used. Prerequisite: 57. May be repeated to a maximum of 6 hours.
- *137. Advanced Ceramics.** (3) Lewis, Paak
Continuation of 97. May be repeated to a maximum of 6 hours.
- *147. Advanced Textiles.** (3) Brown
An experimental approach to weaving and textile design with emphasis upon the combination of materials and the use of new materials. Prerequisite: 58. May be repeated to a maximum of 6 hours.
- *167. Graphic Arts.** (3) Tatschl
Techniques and methods of etching, lithography, and woodcut. Prerequisite: 67. May be repeated to a maximum of 6 hours.
- 177-178. Commercial Art Problems.** (3, 3) Douglass
Second year commercial art. Prerequisites: 77, 78.
- 198. Community Crafts Workshop.** (3) Brown
Problems involved in developing a community crafts program. Emphasis upon procuring materials, equipment, and developing a program while working in a controlled workshop situation.

199. Special Problems. (2)

Advanced work in projects or fields not covered in the regular catalog courses. Maximum 2 hours per semester with a total of 8 hours toward graduation. Open to juniors, seniors having a B average in their art courses. (For undergraduates only.)

***251-252. Problems. (2-3 each semester) Paak, Tatschl**

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

***300. Master's Thesis. (6) Paak, Tatschl**

The thesis should be taken over 2 semesters.

(GROUP III)**Art History****61. History of Architecture, Ancient and Medieval. (3) Bunting**

Ancient architecture of Egypt, Greece, and Rome; medieval architecture of the Early Christian, Byzantine, Romanesque, and Gothic periods. No prerequisites.

62. History of Renaissance Architecture. (3) Bunting

Architecture of Italy, Northern Europe, U.S.A., from 1400 to 1850. No prerequisites.

71. General Art History. (3) Bunting, Haas

Introductory study of Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, and Medieval art.

72. General Art History. (3) Bunting, Haas

Introductory study of art of the Renaissance, Baroque, and 19th and 20th centuries.

HA. Reading in Honors. (1-3 each semester)**HB. Research in Honors. (1-3 each semester)****111. The Sources of Modern Architecture. (2) Bunting, Schlegel**

The sources of modern architecture in Europe and America, the International style in Europe; city planning to the present.

112. Survey of Contemporary Architecture in Europe and the Americas. (2) Bunting, Schlegel

An analysis of the major architectural trends since 1940 with emphasis on the development of regional schools of architecture.

***122. History of Medieval Art. (3) Bunting**

A survey of architecture, painting, and sculpture from the dissolution of the Roman empire to the 16th century, with emphasis on the religious art forms of the 12th and 13th centuries. No prerequisites.

131. Pre-Cortesian Art. (3) Haas

The arts of the Americas prior to the conquests of the Spanish in the 15th century. No prerequisites.

***132. History of American Indian Art. (3) Haas**

Prehistoric and historic art forms of the Indians of North America. No prerequisites.

***141. Art of the United States. (3) Bunting**

A survey of painting, sculpture, and architecture from Colonial times to the present. No prerequisites.

***142. Spanish Colonial Art. (3) Bunting**

History of the architecture, sculpture, and painting in the period of Spanish colonization and the relation of these art forms to both the Spanish and the native Indian traditions. No prerequisites.

***151. Renaissance Painters. (3) Bunting**

An analytical study of the painters of the Renaissance. No prerequisites.

***152. History of Modern Painting. (3) Haas**

History of 20th century painting. No prerequisites.

***162. Hispanic Art. (3) Bunting**

Survey of Hispanic art in Europe and the New World.

171. Primitive Art. (3) Haas

The art forms of those peoples outside the direct influence of the better-known Occidental and Oriental traditions. Main emphasis is placed on African and Oceanic areas. No prerequisites.

199. Special Problems. (2)

Advanced work in projects or fields not covered in the regular catalog courses. Maximum 2 hours per semester with a total of 8 hours toward graduation. Open to juniors and seniors having a B average in their art courses. (For undergraduates only.)

***251-252. Problems. (2-3 each semester) Bunting, Haas**

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

281-282. Seminar in the History of Contemporary Art. (2, 2) Haas**291-292. Seminar in the History of Art. (2, 2) Bunting*****300. Master's Thesis. (6) Bunting, Haas**

The thesis should be taken over 2 semesters.

ART EDUCATION

See Education, Art

ASTRONOMY

See Mathematics and Astronomy

BIOLOGY

Professors Potter (Chairman), Castetter, Dittmer, Hoff, Koster; Consulting Professor Johnson; Associate Professor Fleck; Assistant Professors Findley, Martin, Riedesel, Rypka.

MAJOR STUDY

Biology 1L, 2L, 71L, 72L, 130L or 178L, and 12 additional hours, 8 of which must be in courses numbered above 100. Courses 33L, 36, 39L, 41, 48, 102L and 126L are not accepted toward a major. One year of chemistry is required of biology majors.

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 1 L and 2L and 12 additional hours. 33L and 126L are not acceptable toward the minor.

CURRICULA PREPARATORY TO DENTISTRY, FORESTRY, MEDICAL TECHNOLOGY, OR MEDICINE

See pp. 116-119.

Note: Credit will not be allowed for both 12L and 1L-2L; or for 36-39L and 130L; or for 36-39L and 102L; or for 102L and 130L; or for 48 and 109.

1L. General Biology. (4) Yr. Dittmer, Fleck, Koster

The fundamental structures and functions of higher plants and animals with emphasis on principles and the unity, rather than the diversity, of phenomena. Credit suspended until 2L is completed. 3 lectures, 3 hrs. lab.

2L. General Biology. (4) Dittmer, Fleck, Koster

A continuation of 1L. Survey of the plant and animal kingdoms; heredity, environmental relations, and evolution. Prerequisite: 1L. 3 lectures, 3 hrs. lab.

- 12L. General Zoology.** (4) Fleck, Hoff
The fundamental structures and functions of the vertebrates, and a review of the animal kingdom. Open to majors in P. E. and Home Economics only. 3 lectures, 3 hrs. lab.
- 33L. Microbiology.** (3) Rypka
The part played by microorganisms in the environment of man; a lecture and demonstration course emphasizing the general aspects of disinfection, public health, and the common infectious diseases. 2 lectures, 2 hrs. lab.
- 36. Human Anatomy and Physiology.** (3) Fleck, Riedesel
The structure and functions of the human body. Lectures emphasize physiology. May be taken with, or independently of 39L. Not accepted toward a biology major.
- 39L. Human Anatomy and Physiology Laboratory.** (2)
Laboratory work in elementary anatomy and physiology with emphasis on anatomy. Cannot be taken independently of 36.
- 41. Survey of New Mexico Plant Life.** (2) Martin
Lectures, demonstrations and field trips.
- 48. Human Heredity.** (2) Dittmer, Fleck
A cultural survey of the field of inheritance.
- 71L. Invertebrate Zoology.** (4) Hoff and Assistant
A comparative study of the structure, habits, and classification of the invertebrates. Prerequisites: 1L, 2L. 2 lectures, 4 hrs. lab.
- 72L. Comparative Plant Morphology.** (4) Dittmer
A comparative study of the four great groups of the plant kingdom. Prerequisites: 1L, 2L. 2 lectures, 4 hrs. lab.
- 86L. [185L] General Vertebrate Zoology.** (4) Findley, Koster
Principles of classification; ecology, behavior, and speciation of the vertebrates. One or more overnight field trips required. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- 93L. General Bacteriology.** (4) Rypka
Biology and significance of bacteria and other microorganisms; fundamental principles governing the bacteriology of water, sewage, milk, food, and sanitation. Prerequisites: 1L, 2L, Chemistry 1L, 2L. 2 lectures, 4 hrs. lab.
- 102L. Human Physiology.** (4) Fleck, Riedesel and Assistant
Functions of the human body with emphasis on the central nervous and autonomic nervous systems, excretion, reproduction, blood, and respiration. Prerequisite: 2L; corequisites: Chemistry 102, 104L. 3 lectures, 3 hrs. lab.
- *109. Genetics.** (3) Martin
The scientific, cultural, and philosophical aspects of inheritance. May be taken with, or independently of, 109L. Prerequisites: 1L, 2L.
- *109L. Genetics Laboratory.** (2) Martin and Staff
Methods of culturing and breeding fruit flies and of compiling and presenting genetic data. May not be taken independently of 109 without permission of instructor. 6 hrs. lab.
- *110. Evolution.** (3) Koster, Martin
History of the principle and theories of evolution. Prerequisite: 109.
- *112L. Comparative Embryology of the Vertebrates.** (4) Koster
Prerequisites: 1L, 2L, 71L. 2 lectures, 6 hrs. lab.
- *114L. General Entomology.** (4) Hoff
Structure, habits, and classification of the insects. Prerequisites: 1L, 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: 1L, 2L, 71L. 2 lectures, 6 hrs. lab.

- *123L. **Biological Chemistry.** (4) Rypka
An introductory course dealing with the chemistry of biological compounds and their transformation in plants and animals. Prerequisites: Chemistry 102, 104L. 3 lectures, 3 hrs. lab.
- 126L. **Physiology of Exercise.** (3) Fleck, Riedesel and Assistant
Physiological processes and their relation to exercise. Prerequisite: 12L. Open to P. E. majors only. 2 lectures, 3 hrs. lab.
- *130L. **Vertebrate Physiology.** [General Animal Physiology] (4) Riedesel and Assistant
Functions and structures of the animal body with emphasis on fundamental physiological processes and mechanisms. Prerequisites: 1L, 2L, Chemistry 1L, 2L. 3 lectures, 3 hrs. lab.
- *143L. **Comparative Physiology.** (4) Riedesel
A comparison of physiological processes in members of the animal kingdom. Emphasis on the invertebrates. Osmoregulation, nutrition, and metabolism are stressed. Prerequisites: 71L, 72L, Chemistry 1L, 2L. Organic Chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *144L. **Comparative Physiology.** (4) Riedesel
Continuation of 143L but with emphasis on respiration, circulation, and excretion in the vertebrates. Prerequisites: 71L, 72L, Chemistry 1L, 2L. Organic Chemistry recommended. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *147. **Endocrinology.** (3) Riedesel
The glands of internal secretion with special reference to the vertebrates. Deals primarily with the hormones of reproduction. Prerequisite: 130L or 144L.
- *148. **Endocrinology.** (3) Riedesel
Continuation of 147 but deals with the hormones concerned in general metabolism. Prerequisite: 130L or 144L.
- *153L. **Sanitary Bacteriology.** (4) Rypka
Microorganisms of milk, dairy products, and other foods, and their relation to spoilage and sanitation. Techniques and significance of the standard methods of bacteriological procedures for water and dairy products. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 154L.)
- *154L. **Pathogenic Bacteriology.** (4) Rypka
The properties and characteristics of disease-producing bacteria and their relationship to disease. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 153L.)
- *156L. **Immunity and Serological Methods.** (4) Rypka
Mechanism of resistance to disease; hypersensitivity, and serologic procedures. Prerequisite: 153L or 154L. Chemistry 102-104L and Biology 123L recommended. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 157.)
- *157. **Virology.** (3) Rypka
The nature of viruses and host-virus relationship in plant and animal diseases. Prerequisite: 93L. (Offered in alternate years; alternates with 156L.)
- *160L. **Bacterial Physiology.** (4) Rypka
Enzymes, metabolism, and biochemistry of the bacterial cell and the chemical changes produced in microorganisms. The physiology of the growth of bacteria including the influence of environmental factors. Prerequisites: 8 hours of bacteriology and organic chemistry (or permission of instructor). 3 lectures, 3 hrs. lab. (Offered on demand.)
- *163L. **Flora of New Mexico.** (4) Martin
Identification, classification, and nomenclature of vascular plants. Field trips required. Prerequisites: 1L, 2L. 2 lectures, 4 hrs. lab.
- *171L. **Terrestrial Ecology and Geography.** (4) Potter
Animals and plants in relation to the environment; a study of biotic communities; problems of plant and animal distribution. Field trips. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab.
- *174L. **Plant Anatomy.** (4) Martin, Potter
Structure of vascular plants. Prerequisites: 1L, 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 176L.)
- *176L. **Mycology and Plant Pathology.** (4) Martin
A taxonomic study of the fungi, with some consideration of the causative factors and economic aspects of plant diseases. Prerequisites: 1L, 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: 1L, 2L, Chemistry 1L, 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *179. **Conservation.** (3) Dittmer
Various aspects of conservation including soil, water, mineral, wildlife, forestry, range, and human. Lecture, demonstration, field trips. (Offered in alternate years.)
- *181L. **Medical Entomology.** (3) Hoff
The insects and arachnids of importance in human and veterinary medicine. Emphasis in the laboratory on identification. Prerequisite: 71L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *182L. **Parasitic Protozoa and Helminths.** (3) Hoff
The protozoa and worms important in human and veterinary medicine. Emphasis on the structure and life-cycle of various forms, with practice in laboratory identification. Prerequisite: 71L. 2 lectures, 2 hrs. lab. (Offered in alternate years.)
- *184L. **Limnology.** (4) Koster
Fresh-water habitats and aquatic invertebrates with special reference to problems of productivity. All-day field trips required. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *186L. [96L] **Ornithology.** (4) Findley
Classification, phylogeny, natural history and literature of birds. Early morning field trips required. Prerequisites: 1L, 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. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- *189L. **Mammalogy.** (4) Findley
Classification, phylogeny, natural history and literature of mammals. All-day field trips and one or more over-night field trips required. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab.
- *190L. **Histology and Microtechnique.** (3) Martin, Riedesel
The preparation for microscopic examination of plant and animal structures, tissues, and cells. Additional emphasis on topics of special interest to individual students. Prerequisites: 1L, 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: 1L, 2L, 130L or 178L; Physics 11L. One year of organic chemistry recommended. 2 lectures, 6 hrs. lab.
- *192L. **Radiobiology.** (4) Fleck
Interaction of radiation with matter; biologic effects of radiation; radiation syndrome; relative radiosensitivity of cells, organs, and organisms; health physics and practical applications of radiation. Prerequisites: 1L, 2L, 130L or 178L; pre- or corequisite: Physics 12L. One year of organic chemistry recommended. 3 lectures, 3 hrs. lab.
- *195L. **Pharmacology I.** (4) Malone
(Same as Pharmacology 195L.) The effects produced by drugs on the healthy organism (pharmacodynamics) and the mechanisms whereby these effects are produced. Includes the subdivisions of pharmacology, therapy, posology, toxicology, and bioassay (bioassaying). The actions of the more important drugs are demonstrated upon living animals. Prerequisite: senior standing. 3 lectures, 3 hrs. lab. Not allowed for undergraduate Biology credit.
- *196L. **Pharmacology II.** (5) Malone
(Same as Pharmacology 196L.) A continuation of 195L. 4 lectures, 3 hrs. lab.
Not allowed for undergraduate Biology credit.
- *201. **Seminar: Current Topics in Biology.** (2) Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka

- *203. **Research Techniques.** (2) Koster
The basic techniques used in exploring biological literature, in planning experiments, and in making and recording observations. (Offered in alternate years.)
- *205L. **Experimental Physiology.** (3) Riedesel
Introduction to materials, methods, and experimental procedures used in research problems in physiology. 1 lecture, 6 hrs. lab. (Offered in alternate years.)
- *206L. **Advanced Bacteriology.** (4) Rypka
Advanced techniques and recent trends in bacteriology. Prerequisites: 8 hours of bacteriology and biochemistry. 1 lecture, 6 hrs. lab. (Offered on demand.)
- *208L. **Advanced Invertebrate Zoology.** (4) Hoff
Emphasis on the phylogeny of invertebrate groups, principles of comparative morphology and embryology. Prerequisite: 71L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)
- *225. **Fundamental Concepts of Biology.** (3) Fleck
Trend of scientific thought and method from earliest times to the present; origin and history of important biological principles. (Offered in alternate years.)
- *251. **Problems.** (2-3) Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka
- *252. **Phylogeny of the Plant Kingdom.** (2) Dittmer
Evolutionary trends with emphasis on the vascular plants.
- *254. **Advanced Vertebrate Zoology.** [Principles of Economic 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) Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka
- *400. **Dissertation.** Dittmer, Findley, Fleck, Hoff, Koster, Martin, Potter, Riedesel, Rypka

BUSINESS ADMINISTRATION

Professors Parish (Dean), Edgel, Smith, Sorrell, Strahlem; Associate Professors Finston, Goode, Huber, Mori, Welch; Assistant Professors Christman, Glaese, Reva; Instructor Park.

CURRICULA AND CONCENTRATIONS

See pp. 126-132.

For Business Education, see p. 140.

- 5-6. [5L-6L] **Principles of Accounting.** (3, 3) Christman, Mori, Perovich, Smith, Strahlem
Introductory accounting: statements, accounts, journals, adjusting and closing entries, the worksheet; the voucher system, accounting for proprietorship, partnership, and corporate equities; cost allocation devices, managerial approach to statement analysis and controls. The second semester (6) emphasizes the function of accounting in reporting data for management planning and for general evaluation of the firm. Credit in 5 can be obtained without continuing in 6. Open to students of sophomore status or to freshmen eligible to enroll in Mathematics 15 or higher level courses, and to Non-degree students with the permission of the Bus. Adm. adviser.
- †11. **Beginning Typewriting.** (2) Park
The learning of the keyboard by the touch system; reconstruction of basic skills. Students who have had typewriting in high school or business school will not receive credit in 11.
- †12. **Intermediate Typewriting.** (3) Park
Business forms, correspondence and letter styles, manuscripts, tabulation, speed building with individual goals. Prerequisite: knowledge of typewriter operation and keyboard.
- §13-14. **Shorthand Theory; Beginning Dictation.** (3, 3) Glaese, Park, Reva
Gregg theory and essentials of writing; speed goal: 60 wpm. 14: Review of theory; introduc-

† No credit allowed toward degrees in Colleges of Arts and Sciences, and Pharmacy.

§ A maximum of 6 hours of credit allowed in shorthand in the College of Arts and Sciences. No credit allowed toward degree in the College of Pharmacy.

tion of transcription; speed goal: 80 wpm. Students who have had shorthand in high school or business school should enroll in 14 or a more advanced class, as they will not receive credit in 13. Prerequisites for 14: 11, 13, or equivalent. 4 one-hour classes per week.

17. **Office Machines and Filing.** (2) Reva
Laboratory work in filing, transcription from recorded dictation, mimeograph, direct process duplicators, listing and non-listing calculators. Prerequisite: 12.
- 51-52. **Introduction to Economics.** (3, 3)
(Same as Economics 51, 52.)
- §53-54. **Transcription; Speed Dictation.** (3, 3) Glaese, Park
Review of theory; dictation and transcription from shorthand notes correctly and speedily. Mailable letters are required. Prerequisites: 12 and 14 or equivalent. Speed goal for 53: 100 wpm; for 54: 120 wpm.
62. **Advanced Typewriting.** (3) Glaese, Park
Production, with efficiency and accuracy, of business letters, reports, manuscripts, tabulation, rough drafts, corporation reports, legal documents; study of skill performance problems from point of view of teacher and/or office supervisor. Individual speed goals. Prerequisite: 12 with grade of B.
63. **Intermediate Accounting I.** (3) Christman, Mori, Smith, Strahlem
An expansion of the fundamentals of accounting; accounting theory; problems relating to control of, and accounting for, current assets. Prerequisites: 5, 6, with minimum grade of C in 6.
64. **Intermediate Accounting II.** (3) Christman, Mori, Smith, Strahlem
Continuation of accounting theory; problems relating to control of, and accounting for, permanent assets, liabilities and reserves; the preparation and interpretation of financial statements. Prerequisite: 63.
65. **Business Communications.** (3) Reva
Prepares the student to understand terms, policies, and procedures in business relations; letter writing, reports, memoranda, and other media of communication.
84. **Cost Accounting.** (3) Mori, Smith
Principles of industrial and distribution cost accounting; job order and process cost systems; standard costs; cost reports. 63 and 64 recommended for accounting students before taking 84.
89. **Business Statistics.** (3) Goode
Introduction to statistical methods as applied to the collection, presentation, analysis, and interpretation of numerical data relevant to business operations. Prerequisite: Mathematics 2 or its equivalent. College algebra is strongly advised before enrollment in this course.
101. **Analysis of Financial Statements.** (2) Staff
Comparative analysis of the balance sheets and income statements of both large and small enterprises; significant ratios, break-even charts, viewpoints toward analysis. Prerequisite: 63.
- *102. **Governmental Accounting.** (3) Christman, Smith
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.
105. **Basic Accounting.** (3) Staff
A one-semester survey course for non-Business Administration students only. The nature of business transactions and their relationship to accounting reports; debit-credit theory; the use of journals and ledgers, preparation of financial statements; theory of accounting for assets, liabilities and capital; manufacturing accounting; interpretation of financial data. Emphasis is on the non-clerical aspects of accounting. Prerequisite: upper division standing.
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.

§ 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.

- *108. **Principles of Marketing.** (3) Welch
Economic significance, functions, middlemen and channels of trade, competition, price policies, marketing management, market planning, budgets and cost, market research; consumer problems.
- *110. **Corporation Finance.** (3) Goode, Parish
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) Parish
(Same as Economics 111.)
- *113. **Credits and Collection.** (2) Sorrell
Principles and practices of *credit management*, taught primarily from the point of view of the credit man.
- 114. **Advertising.** (3) Welch
Basic advertising principles and practice; how the modern executive evaluates, buys, criticizes and controls advertising. Characteristics of effective advertising, selection of media, planning and executing of campaigns are surveyed.
- *115. **Investments.** (3) Goode, Parish
A detailed consideration of most types of investment media from the investor's standpoint. Considerable attention given to psychological aspects of investment and speculation, and to building realistic individual investment programs. Prerequisite: 110 or the equivalent.
- *121. **Advanced Accounting I.** (3) Christman, Mori, Smith, Strahlem
Problems and theory relating to partnership dissolution and liquidation, consignments, installment sales, the statement of affairs, realization and liquidation, *estates and trusts*, and insurance. Prerequisite: 64.
- *122. **Advanced Accounting II.** (3) Christman, Mori, Smith, Strahlem
Branch accounting; preparing consolidated financial statements; effecting combinations and mergers. Prerequisite: 64.
- *127. **Life Insurance.** (3) Huber, Mori
The economic aspects of risk as exemplified by life insurance; basic actuarial considerations; detailed investigation of provisions and costs of policies and their suitability for various types of buyers; organization of the business.
- *128. **Property and Casualty Insurance.** (3) Goode, Mori
Basic principles and theories of insurance will be treated generally, followed by a special study of fire, liability, *marine, automobile* and aviation insurance. Fidelity and surety bonds will also be included in the study of property insurance.
- 129L. **Applied Business Statistics.** (3) Goode
Measures of central value and dispersion; correlation and regression; concept of statistical distributions, sampling, inference; analysis of variance and non-parametric statistics. Prerequisite: 89 with grade of B, or permission of instructor. 2 lectures, 3 hrs. lab.
- *130. **Principles of Organization and Management.** (3) Christman, Finston
Development of modern management; plant location and layout; materials handling; physical factors in factory operation; product and process planning; production control; motion and time study; personnel organization, procurement and maintenance; employee health, safety, morale, and training; cost and budgetary control.
- *132. **Salary and Wage Administration.** (2) Finston
Determination of wage rates and pay practices; evaluation of jobs; the *wage structure*; employer-employee cooperation and control. Prerequisite: 130.
- *133. **Collective Bargaining.** (3) Finston
Management characteristics and functions; labor union policy and operation; collective bargaining procedure; labor contract provisions, settlement of grievances, conciliation, mediation, arbitration. Prerequisite: 130.
- 134. **Selling and Sales Supervision.** (3) Welch
The role of selling in our economy, its functions, costs and the magnitude of the selling task; the various techniques of salesmanship which should prove valuable to those planning to enter the selling field. Also consideration is given to the principles of sales management, covering sales research, management of salesmen, sales policies and similar problems.

- *141. **Labor Problems.** (3) Wollman
(Same as Economics 141.)
- *143. **Transportation.** (3) Duncan
Principles and problems of transportation. Prerequisite: Economics 51 or consent of instructor.
- 147. **Auditing.** (3) Christman
Auditing principles and procedure; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems. Prerequisite: 121.
- 148. **Auditing** (3) Christman, Smith
Audit practice case: complete audit of a corporation, including examination and verification of original vouchers, journal and ledger entries; preparation of working papers, adjusting entries, financial statements and report of examination; illustrative audit work papers. Prerequisite: 147.
- 149-150. **Income Tax Accounting.** (3, 3) Christman
Federal and state income tax laws and regulations; history and background; sources of tax law; tax services; organization and procedures of the Bureau of Internal Revenue; tax returns, rates, and credits; deductions and exclusions; withholding provisions; capital gains and losses; community property clauses. Prerequisite: 121. Credit may be obtained in 149 without continuing in 150.
- *152. **Public Finance.** (3) Wollman
(Same as Economics 152.)
- 155g. **The Teaching of Business Subjects in Secondary Schools.** (3) Glaese
(Same as 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. **Business Fluctuations.** (3) Hamilton, Robertson
(Same as Economics 162.)
- 163. **Rise of Modern Industry.** (3) Hamilton
(Same as Economics 163.)
- *180. **Government Control of Business.** (3) Duncan
(Same as Economics 180.)
- *182. **Retail Merchandising.** (3) Finston, Welch
Principles and problems emphasizing position of the retailer; organization and administration; buying, planning, control; expense distribution; promotion; personnel administration; operating efficiency; expense reduction. Prerequisite: 108.
- *183. **Marketing Research.** (3) Edgel, Welch
How businesses can use research to solve marketing problems; analysis of the techniques and procedures used; and considerations involved in the management aspects of marketing research. Prerequisite: 108.
- *185. **Marketing Management.** (3) Welch
Coordination of all factors in distributive enterprise; consumer preferences in marketing methods; modern problems in public relations and consumer contact; social responsibility and self-discipline in distributive enterprise. Prerequisite: 108 for undergraduate students; 108 or permission of the instructor for graduate students.
- *190. **Business Policy.** (3) Parish
Designed for senior students who have completed or are completing their specific requirements. Emphasis is placed upon 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.

191. **Business Law.** (3) Huber
The law of personal property including sales of personal property and bailments, partnerships and corporations. Prerequisites: 106 and upper-division standing.
- *194. **Motion and Time Study.** (3) Finston
Principles of methods study and work simplification; operation analysis; calculation of performance standards; work sampling; work place design and equipment layout. Prerequisite: 130 or permission of instructor.
- *195. **Human Factors in Administration.** (3) Finston
Managerial functions in terms of the human-relations aspects of organization, staffing, direction, planning, and control. Case studies involve the relationships among workers, supervisors, staff and line officials, and top and middle management. Special emphasis is placed upon administrative processes and techniques.
- *196. **Advanced Cost Accounting.** (3) Mori
Advanced theory and problems in standard and process costs; analysis and control of costs; costing practices of specific industries; distribution costs; representative cost problems from C.P.A. examinations; cost practice case. Prerequisites: 15 hours in accounting plus 84.
- *198. **Security Analysis.** (3) Edgel, Goode, Parish
Comparative ratio analysis; study and evaluation of theories of forecasting and related advanced security market techniques. Permission of instructor required.
- *201. **Fiscal Policy and Business.** (3) Parish
An integration of the fields of monetary theory and public finance applied to the problems of fluctuations in production and employment.
- *202. **Advanced Accounting Theory.** (3) Mori, Smith, Strahlem
Controversial aspects of depreciation, treasury stock, surplus, goodwill, no par capital stock, inventory valuation, fixed assets valuation, overhead costs.
- *203. **Research in Business.** (3) Edgel
Designed to provide experience in assembling, analyzing and interpreting information for business use and in presenting results of such studies. Prerequisite: a degree in Business Administration or a major in Economics including statistics. (Required of graduate students working toward the degree of Master of Business Administration.)
- *204. **Seminar in Marketing.** (3) Welch
An evaluation of marketing theories and their application to current marketing procedure. The student is required to initiate an original project in the field of marketing a manufactured product, conduct the necessary research, and present a report on the complete marketing program.
- *205. **Accounting Systems.** (3) Smith
Design and installation of accounting records; basic problems of system designed as related to business functions; independent research evidenced by a comprehensive system report. Prerequisite: 21 hours in accounting.
- *206. **Seminar in Industrial Management.** (3) Finston
Management problems and policies. Each student will be given the opportunity to study and report on an actual problem of an operating business organization.
- *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.
- *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.
- *251-252. **Problems.** (1-2 each semester) Edgel, Finston, Huber, Mori, Parish, Smith, Sorrell, Strahlem, Welch
Special permission of the adviser and of the Dean of the College of Business Administration required.
- *300. **Master's Thesis.** (6) Edgel, Finston, Huber, Mori, Parish, Smith, Sorrell, Strahlem, Welch

CHEMICAL ENGINEERING

See Engineering, Chemical

CHEMISTRY

Professors Riebsomer (Chairman), Castle, Kahn, Smith; Associate Professors Daub, Martin; Assistant Professor Crosby; Instructor Searcy.

The program of the Department of Chemistry conforms to the standards prescribed by the American Chemical Society.

MAJOR STUDY

For the degree of Bachelor of Arts: Chemistry 1L, 2L, 53L, 101, 102, 103L, 104L, and at least 8 additional hours selected from courses numbered above 100.

For the degree of Bachelor of Science: Chemistry 1L, 2L, 53L, 101, 102, 103L (2 hr.), 104L (2 hr.), 111, 112, 113L, 114L, 150, 152L, and at least 8 additional hours selected from courses numbered above 100. The program must also include 12 hours of German.

MINOR STUDY

20 hours in Chemistry, including Chemistry 1L, 2L, 53L, and either 101, 102, 103L and 104L or 111, 112, 113L, and 114L. Chemistry 41L does not count toward the minor.

1L. General Chemistry. (4)

Introduction to the chemical and physical behavior of matter. Pre- or corequisite: Mathematics 2 or equivalent. 3 lectures, 3 hrs. lab.

2L. General Chemistry. (4)

Continuation of 1L and including qualitative analysis. Prerequisite: 1L with grade of C or better. 3 lectures, 3 hrs. lab.

41L. Elements of General Chemistry. (4) Searcy

A one-semester course in general chemistry. The lectures of this course and Chemistry 42L may be elected separately by those wishing a restricted course in chemistry. 3 lectures, 3 hrs. lab.

42L. Elements of Organic Chemistry. (4) Searcy

A brief course in organic chemistry. Prerequisites: 41L or 2L. 3 lectures, 3 hrs. lab.

53L. Quantitative Analysis. (4) Martin

Theory and techniques of volumetric and gravimetric analysis. Prerequisite: 2L. 2 lectures, 6 hrs. lab.

64L. Elements of Physiological Chemistry. (4) Searcy

The chemistry of food, nutrition and animal metabolism. Prerequisites: 41L, 42L, or their equivalents. 3 lectures, 3 hrs. lab.

101-102. Organic Chemistry. (3, 3) Castle, Daub, Riebsomer

The chemistry of the compounds of carbon. Prerequisite: 2L.

103L. Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 101. 3 or 6 hrs. lab.

104L. Organic Chemistry Laboratory. (1-2)

To be taken concurrently with 102. 3 or 6 hrs. lab.

***105L. Qualitative Organic Analysis. (3-4) Castle, Daub**

Identification of carbon compounds through the characteristic reactions of the functional groups. Prerequisite: 104L. 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.** (2) 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.
- 108. Physical Chemistry.** (3) Kahn
A short descriptive course in physical chemistry, primarily for premedical students. Includes the behavior of gases and solutions, the use of indicators and pH, colloids, etc. Not acceptable for chemistry major or minor. Prerequisites: 53L, Physics 12L or 62.
- **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.
- *115. Structure of Matter.** (3) Crosby
Elements of molecular orbital theory; dipole moments; dissociation energies; quantum mechanical description of chemical bonds; hybridization; chemical consequences of structure. Prerequisites: 53L, 102.
- *120. Advanced Organic Chemistry.** (3) Castle, Daub, Riebsomer
Prerequisite: 102 with grade of B or better or permission of instructor.
- *131. Inorganic Chemistry.** (3) Martin
A systematic survey of the chemical behaviors of the elements and their inorganic compounds. Prerequisite: 102.
- *136L. Inorganic Preparations.** (3)
Synthesis and purification of typical inorganic compounds. Prerequisite: 104L. 1 lecture, 6 hrs. lab.
- *141L-142L. The Principles of Chemistry.** (4, 4) Riebsomer
The physical and chemical behavior of matter including a study of the gaseous, liquid, and solid states of matter; atomic and molecular structure; ionic and molecular equilibria. The principles are developed simultaneously with the careful study of the chemistry of selected elements. Numerous problems are assigned to emphasize the principles. Laboratory assignments are varied to match the background and needs of the individual student. Enrollment only by permission of instructor. 3 lectures, 3 hrs. lab.
- 150. Special Methods in Quantitative Analysis.** (2) Martin
A lecture survey of the theory and practice of qualitative and quantitative analysis. Prerequisites: 53L, 111.
- 152L. Special Methods in Quantitative Analysis Laboratory.** (2) Martin
Laboratory and conferences. Chemical and instrumental analyses; colorimetry; potentiometric and conductometric titrations. Pre- or corequisite: 150. 6 hrs. lab.
- *153L. Quantitative Organic Analysis.** (3) Martin
Quantitative determination of carbon and hydrogen; Dumas nitrogen; exceptional cases of Kjeldahl nitrogen; Carius halogen; sulfur. Some semimicro techniques will be used. Prerequisite: 53L or equivalent. 1 lecture, 6 hrs. lab.
- *154L. Instrumental Analysis.** (4) Martin
Application of instrumental methods to chemical analysis, including colorimetry, spectrophotometry, polarography, and electrometric measurements. Prerequisites: 53L, 112. 2 lectures, 6 hrs. lab.
- *171-172. Advanced Physical Chemistry.** (3, 3) Kahn
Includes the thermodynamics and kinetics of chemical reactions and their relationships to the structure of chemical substances. Prerequisites: 111, 112, with grades of C or better.
- 197-198. Undergraduate Problems.** (2-5 each semester)
- *204-205. Theoretical Organic Chemistry.** (3, 3) Daub
The more important theories of organic chemistry. Prerequisites: for 204: 102, 112; for 205: 204.

** Available for graduate credit except for graduate majors in chemistry.

- *206L. **X-ray Crystallography.** (4) Rosenzweig
(Same as Geology 206L.) Theory and practical application of X-ray crystallography. Prerequisite: Geology 191L or permission of instructor. 2 lectures, 6 hrs. lab.
- *208. **Advanced Topics in Organic Chemistry.** (3) Castle, Riebsomer
Prerequisite: 102.
- *209. **Advanced Topics in Organic Chemistry.** (3) Castle, Daub, Riebsomer
Topics such as carbohydrates, synthesis of polycyclic compounds, relation of chemical structure to physiological activity. Prerequisite: 102.
- *210. **The Chemistry of the Heterocyclic Compounds.** (3) Castle, Daub
The chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisite: 102.
- *211. **Advanced Seminar in Physical Chemistry.** (3) Crosby, Kahn
Includes such topics as the application to chemistry of quantum mechanics, statistical mechanics, and atomic and molecular spectra; thermodynamics and kinetics of chemical reactions. May be repeated for credit at the discretion of the Department Chairman. Prerequisite: 112 or permission of instructor.
- *213. **Radiochemistry.** (3) Kahn
Elementary nuclear theory; radiations and their interactions with matter; detection of radiation. Prerequisite: 112.
- *214. **Radiochemical Techniques.** (3) Kahn
Principles, ideas, and tracer techniques in the application of radioactivity to chemistry. Prerequisite: 213 or permission of instructor.
- *232. **Advanced Topics in Inorganic Chemistry.** (3)
Prerequisites: 111, 131.
- *234. **Advanced Topics in Analytical Chemistry.** (3) Martin
Prerequisite: 112.
- *242. **Theory and Interpretation of X-ray Diffraction Data.** (3) Rosenzweig
3 lectures. [Offered at the Los Alamos Scientific Laboratory.]
- *300. **Master's Thesis.** (6) Castle, Crosby, Daub, Kahn, Martin, Riebsomer
- *400. **Dissertation.** Castle, Crosby, Daub, Kahn, Martin, Riebsomer

CHEMISTRY, PHARMACEUTICAL

See Pharmacy

CIVIL ENGINEERING

See Engineering, Civil

CLASSICAL LANGUAGES

See Modern and Classical Languages

COMPARATIVE LITERATURE

Committee in Charge: Professors MacCurdy (Languages), Chairman; Arms (English); R. M. Duncan (Languages); Jacobs (English); McKenzie (Languages); Dane F. Smith (English); Trowbridge (English); Assistant Professor Graham (Languages).

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. There is no minor in Comparative Literature.

MAJOR STUDY

The minimum requirement of 30 hours includes: English 75-76; Greek 139 or Latin 140; Comparative Literature 166; British or American literature (9 hours, including at least 6 in courses numbered above 100; a foreign literature (9 hours from French, German, Portuguese, or Spanish). For descriptions of individual courses see the listings under the two departments. Students may minor in literature (British or American or any foreign language), but courses taken to satisfy the major cannot be used to satisfy the minor requirement. Other minor fields particularly recommended are anthropology, art history, history, and philosophy.

Students planning to major in Comparative Literature are requested to consult with an adviser either in their sophomore year or early in their junior year. Programs will be carefully planned in both the major and the minor.

MINOR STUDY

Not offered.

*138. **Russian Literature in Translation.** (3) Graham
(Same as Russian 138.)

*165. **Tragedy.** (3) Dickey, MacCurdy, Trowbridge
Selected tragedies from world literature in translation and theories of the tragic form.
Prerequisite: 6 credit hours in literature.

*166. **Literary Criticism.** (3) Arms, Trowbridge
A history of major critical attitudes toward literature. Prerequisite: 6 credit hours in literature.

DRAMATIC ART

Professor Snapp (Chairman); Associate Professor Yell; Assistant Professors Blackburn, Stoughton.

MAJOR STUDY

For Dramatic Art Curriculum in Fine Arts and for Major with Emphasis in Television-Radio see p. 169.

For the purposes of Combined Curriculum in Fine Arts: 43 hours in Dramatic Art including 1, 2, 15, 16, 29, 75, 76, 85, 86, 89, 90, 96, plus 9 hours to be chosen from 55, 56, 95, 175, 176, 185 and 186.

College of Education: Dramatic Art 1, 2, 15, 16, 29, 75, 76, 89, 90, 96, 161, and English 141. Total 34 hours.

MINOR STUDY

College of Education and College of Fine Arts: Dramatic Art 1, 2, 15, 16, 29, 89, 90, 96, English 141. Total 25 hours.

College of Arts and Sciences: A minimum of 22 hours including Dramatic Art 15, 16, 89, 95, English 141 or 142; 3 hours to be chosen from Dramatic Art 29, 90, or 96; 6 additional hours in Dramatic Art numbered above 50.

1-2. **Fundamentals of Speech and Reading.** (3, 3) Yell

The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.

- 15-16. Introduction to the Theatre. (2, 2) Snapp**
An introduction to the theatre in terms of the rewarding experience and personal enjoyment it affords both those who create it and those who appreciate it.
- 29-30. Stage Craft. (3, 3) Stoughton**
Methods, materials, and techniques of stage carpentry. Students construct scenery for season's productions. 3 lectures, 3 hours lab.
- 40. Make-Up. (3) Blackburn**
A practical course on the art of make-up for stage and television, covering both basic principles and specific techniques.
- 52. [51] Radio-Television Drama Production. (3) Staff**
Basic directing techniques for the dramatic radio and television program. Workshop. 3 lectures, 3 hrs. lab.
- 55-56. Stage Lighting. (3, 3) Blackburn**
Theory and practice of present-day methods of lighting the stage.
- 75-76. Technical Production. (3, 3) Stoughton**
Analysis, planning, and construction of stage scenery and properties; study of the theatre plant. Prerequisite: minimum of one semester of stage craft.
- 85-86. Acting Technique. (3, 3) Snapp**
Basic methods of interpretation for stage, television, and screen.
- 89-90. Rehearsal and Performance. (3, 3) Yell**
Elementary techniques of both actor and director; analysis of plays for methods of interpretation in production.
- 95-96. Theatre History. (3, 3) Stoughton**
The development of dramatic art from the Greeks to the present day, with a study of historical backgrounds of dramatic thought and with special emphasis on production techniques.
- 110. The Materials and Methods of Play Production. (3) Snapp**
A theatre workshop course specifically designed for the teacher; basic essentials of play selection, casting, rehearsal procedures, technical production, and performance.
- 140. Designing and Equipping the Theatre. (3) Staff**
Theatre architecture and theatre planning; sight lines, acoustics, equipment and installations; advanced problems of the scene technician. Prerequisite: upper division standing and permission of instructor.
- 150. Theatre Organization and Management. (3) Staff**
A practical and correlated study of the university theatre, the civic and community, and the professional theatre; principles of production, organization, programming, house management, budgets, advertising, and box office. Prerequisite: upper division standing and permission of instructor.
- 152. [52] Advanced Radio-Television Drama Production. (3) Staff**
Advanced directing techniques, adapting and editing the dramatic radio-television program. Workshop. Prerequisite: 52 or permission of instructor. 3 lectures, 3 hrs. lab.
- 155-156. Playwriting. (2, 2) Snapp**
Writing, reading and analysis of student plays is supplemented by a critical examination of their playing qualities as revealed in laboratory performance before invited groups. Prerequisite: upper division standing or permission of instructor.
- 161-162. Advanced Rehearsal and Performance. (3, 3) Snapp**
Detailed study of directing techniques; analysis of scripts. Rehearsal by students, under supervision, of one-act plays for class presentation. Prerequisites: 89, 90.
- 175-176. Scene Design. (3, 3) Yell**
Materials, techniques, and methods of scene design and scene painting. Student designs compete for season's productions.
- 185-186. Costume Design. (3, 3) Blackburn**
Historic, modern, and stylized costume and how to design it for the stage. Students execute costumes for season's productions.

ECONOMICS

Professors Duncan (Chairman), Wollman; Associate Professor Hamilton; Assistant Professors Knight, Robertson.

MAJOR STUDY

30 hours including Economics 51, 52, and 24 upper division hours in Economics. With the approval of the Department of Economics, as much as 6 hours in related courses in other departments may be counted towards the major in lieu of Economics courses.

MINOR STUDY

Economics 51 and 52, and 12 hours in upper division courses in Economics.

1. **Introduction to Social Science.** (3)
(Same as Social Science 1.) An introduction to those elements of thought and method common to all of the social sciences.
2. **Introduction to Social Science: Economics.** (3)
An application to economics of the elements of thought and method common to the social sciences. Prerequisite: 1.
51. **Introduction to Economics.** (3)
Basic economic concepts and the nature of the economic organization; the analysis of market price determination; national income; money and banking; international trade.
52. **Introduction to Economics.** (3)
Application of economic principles to problems of modern society. Prerequisite: 51.
63. **Economic Resources.** (3) Gordon
(Same as Geography 63.)
73. **Introduction to Latin America.** (3)
(Same as Anthropology 73, Government 73, and Sociology 73.) Prerequisite: Economics 51.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *103. **Consumer Economics.** (3) Hamilton
Designed for those whose chief interest is in the theory of consumption. It is especially recommended for students in Education and Home Economics. Prerequisite: 51.
- *110. **Corporation Finance.** (3) Goode, Parish
(Same as Business Administration 110.)
- *111. **Money and Banking.** (3) Parish
Principles of money, credit, and banking; organization and operation of the banking system. Prerequisite: 51.
- *121. **Economically Underdeveloped Countries.** (3) Duncan
Economics and trade of low per capita income areas. Prerequisite: 51 or 73.
- *122. **The Administrative Process.** (3) McMurray, Richards
(Same as Government 122.)
- *141. **Labor Problems.** (3) Wollman
Labor force, unions, labor-management relations, protective legislation, wage theory, and level of employment. Prerequisite: 52.
- *143. **Transportation.** (3) Duncan
(Same as Business Administration 143.) Prerequisite: Economics 51, or consent of instructor.
- *152. **Public Finance.** (3) Wollman.
Taxation, governmental borrowing, financial administration, and public expenditures. Prerequisite: 52.
- *154. **Comparative Economic Systems.** (3) Duncan
A critical analysis of the proposed major reforms of the existing economic system. Prerequisite: 51

- *159. **History of Economic Thought.** (3) Robertson
Development of the principal economic doctrines and schools of economic thought from the Physiocrats to Keynes.
- *160. **Economic Theory.** (3) Robertson
Advanced economic analysis with particular attention to problems of monopolistic competition, distribution of incomes, employment, and national income. Prerequisite: 52.
- *162. **Economic Fluctuations.** [Business Fluctuations] (3) Hamilton
The history of the theory of economic fluctuations, including contemporary theory; proposals to increase economic stability. Prerequisite: 51.
- *163. **Rise of Modern Industry.** (3) Hamilton
Institutional and technological factors underlying contemporary economic systems; implications of differing rates of technological and social change for economic development of underdeveloped areas. Prerequisite: 51.
- *180. **Government Control of Business.** (3) Robertson
Government and social control of business enterprise, including public utilities; the economics of ratemaking in public utilities. Prerequisite: 51 or permission of instructor.
- *181. **International Economic Relations.** (3) Robertson
International trade, investments, balance of payments; intergovernmental transactions; economic aspects of cultural relations. Prerequisite: 51.
- *185. **Economic History of the United States.** (3) Smith
(Same as History 185.) Accepted toward major only.
- *186. **National Income Analysis.** (3) Wollman
Sector accounts; short-run and long-run changes in income components; economic mobilization; relation to input-output and money-flow analyses. Prerequisite: 51.
- *237. **Institutional Economics.** (3) Hamilton
The "American contribution" to economic thought as found in the work of Veblen, Mitchell, Commons, and other institutional economists.
- *239. **Recent Economic Theory.** (3) Wollman
Big business and competition; value and distribution; conditions of progress and economic equilibrium.
- *241. **Social Control of Business.** (3) Duncan, Robertson
- *251. **Problems.** (2-3 each semester) Duncan, Hamilton, Wollman
- *300. **Master's Thesis.** (6) Duncan, Hamilton, Wollman

EDUCATION, ART

Professor Masley (Chairman); Instructor Taylor.

CURRICULA

See p. 139.

- 17. **Creative Arts in the Elementary School.** (3) Masley, Taylor
An experimental approach to the art needs and interests of children in the elementary classroom.
- 18. **Creative Crafts in the Elementary School.** (3) Masley, Taylor
Development of craft experiences suitable for children in the elementary classroom.
- 30-31. **Techniques of Design Education.** (3, 3) Masley, Taylor
An introductory investigation of design in everyday life and formulation of effective teaching techniques.
- 48-49. **Creative Arts in Secondary Education.** (3, 3) Masley
An introduction to art education through creative art activities.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)

- 124. Pre-Teaching Experience in Art: Classroom and Workshop.** (3) Masley
Introductory and exploratory classroom and workshop experiences in art education. Prerequisite: 49.
- ***125. Philosophy of Art Education.** (3) Masley
An introduction to the philosophy of art education.
- ***129. Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- ***148. Creative Paper Crafts.** (2)
- 151. Problems in Art Education.** (1-3)
- 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. 137 of this Catalog or consult the **Graduate Bulletin**.
- ***251-252. Problems in Art Education.** (1-3 each semester) Masley
- ***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 Petty (Chairman), Travelstead (Dean); Associate Professor Keppers; Assistant Professors Angel, Loren, Ryan.

Three areas are included in this Department: Foundations of Education, Guidance and Counseling, and Educational Administration. Course work in all three areas is for graduate credit. Program information concerning master's and doctoral degree plans available is contained in the **Graduate Bulletin**.

COURSES IN EDUCATIONAL ADMINISTRATION

- ***105-106. [GPE 105-106] Adult Education.** (3, 3) Travelstead
Origin, development; philosophy, objectives, methods, and materials.
- ***107. Public Education in New Mexico.** (2) Angel
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, Ivins, Ryan
The organizational, administrative, and supervisory responsibilities of the school principal—elementary and secondary.
- ***206. Seminar in Educational Administration.** (2) Angel, Petty, Travelstead
Advanced reading and problem study in educational administration. Required of majors; others may be admitted upon consultation with instructor.
- ***238. Supervision of Instruction (Elementary and Secondary).** (3) Angel, Petty
Purposes of supervision in the instructional program; theory and nature of instructional leadership; supervision as group leadership; classroom visitation and conferences as supervisory techniques; and evaluation of supervision. Special attention to role of principal and general supervisor in instructional improvement.

- *245. **School-Community Relations.** (3) Petty, Ryan, Travelstead
The underlying principles of satisfactory and constructive relationships between the school and the community along with the development of practices which will implement these principles.
- *261. **School Law.** (3) Angel, Petty
Legislation and court decisions, with special reference to New Mexico school law.
- *263. **State and Federal School Administration.** (3) Angel, Ryan
State school systems; federal and state policy; and forms of control.
- *268. **Public School Finance.** (3) Angel, Ryan
Basic principles underlying the financing of public schools. Special attention is given to New Mexico.
- *269. **School Business Management.** (3) Petty, Ryan
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
Problems of building construction and maintenance. Standards and practices. Field trips are included.
- *289. **Seminar for Practicing School Administrators.** (1-3) SS
A graduate seminar for practicing school administrators offered only during summer sessions. It provides study of the latest practices and trends in specialized areas of school administration.

COURSES IN FOUNDATIONS OF EDUCATION

- *101. [GPE 101] **History of Education in Europe.** (3) Ivins, Loren, Ryan
- *102. **History and Philosophy of American Education.** (3) Ivins, Loren
- *109. [GPE 109] **Educational Sociology.** (3) Angel, Loren
Sociological aspects of school problems.
- *110. [GPE 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.
- 151. **Problems.** (1-3) Staff
- 179. [GPE 179] **Statistics in Education.** (2) Keppers, Petty
The use of basic statistics in the field of education. Frequency distribution, measure of central tendency, applications of the normal probability curve and linear correlation will be emphasized.
- *180. [GPE 180] **Measurement and Evaluation in the School Curriculum.** (3) Crawford, Keppers, Petty
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. [GPE 201] **Research Methods in Education.** (2) Crawford, Keppers, Petty
Required of all candidates for a graduate degree in the College of Education.
- *202. [GPE 202] **Research Seminar in Education.** (2) Crawford, Ivins
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. [GPE 204] **Comparative Philosophies of Education.** (3) Loren
Inquiry into differences of basic outlook and their implications for educational practice of competing philosophical positions. Prerequisite: 102 or equivalent.
- *205. [GPE 205] **Comparative Education.** (3) Loren
A comparative and evaluative study of the purposes, objectives, organization, and methodology of contemporary educational systems of representative European, Latin American, and Afro-Asian countries. Prerequisite: permission of instructor.
- *243. [GPE 243] **Principles of Curriculum Development.** (3) Ivins, Runge, Ryan
Designed as a culminating experience in the study of curriculum. Social, philosophical, and psychological bases related to common principles and procedures of curriculum development as applied in the several areas and at the several levels of formal education. Articulation among these levels is also stressed. Selected doctoral candidates only are admitted.
- *279. [GPE 279] **Advanced Statistics in Education.** (2) Keppers
Application of advanced techniques in statistical treatment of education data. These techniques include testing experimental hypotheses, regression and prediction, analysis of variance, and partial and multiple correlation. Prerequisite: a course in statistics.
- *295. [GPE 295] **Advanced Seminar in Education.** (3) 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. [GPE 115] **Introduction to Guidance.** (3) Ivins, Keppers, Loren
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. [GPE 188] **Mental Hygiene in the Classroom.** [Pupil-Personnel Problems] (3) 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.
- *213. [GPE 213] **Socio-Economic Information in Guidance.** (3) Doxtator, 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) 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. [GPE 216] **The Case Study in Guidance.** (3) Keppers
The techniques available for understanding an individual, the values and limitations of each technique, and methods of synthesizing the data about an individual. Prerequisite: 180 or Psychology 131
- *217. [GPE 217] **Group Techniques in Guidance.** (3) Keppers
The place and functions of group methods in the guidance program, the values and limitations of each method and the techniques to be utilized. Prerequisite: 188 or Psychology 102.
- *218. [GPE 218] **Techniques of Counseling.** (3) Keppers
Various techniques employed in counseling and in developing competence in applying the techniques consistent with the basic personality and philosophy of the individual counselor. Prerequisites: 213, 216; Psychology 102 or permission of instructor.
- *219. [GPE 219] **Practicum in Guidance.** (1-4) Keppers
The objective is to provide the student experience in the practical application and integration of the principles and methods of guidance which he has studied. Pre- or corequisite: 218.
- *220. **Seminar in Guidance.** (3) Keppers
Current problems and research in the field of guidance. Prerequisites: experience as a school counselor; basic courses in guidance or permission of instructor.

COURSES OF GENERAL APPLICATION

- HA. Reading in Honors. (1-3 each semester)
 HB. Research in Honors. (1-3 each semester)
- *112. [GPE 112] Current Educational Problems. (3)
 *129. Workshop. (1-4) Staff
 Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *229. Workshop. (4) SS Staff
 For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *251-252. Problems. (1-3, 1-3) Angel, Keppers, Loren, Petty, Ryan, Travelstead
 *300. Master's Thesis. (6) Angel, Keppers, Loren, Petty, Ryan, Travelstead
 *400. Dissertation. Angel, Keppers, Petty, Ryan, Travelstead

EDUCATION, ELEMENTARY

Associate Professors Zintz (Acting Chairman), Walters.

CURRICULUM

See p. 141.

- HA. Reading in Honors. (1-3 each semester)
 HB. Research in Honors. (1-3 each semester)
- *118. [GPE 118] Child Growth and Development. (3) Schroeder
 Principles of child growth and development and implications for the school curriculum. Educational practices are evaluated in terms of their effect upon the development of children. Reading, class discussion, individual and group reports, observation of children in classroom situations.
119. Physical Education in the Elementary School. (2) Gugisberg, Milliken
 4 class meetings per week.
- *120. [GPE 120] Children's Literature. (2) Walters
 Materials and techniques of teaching.
- *121. Supervision of Pre-First and Primary Reading. (3) Walters
- *122. Supervision of Social Studies. (2) Walters
- *123. Supervision of Intermediate Reading. (2) Zintz
 Supervision of reading in the 4th, 5th, and 6th grades; diagnosis and remedial work. Prerequisite: 121.
- *124. Supervision of Elementary Science. (3) Zintz
- *125. Teaching Kindergarten and Pre-First. (2) Walters
- *126. Teaching Oral and Written English. (2) Walters
- *129. Workshop. (1-4) Staff
 Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *135. Supervision of Arithmetic. (2) Staff
136. Directed Teaching in Elementary Grades. (3-9) Staff
 Prerequisites: 121, 122, 123.
- *139. Remedial Reading Problems. (2) Zintz
 Actual remedial cases. Prerequisite: 121.
151. Problems. (1-3)
- *219. Education of the Exceptional Child. (2) Zintz
 Emphasizes diagnosis, understanding, treatment and prevention of problems of atypical children; the mentally retarded, the intellectually gifted, the blind and partially sighted, the deaf and hard of hearing, the speech defective, physical and crippling conditions, and the socially maladjusted. The teaching of atypical children in the regular classroom.

- *221. **Investigations in Primary Language Arts.** (2) Walters
Prerequisite: Ed. & Adm. Services 201.
- *222. **Investigations in Intermediate Language Arts.** (2) Zintz
Prerequisite: Ed. & Adm. Services 201.
- *223. **Investigations in Early Childhood Education.** (3) Walters
An advanced study of educational experiences suited to the growth and development of children between the ages of 5 and 8 years. Students will be helped to become acquainted with research, current literature, and with trends in this area of education. Prerequisite: Ed. & Adm. Services 201.
- *229. **Workshop.** (4) SS
For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *232. **Investigations in Social Studies.** (2) Zintz
Prerequisite: Ed. & Adm. Services 201.
- *233. **Philosophy of the Activity Program.** (2) Zintz
- *235. **Investigations in Arithmetic.** (2)
Prerequisite: Ed. & Adm. Services 201.
- *237. **Curriculum in the Elementary School.** (2) Angel, Zintz
Setting, development, and present form of the elementary school curriculum. Includes specific attention to problems of selecting, organizing, and presenting content, teaching procedures, guidance, and activities in the elementary school.
- *251-252. **Problems.** (1-3 each semester) Walters, Zintz
- *253. **Bilingual Education.** (2) Zintz
- *300. **Master's Thesis.** (6) Walters, Zintz
- *400. **Dissertation.** Zintz

EDUCATION, HEALTH, PHYSICAL EDUCATION, AND RECREATION

CURRICULA

See pp. 142-145.

Department of Health, Physical Education and Recreation for Men: Professors Seidler (Chairman), Burley; Assistant Professors Barnes, Clements, Miller, Papcsy, Petrol, Sweeney, Weeks, Williams; Instructor Diehm.

Department of Health, Physical Education and Recreation for Women: Associate Professor Gugisberg (Chairman); Assistant Professors McGill, Milliken; Instructors Anderson, Piper, Waters.

ALL UNIVERSITY REQUIREMENTS

Four semester hours of required physical education shall be completed by all undergraduate students at the University. Veterans, Air and Navy ROTC students, students over 30 years of age, and handicapped students excused by the University physician are exempted from the physical education requirement. Not more than one hour may be earned in a semester except by physical education majors and minors. Not more than four semester hours of required physical education may count toward a degree. Men may substitute participation in major sports for required physical education for that part of the semester during which they are actively engaged in a sport, provided that they are enrolled in the section designated by the Department Chairman. Physical education majors and minors may not substitute their participation in sports for the required physical education classes.

The instructor in each course should be consulted concerning proper clothing or uniform.

There is a special fee of \$20.00 per semester for each course in riding.

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) Williams
- M6. **Advanced Swimming and Life Saving.** (1) Williams
Prerequisite: ability to swim.
- M7. **Springboard Diving and Water Polo.** (1) Williams
Prerequisite: ability to swim.
- M10. **Personal Defense Activities.** (1) Seidler
- M11. **Wrestling.** (1) Barnes
- M14. **Apparatus Stunts.** (1) Petrol, Williams
- M15. **Individual Tumbling Stunts.** (1) Papcsy, Petrol
- M16. **Track and Field Athletics.** (1) Papcsy
- M17. **Weight Lifting.** (1) Burley
- M21. **Archery.** (1) Papcsy
- M22. **Badminton.** (1) Miller
- M23. **Handball.** (1) Williams
- M26. **Basketball.** (1) Clements
- M27. **Flicker Ball.** (1) Papcsy
- M28. **Soccer.** (1) Barnes
- M29. **Softball.** (1) Barnes
- M30. **Volleyball.** (1) Miller
- W51. **Beginning Tennis.** (1) Milliken
- W52. **Intermediate Tennis.** (1) Milliken
- M&W55. **Beginning Riding.** (1)
- W56. **Intermediate Riding.** (1)
- M&W61. **Beginning Golf.** (1) McGill, Petrol
- W62. **Intermediate Golf.** (1) Gugisberg
- W66. **Beginning Swimming.** (1) Anderson, Piper
- W67. **Intermediate Swimming.** (1) Anderson, Piper
- W68. **Advanced Swimming.** (1) McGill, Piper
- W69. **Lifesaving and Waterfront Safety.** (1) McGill
Upon satisfactory completion of the course, the American Red Cross Senior Lifesaving and Water Front Safety Certificates will be awarded. Prerequisite: advanced swimming course or equivalent.
- W71. **Badminton.** (1) Anderson, Milliken
- W80. **Individual Sports.** (1) Piper
- W81. **Team Sports.** (1) McGill, Milliken
- M&W91. **Ballroom Dancing.** (1) Anderson
- M&W92. **Mexican and New Mexican Dancing.** (1)
- M&W93. **American Country Dance.** (1) Anderson

M&W94. Beginning Contemporary Dance. (1) Waters

W95. Intermediate Contemporary Dance. (1) Waters

W96. Advanced Contemporary Dance. (1) Waters

PROFESSIONAL COURSES

Some of the following courses are scheduled to meet more periods per week than indicated by the number of credit hours. These courses, in addition to lectures, include professional activity, laboratory, or field types of class experiences. To identify these courses, the number of class meetings per week is stated after the course description.

40. **Gymnastics.** (2) Williams
The professional course in gymnastics. 5 class meetings per week.
41. **Recreational Sports.** (2) Papcsy
The professional course in recreational sports. 5 class meetings per week.
44. **Swimming.** (2) Williams
The professional course in swimming. 5 class meetings per week.
45. **Physical Fitness Programs.** (2) Burley, Seidler
The professional course in physical fitness programs. 5 class meetings per week.
46. **Combatives.** (2) Seidler
The professional course in combatives. 5 class meetings per week.
48. [97] **Body Mechanics and Self-testing Activities.** (Women) (1) Piper
Five class meetings per week.
49. **Team Sports. (Women)** (1) Milliken
Five class meetings per week.
64. [GPE 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 Certificate awarded.
72. [GPE 72] **Health Education.** (3) Clements
Personal and community health for prospective teachers.
74. **Theory and Practice of Football.** (2) Weeks
The game of football is treated from the standpoint of individual and team play—offensive and defensive strategy, promotion, scouting, conditioning, coaching methods and organizations of practice, and the general theory-philosophy of the sport for the beginning coach. 5 class meetings per week.
75. **Theory and Practice of Basketball.** (2) Sweeney
The game of basketball is treated from the standpoint of individual and team play—offensive and defensive strategy, promotion, scouting, conditioning, coaching methods and organization of practice, and the general theory-philosophy of the sport for the beginning coach. 5 class meetings per week.
76. **Theory and Practice of Track and Field.** (2) Staff
Track and field is analyzed for individual form and technique as well as team play where applicable. The organization and administration of meets are dealt with from the aspects of the coach. The entire program is treated in terms of promotion, conditioning, organization of practice, placement of entries in meets, and the general theory-philosophy of the sport. 5 class meetings per week.
77. **Theory and Practice of Baseball.** (2) Petrol
The game of baseball is analyzed for individual techniques of hitting and fielding as well as team strategy on offense and defense. Special emphasis is given to conditioning, organization of practice periods, coaching methods, conduct of games, scoring, and the general theory-philosophy of the sport. 5 class meetings per week.
90. **Social Recreation.** (2) McGill
Experience in selection of materials, and leadership techniques in group work in social and recreational games, mixers, and dances for use in recreation programs. 4 class meetings per week.

98. **Folk Dance. (Women) (1) Anderson**
Five class meetings per week.
99. **Individual and Dual Sports. (Women) (1) McGill**
Five class meetings per week.
- HA. **Reading in Honors. (1-3 each semester)**
- HB. **Research in Honors. (1-3 each semester)**
103. [GPE 103] **Principles of Recreation. (3) McGill, Petrol**
Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques.
104. **Kinesiology. (4) Burley**
Prerequisites: Biology 12L, 36, 39L.
107. **Team Sports and Folk Dance in the Secondary School. (Women) [Materials and Methods for the Teaching of Physical Education] (3) Anderson, Milliken**
Prerequisite: permission of instructor. 5 class meetings per week.
108. **Aquatics, Individual and Dual Sports in the Secondary School. (Women) [Materials and Methods for the Teaching of Physical Education] (3) McGill**
Prerequisite: permission of instructor. 5 class meetings per week.
119. **Physical Education in the Elementary School. (2) Gugisberg, Milliken**
(Same as Elementary Education 119.) 4 class meetings per week.
121. **Officiating in Sports. (Women) (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**
(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. 137 of this Catalog or consult the **Graduate Bulletin**.
131. [GPE 131] **Principles and Practices of Camping. (3) Burley, McGill**
The objectives of this course are to introduce students to camp experiences, to study needs for camping with emphasis on school-camp programs, and to study organizational and administrative aspects with emphasis on leadership functions. Prerequisite: permission of instructor.
138. [GPE 138] **Teaching of Health Education in the Schools. (3) Gugisberg**
Responsibilities of the teacher in providing certain health services, desirable environmental conditions, and health instruction in elementary and secondary grades; basic health principles, unit planning, methods, and use of community resources. Prerequisite: 72.
151. **Problems. (1-3)**
May be repeated to a maximum of 4 sem. hrs.
- 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. [GPE 164] **General Safety Education. (3) Clements**
Safety in the home, on the farm, in industry, in play, in the school will be discussed. Stress on community organization, school responsibility, and safety problems in New Mexico.
165. [GPE 165] **Traffic Safety Education in Secondary Schools. (3) Clements**
Those enrolling must be licensed drivers. Discussion includes improvements of traffic conditions; the school's part in the safety program; the need for high school courses; methods and equipment for skill tests; insurance, costs, and records for behind-the-wheel training; classroom teaching methods; and physical tests for drivers.

- *167. **Tests and Measurements in Physical Education.** (3) Burley, Seidler
Techniques to determine abilities, needs, and placement in the physical education program.
169. **Adaptive and Corrective Physical Education.** (3) Burley, Diehm
The field of adaptive and corrective physical education and its relationship to the regular curriculum in P.E.
171. **Principles of Physical Education.** (3) Gugisberg, Seidler
The aims and objectives of physical education; physiological, psychological, and sociological principles which underlie practices in the profession. Prerequisite: permission of instructor.
172. **Organization and Administration of Physical Education.** (3) Gugisberg, Seidler
Program building including criteria for the selection of activities and progression, and other factors affecting course of study construction such as facilities, equipment, budget, laws, policies, professional responsibilities. Prerequisite: permission of instructor.
174. **Organization of Community Recreation.** (3) McGill, Petrol
The organization, administration, and conduct of recreation programs on the community level. Prerequisite: 103.
- 175-176. **Field Work in Recreation.** (3, 3) McGill, Petrol
Theory and practice in recreation leadership in centers, playgrounds, etc. Prerequisite: 174.
- *185. **Administration of a School Health Program.** (3) Gugisberg
Prerequisite: 138.
- *190. **Supervision of Health and Physical Education Programs.** (3) Burley, Gugisberg
Supervisory techniques stressing cooperative planning will be applied to city and county programs in New Mexico. Each student will be required to develop a problem in terms of his particular needs and situation. Prerequisite: permission of instructor.
- *205. **Foundations for a Philosophy of Physical Education.** (3) Burley, Seidler
Prerequisite: at least 3 hrs. in history, principles, or methods of physical education.
- *207. **Foundations for a Philosophy of Recreation.** (3) Burley, Seidler
- *210. **Curriculum Construction in Physical Education.** (3) Burley, Seidler
- *214. **The Remedial Program in Physical Education.** (3) Burley, Seidler
- *216. **Seminar in Health, Physical Education, and Recreation.** (3) Burley, Seidler
- *223. **Analysis of Physical Education Activities.** (3) Burley, Seidler
Analysis of a selected number of physical education activities by application of principles and methods of advanced physiology of exercise, mechanics and kinesiology.
- *224. **Evaluation of Recreation Resources and Programs.** (3) Burley, Seidler
Determining recreational needs, interests, and opportunities of individuals and communities through surveys, studies, and appraisals; evaluating and appraising community recreation programs and services; and research in the field of recreation.
- *229. **Workshop.** (1-4)
For degree restrictions see p. 137 of this Catalog or consult the *Graduate Bulletin*.
- *251. **Problems in Physical Education.** (1-3 each sem.) Burley, Gugisberg, Seidler
- *300. **Master's Thesis.** (6) Burley, Seidler
- *400. **Dissertation.** Burley, Seidler

EDUCATION, HOME ECONOMICS

Associate Professors Elser (Chairman), Schroeder; Assistant Professor McMurray;
Instructor Harris.

CURRICULUM IN EDUCATION

See p. 146.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS

See p. 145.

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 the 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 1, 2L, 53L, 54L, 104, 107L, 109, 128, 132, 138L and two of the following courses: 12L, 60, 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, he 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. 146.

MINOR STUDY IN COLLEGE OF ARTS AND SCIENCES

Home Economics 1, 2L, 53L, 54L and at least 8 additional hours approved by the Chairman of the Department. At least 3 hours must be taken in a course numbered above 100.

1. **Clothing Selection.** (3) McMurray
Clothing selection from the standpoint of artistic, economic, and hygienic standards.
- 2L. **Infant Development.** (2) Schroeder
An introduction to the basic needs and growth factors of the child with emphasis on the prenatal period and infancy. 2 lectures, 2 hrs. lab.
- 12L. **Clothing Construction.** (2) McMurray
Basic construction problems of clothing for the individual. Prerequisite: permission of instructor. 4 hrs. lab.
- †53L-54L. **Food for the Family Group.** (3, 3) Harris
Selection, preparation, and service of family meals. 1 lecture, 4 hrs. lab.
60. **Textiles.** (3) McMurray
Construction, identification, use and care of clothing and household textiles.
62. **Personal and Family Health.** (2) Elser
Personal and family health, sanitation; prevention and control of communicable diseases; fundamentals of home care of the sick.
- 63L. **Advanced Clothing Construction.** (3) McMurray
Construction of a wool suit or coat emphasizing fitting and techniques of finishing. Consumer information in relation to clothing. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- 64L. **Advanced Clothing Construction.** (3) McMurray
Flat pattern designing adapted to a fitted basic pattern and a commercial pattern. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
104. **Nutrition.** (2) Elser
The relation of nutrition to the health program; normal nutrition.
- 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.

† 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.

- 109. The House and Its Furnishings.** (3) McMurray
Guides in the selection of a house and furnishings with emphasis upon the use of space for function, economy, and beauty.
- 127L. Nutrition and Dietetics.** (4) Harris
Prerequisite: 107L. 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. 137 of this Catalog.
- 132. Home Management.** (3) Schroeder
Use of money, time, and energy for the satisfaction of family needs. Selection, use and care of equipment in the home.
- 133L. Home Management Residence.** (4) Schroeder
Six weeks' residence with supervised planning, buying, preparation and serving of meals, housekeeping; care of a resident infant. Pre- or corequisites: 132, 2L. Special fee.
- 138L. Child Care and Development.** (4) Schroeder
Pre-school through adolescence. Observation and assistance in the nursery school. 3 lectures, 2 hrs. lab.
- 140L. Nursery School Methods and Administration.** (3) Schroeder
Observation and practical experience in guidance of children in nursery school, including an investigation of play materials, literature, music, equipment, records, housing, and budget. 1 lecture, 4 hrs. lab.
- 150L. Large Quantity Cookery.** (3) Harris
Standard methods of food production in quantity; cost accounting; standardization of formulas; menu planning and table service. Prerequisite: permission of instructor. 1 lecture, 4 hrs. lab.
- 151. Problems.** (1-3)
- 152. [151] Diet in Disease.** (3) Harris
The adaptation of diet in the treatment of impaired digestive and metabolic conditions. Prerequisite: permission of instructor.
- 157L. Quantity Purchasing.** (3) Harris
Factors influencing quality, grade, and cost of food products; current procedures in large quantity purchasing. Prerequisites: 107L, 127L, 150L. 1 lecture, 4 hrs. lab.
- 159. Institutional Management.** (3) Harris
Principles of organization and scientific management applied to institutional administration. Prerequisites: 107L, 132.
- 196. Home Economics Seminar.** (1-2) Elser
History and trends in home economics; professional organizations for home economists; *Federal and state laws pertaining to, and research facilities available for, home economics.*

EDUCATION, INDUSTRIAL ARTS

Associate Professor Brown; Instructor McClary.

CURRICULUM IN INDUSTRIAL ARTS EDUCATION

See p. 147.

1. **Shop Computations.** (3) Brown
Review of algebra and geometry as used in various shops; use of the various measuring instruments.
2. **Shop Computations.** (3) Brown
The slide rule and its use in the various shops; trigonometry as applied to shop problems.
5. **Introduction to Industrial Arts.** (1) Brown
Orienting students in the various phases of industrial arts and its place in general education.

- 10L. General Woodwork. (1-3) Brown**
The proper use and care of woodworking tools. Emphasis placed upon correct procedures in fundamental tool operations. Basic instruction for woodworking power machinery; introduction to the various wood finishes and processes; fundamental woodturning operations in spindle, faceplate, and other special turning processes.
- 20L. Machine Shop. (3) Staff**
Bench work such as filing, tapping, and simple layouts, and the operation of engine lathes, drill presses, shapers, grinders, and milling machines.
- 25L. Design in Industrial Arts. (1) Brown, Staff**
Theory and application of the fundamental principles of design in the development and use of wood, metal, and other materials. 3 hrs. lab.
- 30L. General Finishing. (1) Brown**
Techniques, processes, and application of finishes on wood, metal, and other materials.
- 35L. Woodshop Tool and Machine Care and Maintenance. (1) Brown**
Practice in tool and machine maintenance, tool fitting and sharpening, and saw filing. Advanced instruction in the use of woodworking tools and equipment.
- 40L. Metal Spinning. (1-2) Brown**
The art of spinning the various metals. Construction of the different types of chucks used in spinning. Fundamentals of etching, chasing, and raising metal.
- 54L-55L. General Metal. (1, 1) Staff**
Basic instruction in the fabrication of metals in the various metal areas.
- 60L. Cabinet Work. (2) Brown**
Advanced instruction in the use of power woodworking machinery for cabinet and furniture construction; related information concerning woods, tools, finishes, and types of furniture; construction of projects designed and planned by the student. Prerequisite: 10L or equivalent.
- 61L. Wood Turning. (1-2) Brown**
The proper use and care of wood-turning tools and equipment; spindle, faceplate, and special turning processes; kinds of woods used and their finishing.
- 70L. General Printing. (1) Staff**
Basic process of printing including composition, proofing, and operation of the platen press.
- 75L. General Automechanics. (1) Staff**
The basic principles involved in the upkeep and repair of automobiles.
- 80L. General Electricity. (2) Brown, Staff**
The basic fundamentals of electrical circuits; care and maintenance of school shop equipment.
- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- 102L. Forging and Ornamental Iron Work. (2) Staff**
Building forge fire; hand forging operations in drawing, upsetting, bending, welding; construction of wrought iron work. Prerequisite: junior standing.
- 105L. Sheet Metal. (1-2) Brown, Staff**
Fundamental machine and hand tool operations, care and use of sheet metal equipment; development of patterns and layouts for sheet metal construction. Prerequisite: Civil Engineering 2L.
- 110L. Cabinet Work. (1-3) Brown**
Advanced designing, construction and finishing of the various styles of furniture; further development of skills in the use and care of woodworking tools and equipment. Prerequisites: 10L, 60L.
- 129. Workshop. (1-4) Staff**
For degree restrictions see p. 137 of this Catalog.
- 145L. Pattern Making and Foundry. (4) Brown, Staff**
Construction of the various patterns and core boxes. Molding procedures and the melting and casting of ferrous and non-ferrous metals. Prerequisite: junior standing.
- 151. Problems. (1-3) Staff**

- 159L. Arc and Acetylene Welding.** (2) Staff
Use of arc and oxyacetylene welding; the brazing of ferrous and non-ferrous metals and torch cutting. Prerequisite: junior standing.
- 162L. Carpentry.** (3) Brown
Fundamentals in plot layouts, foundations, floor and wall framing, roof construction, and inside and outside finishing; use of the steel square in house construction. Prerequisite: 10L or equivalent.
- 165L. Machine Shop.** (3) Staff
Advanced machine shop processes on all machines, and the machining and assembling of some machine such as wood lathe, permanent mold, sub press, wood vise. Prerequisite: 20L or equivalent.
- 170L. Advanced Carpentry.** (1-3) Brown
Advanced work on building construction and inside finishing; to develop further knowledge and skills in carpentry. Prerequisites: 10L, 162L.
- 171L. Machine Shop.** (1-3) Staff
Tool and die work. For advanced machine shop students with emphasis on tool design and construction, and the study of construction of dies and punches for piercing, blanking, drawing, forming, and stamping. Prerequisites: 20L, 165L.

EDUCATION, LIBRARY SCIENCE

Professor Kelley.

MAJOR STUDY

Not offered.

MINOR STUDY

Library Science 120; 125; 126 or 128; 127; and 129.

- 10. The Use of Books and Libraries.** (1)
Introduction to library organization, and reference books essential to effective university work. For freshmen and new students.
- 120. Children's Literature.** (2)
(Same as Elementary Education 120.)
- 125. Reference and Bibliography.** (3)
Training in the use of standard works of reference.
- 126. Public Library Administration.** (3) Kelley
The place of the library in the community; its organization, financing, and administration.
- 127. Classification and Cataloging.** (3)
Principles of classification and the techniques of cataloging for libraries.
- 128. School Library Administration.** (3) Kelley
Practical study of the management of the school library, including the organization of the book collection, housing, equipment and maintenance.
- 129. Book Selection for Young People.** (3)
A survey course covering tools and principles of selection of books for young people.

EDUCATION, MUSIC

Professor Clauve; Associate Professors Batcheller, Stephenson.

CURRICULA

See pp. 147-149.

- 63. Conducting** (1) Davis, Frederick
(Same as Music 63.)

- 64. Choral Conducting and Organization.** (1) Davis
(Same as Music 64.)
- 93. Music in the Primary Grades.** (2) Batcheller, Stephenson
The musical needs of children of pre-school age, in kindergarten and grades 1, 2, and 3. Includes the rote song, singing games, rhythm band, and music reading techniques. Children of this age will be observed in the public schools.
- 94. Music in the Intermediate Grades.** (2) Batcheller, Stephenson
The musical needs of children in grades 4, 5 and 6, including harmonic activity, creative experience, and instrumental techniques. Children of this age level will be observed in the public schools. Prerequisite: 93.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- 113. Band Organization and Conducting.** (1) Rhoads
(Same as Music 113.)
- 114. Orchestral Conducting and Organization.** (1) Frederick
(Same as Music 114.)
- *129. Workshop.** (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *140. Investigations in Music Education.** (3) Batcheller, Stephenson
Philosophy of music education in a self-contained classroom. Advanced study of the child voice. Creative activity and public performance. Guided research in current materials and publications. Prerequisites: 93, 94.
- *145. Music in the Junior High School.** (2) Batcheller, Stephenson
The musical needs of the junior high school student; the position of music in the curricula; and methods and materials for the various music activities. Observations 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 musical ensemble participation. Prerequisite: permission of instructor.
- *250. Foundations and Principles of Music Education.** (3) Batcheller, Stephenson
Philosophical foundations and principles of music education and their application to practices in school. Prerequisites: 93, 94, 145 or 146.
- *251-252. Problems in Music Education.** (1-3 each semester) Batcheller, Stephenson
- *300. Master's Thesis.** (6) Batcheller, Stephenson

EDUCATION, PHYSICAL

See Education, Health, Physical Education and Recreation.

EDUCATION, PSYCHOLOGY

See Psychology.

EDUCATION, SECONDARY

Professors Ivins (Chairman), Crawford, Ried; Associate Professor Runge; Assistant Professors Doxtator, Timmerman.

CURRICULUM

See p. 150.

HA. Reading in Honors. (1-3 each semester)**HB. Research in Honors.** (1-3 each semester)***129. Workshop.** (1-4) StaffCarries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.**141. Foundations of Secondary Education.** (3) Crawford, Doxtator, Ivins, Runge

The history of the development of the secondary school in the United States, emphasizing its social and philosophical backgrounds. The purposes of secondary education, theories of curriculum and their application in the contemporary program of the secondary school are considered. Includes a study of the secondary school population, the organization of the educational system, and status of the modern secondary school. Prerequisite: Psychology 110 or permission of instructor.

***143. Work Experience in Secondary Schools.** (3) Runge

The development of present practices in work experience programs for secondary school students. Special emphasis is given to organization and administration of vocational education cooperative part-time work plans for distributive occupations.

151. Problems. (1-3) Staff**153. Materials and Methods of Teaching in Secondary Schools.** (3) Crawford, Doxtator, Ivins, Runge

Special attention given to methods applicable to all secondary teachers, such as socialized procedures, experimental and problem; observation and demonstration; question and answer; lecture; and the project. Examination and analysis of instructional materials used in secondary schools. Prerequisite: 141 or permission of instructor.

155. The Teaching of Secondary School Subjects.

All specific methods courses are listed under the general number, Secondary Education 155, with the designating subscripts as indicated. By agreement between the Department of Secondary Education and the departments concerned, 155c and 155g carry credit both in education and in those respective subject matter departments. Required of students following secondary curricula. Prerequisite: 153.

a. Teaching Art in High School. Masley

(Same as Art Education 155a.)

b. The Teaching of Biology. (3)**c. The Teaching of English.** (3) Kuntz

Prerequisite: English 2.

d. The Teaching of Home Economics. (3) Elser**e. The Teaching of Mathematics.** (3) Mitchell**g. The Teaching of Business Subjects.** (3) Glaese**h. The Teaching of Sciences.** (3)**i. The Teaching of Industrial Arts.** (3) Brown**k. The Teaching of Social Studies.** (3) Doxtator**m. The Teaching of Spanish.** (2)

(Offered in alternate years.)

n. The Teaching of Reading. (2)**p. The Teaching of Physical Education.** (3) Gugisberg**156-157. Directed Teaching in Secondary Schools.** (3-6, 3-6, maximum total allowed—9).

Observation and teaching in New Mexico schools. Teaching may be completed in one or two semesters. Assignments during a second semester will include more full-time teaching in an additional subject, or grade level, and fewer hours in observation and participation. Weekly seminar meetings with University staff members are required in addition to the time spent teaching. Prerequisites: 141 and 153 or permission of instructor, 1.0 grade point average, approval of major adviser, minimum of 9 hours in professional education courses, and substantial progress toward completion of an approved teaching area major.

166. Theory and Organization of General Shop. (2) Brown

An analysis of organizing and teaching under general shop conditions to be found in the modern school. Prerequisite: junior standing.

- *229. **Workshop.** (4) SS Graduate Staff
For degree restrictions see p. 137 of this Catalog or consult the **Graduate Bulletin**.
- *241. **Seminar in Secondary Education.** (3) Crawford, Doxtator, Ivins, Runge
- *242. **Curriculum in the Secondary School.** (3) Crawford, Doxtator, Ivins, 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, 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) Ivins, Runge
The activity concept in learning; relationship of activities to needs and characteristics of adolescents; and purposes of the activities program. The basic principles and problems in the organization and administration of activities programs are included, as well as sponsorship and the teacher's role in activities.
- *251-252. **Problems.** (1-3 each semester) Crawford, Ivins, Runge
- *300. **Master's Thesis.** (6) Crawford, Doxtator, Ivins, Runge
- *400. **Dissertation.** Crawford, Ivins, Runge

ELECTRICAL ENGINEERING

See Engineering, Electrical.

ELEMENTARY EDUCATION

See Education, Elementary.

ENGINEERING

Professor Farris; Assistant Professor Whan.

- *197. **Introduction to Nuclear Engineering.** (3) Dove, Skoglund, Whan
Engineering problems associated with the development of the nuclear power field: use of tracers, handling of nuclear fuels and wastes, design of reactors and associated equipment.
- *201-202. **Advanced Engineering Analysis.** (3, 3) Whan
Engineering analysis of linear and non-linear systems. Techniques of the engineering sciences, similitude, statistics and probability, and data analysis are applied to a variety of problems.
- *211L-212L. **Fundamentals of Nuclear Engineering.** (3, 3) Graves, Whan
Nuclear reactions, cross sections, scattering and moderation, and their applications to reactor design and operation. Laboratory includes experiments on statistics for counting, radioactive decay, neutron counting, neutron scattering, moderation, total cross sections, activation cross sections, absorption of radiations, and health monitoring. Pre- or corequisites: for 211L: Mathematics 147; for 212L: Mathematics 148.
- *213L-214L. **Reactor Principles and Engineering.** (3, 3) Whan
Engineering principles of reactor design and construction. General design principles, reactor materials, heat removal, thermal stresses, and shielding. Description of typical reactors. Basic theory of reactors, multiplication, slowing down and diffusion of neutrons, and Fermi age theory. Applications of theory to bare thermal reactors, and to reflected systems. Laboratory includes experiments on various reactor operations, control rod calibration, temperature coefficient, neutron spectrum, control systems, irradiation practice, and heat transfer. Pre-requisites: 211L-212L or equivalent; pre- or corequisites: Mathematics 147-148 or equivalent.

- *215. Seminar in Nuclear Engineering.** (1-2) Whan
Review of reactor types: experimental research reactors, reactor experiments, reactors for production of fissionable materials and radioisotopes, power reactors, breeder reactors. Examination of the main variables in reactor design: nuclear system, heat removal system, structure, controls, shields, etc. Integrated design of power plant and reactor system. Description of reactors in existence or under construction. Prerequisite: 214L.
- *216. Reactor Fuel Processing.** (3) Whan, York
Production of materials for reactor fuels and processing of spent fuels by solvent extraction, precipitation, and other methods. Prerequisites: 211L, 212L. (Offered at the Los Alamos Scientific Laboratory.)
- *217. Reactor Materials.** (3) Whan
Properties of materials for reactor moderators, reflectors, coolants, shielding and structure. Effects of radiation on metals, plastics, etc.
- *218. Nuclear Reactor Theory.** (3) Hansen, Whan
Development of the theory of reactor systems and description of calculational methods for homogeneous and heterogeneous reactors. Prerequisites: 211L-212L, 213L-214L, and Mathematics 147-148 or the equivalent, or permission of instructor.

ENGINEERING, CHEMICAL

Professor Castonguay (Chairman); Associate Professor Bocquet; Instructor Traeger.

CURRICULUM

See p. 156.

- 51. Chemical Calculations.** (3)
More extensive problem work in the stoichiometric principles of chemistry, including composition changes; the material balance; units and dimensions. Prerequisite: Chemistry 2L or the equivalent.
- 52. Industrial Stoichiometry.** (3)
The application of the fundamental laws of chemistry, physics, and mathematics to industrial chemical calculations. Prerequisites: 51 or the equivalent, Physics 61, Mathematics 51.
- **111. Unit Operations I.** (3) Bocquet, Castonguay, 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) Bocquet, Castonguay, 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) Bocquet, Castonguay, Traeger
A continuation of Unit Operations; problems in drying, gas absorption, extraction, crystallization and related topics. Prerequisite: 114L.
- **114L. Unit Operations Laboratory I.** (2) Bocquet, Castonguay, 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) Bocquet, Castonguay, Traeger
Experimental laboratory study of the Unit Operations covered by 112 and 113. Prerequisite: 114L; corequisite: 113. 6 hrs. lab.
- 117. Process Engineering Calculations.** (3)
Problems in translating the findings of the laboratory, through pilot plant development into a basic commercial plant design. Prerequisite: 52.

** Available for graduate credit except for graduate majors in chemical engineering.

- 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)** Bocquet, Castonguay, Traeger
The processes and manufacturing methods used in more important industries based on inorganic chemistry. Prerequisites: Chemistry 111, 113L; corequisite: ChE 112.
- **164. Organic Unit Processes. (3)** Bocquet, Castonguay, Traeger
The theoretical basis and application of unit processes to the organic chemical industries; studies involving nitration, halogenation, sulfonation, oxidation, alkylation, hydrolysis, polymerization, and similar topics. Prerequisites: 112, Chemistry 101, 102, 103L, 104L.
- *168L. Lubricants, Fuels, and Combustion. (3)** Bocquet, Castonguay, Traeger
Laboratory examinations, analysis and testing of water, fuels, and lubricants, and the evaluation of their properties as applied in the chemical industry. Prerequisites: 52, Chemistry 53L. 2 lectures, 3 hrs. lab.
- 172. Chemical Engineering Economics. (2)**
Factors other than engineering and chemical which determine the feasibility of putting a chemical on the market. Particular reference to control of raw materials, markets, competition, patent situation, and related topics. Prerequisites: 113, Economics 51 or the equivalent.
- 181L. Chemical Engineering Process Laboratory I. (2)**
Experimental laboratory studies employing a series of unit operations and unit processes to produce small quantities of chemicals by pilot plant methods. Emphasis on literature review, laboratory notebook, and reports. Prerequisites: Chemistry 111, 113L; corequisite: ChE 162 or 164. 6 hrs. lab.
- 182L. Chemical Engineering Process Laboratory II. (2)**
Continuation of 181L, but may be taken as an independent unit. Prerequisites: Chemistry 111, 113L; corequisite: ChE 162 or 164. 6 hrs. lab.
- **191. Principles of Chemical Processes and Thermodynamics I. (3)** Bocquet, Castonguay, 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)** Bocquet, Castonguay, Traeger
Continuation of 191. Prerequisite: 191.
- **194L. Chemical Engineering Design. (2)** Bocquet, Castonguay, Traeger
Selection and design of process equipment; layout of building and cost estimates. Prerequisites: 112, 191. 1 lecture, 3 hrs. lab.
- 198. Field Trip. (0)**
Required for graduation. Annual inspection tour to leading chemical plants in different sections of the country. Approximately one week is spent on these visits. Prerequisite: senior standing.
- *201. Chemical Engineering Seminar. (1-2)** Castonguay
Individual study on advanced phases of chemical engineering and industrial chemistry. Research, reports, and conferences. Offered each semester.
- *221. Advanced Chemical Engineering I. (3)** Bocquet, Castonguay
An advanced study of the unit operations of chemical engineering; problems of heat transmission, fluid flow, air conditioning, and drying.
- *222. Advanced Chemical Engineering II. (3)** Bocquet, Castonguay
Continuation of 221, but may be taken as an independent unit. Problems of distillation, absorption, and extraction.
- *231. Refinery Process Engineering. (3)** Bocquet, Castonguay
The design of equipment for processing petroleum, with emphasis on the unit operation and thermodynamics of chemical engineering as applied to these processes.

** Available for graduate credit except for graduate majors in chemical engineering.

- *232. **Gas Process Engineering.** (3) Bocquet, Castonguay
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
Principles involved in the use of catalysis and high pressure in the chemical industry.
- *242. **Advanced Chemical Engineering Thermodynamics.** (3) Castonguay
Advanced thermodynamics with reference to its application in chemical engineering.
- *251-252. **Problems.** (1-3 each semester) Bocquet, Castonguay
Advanced reading, design, or research.
- *261. [251] **Chemical Engineering Calculation and Kinetics.** (3) Castonguay
Applications of kinetics to industrial problems in Chemical Engineering.
- *300. **Master's Thesis.** (6) Bocquet, Castonguay
- *400. **Dissertation.** Bocquet, Castonguay

ENGINEERING, CIVIL

Professors Foss, Huzarski, May, Wagner; Associate Professors Clough (Chairman), Gafford, Martinez, Zwayer (Part-time); Assistant Professor Medearis; Instructors Callahan, Clarke (Part-time), Finley, Vaughan.

CURRICULUM

See p. 158.

- 1L. **Engineering Graphics I.** [Engineering Drawing] (2)
Principles, symbols, and standards of graphic science applied to engineering problems. 2 lectures, 2 hrs. lab.
- 2L. **Engineering Graphics II.** [Descriptive Geometry] (2)
Application of graphic science to analysis and solution of problems involved in engineering design, production, and communication. Prerequisite: 1L. 2 lectures, 2 hrs. lab.
- 3L. [3] **Engineering Lectures.** [Orientation] (2)
The engineering profession: engineering problem analysis and work organization. 1 lecture, 2 hrs. lab.
- 4L. **Surveying.** (2)
Lectures and field practice in plane surveying with emphasis on the use of plane table for topographic and geologic mapping. 4 hrs. lab.
- 12L. **Machine Drawing.** (3)
A continuation of 1L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 1L. 9 hrs. lab.
- 51L. [53L] **Engineering Measurements.** [Elementary Surveying] (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. [54L] **Engineering Surveys.** [Advanced Surveying] (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.
- 60. **Engineering Statics.** [Applied Mechanics (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.
- 62L. **Construction Drawing.** (3)
Small house plans, with emphasis on construction details. Prerequisite: 2L.

- 102. Mechanics of Materials.** [Strength of Materials] (3)
Stresses and strains associated with elastic and plastic behavior of members stressed in tension, compression, torsion, and flexure; Mohr's circle construction; principles of combined stresses and resultant deformation; columns and buckling phenomena; preliminary consideration of statically indeterminate members. Prerequisite: 60.
- 103L. Mechanics of Materials Laboratory.** [Strength of Materials Laboratory] (1)
Laboratory practice in the application of strain measuring and indicating devices directed at verification of fundamental principles developed in 102; mechanical, electrical, photo-elastic, and stresscoat equipment usage. Corequisite: 102. 3 hrs. lab.
- 105. Cartography.** (3)
Map projection and use of maps to show areal distribution and graphic representation of statistical data. Prerequisite: 1L and permission of instructor.
- **107. [110] Fluid Mechanics.** (3) Martinez
The mechanics of incompressible and compressible flow; fluids at rest, geometry of fluid motion; general equations of motion; laminar and turbulent flow, skin friction, boundary layer, lift, form drag; flow through pipes, pipe systems, and open channels. Prerequisite: 60; corequisite: ME 106.
- **108L. [111L] Fluid Mechanics Laboratory.** (1) Martinez
Laboratory work and field trips to illustrate the basic principles of fluid mechanics as developed in 107; emphasis on planning of laboratory exercise, calibration of instruments, systematic observation and recording of data. Corequisite: 107. 3 hrs. lab.
- 112L. [109L] Soil Mechanics.** [Soils Engineering] (3)
Physical and mechanical properties of soils as they affect engineering problems; permeability and flow nets; capillarity; soil classifications; consolidation; shear strength and its application to bearing capacity of footings and pile foundations. Prerequisites: 60, Mathematics 50. 2 lectures, 3 hrs. lab.
- 117L. [115L] Construction Materials.** [Materials of Construction] (2)
A comprehensive study of the physical, mechanical, and chemical properties of portland cements, concrete aggregates, concrete mixes, and structural units. Prerequisite: junior standing in engineering. 1 lecture, 3 hrs. lab.
- 118. [126] Transportation Engineering.** [Highway Engineering] (3)
The planning, economics, finance, location, geometric design, and administration of transportation systems. Prerequisite: junior standing in civil engineering.
- **120. Hydrology and Engineering Hydraulics.** [Engineering Hydrology] (2) 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. [122] Structural Analysis I.** [Structural Analysis—Statically Determinate] (3) Clough, Foss, Zwoyer
Calculation of reactions, shears, and moments in structures due to fixed loads; stresses in statically determinate trusses and frames; criteria for and calculation of maximum reactions, shears, moments, and stresses in structures due to moving loads. Prerequisite: 60; corequisite: 102.
- **124. Structural Design.** [Structural Design I] (2) Clough, Foss, Medearis, Zwoyer
The methods of design of tension, compression, and flexure members of metals and wood; riveted and welded connections; current design specifications. For students not majoring in Civil Engineering. Prerequisite: 102.
- **140. [160] Structural Analysis II.** [Structural Analysis—Statically Indeterminate] (3) Clough, Foss, Medearis, Zwoyer
Statically indeterminate structures; use of slope-deflection and moment-distribution methods; the deformation of trussed structures by angle changes and virtual work. Prerequisite: 121.
- 152. Professional Problems in Engineering.** [Engineering Contracts and Professional Relations] (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.

** Available for graduate credit except for graduate majors in civil engineering.

157. [158] **Reinforced Concrete Design.** [Reinforced Concrete Design I] (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.** [Water Supply] (3) 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.
- 166L. [163L] **Structural Design in Metals.** [Structural Design II] (4)
Methods of design of tension, compression, and flexure members of metal including their connections; the analysis and design of complete structural elements of metal as consistent with modern practice. Prerequisites: 102, 140. 2 lectures, 6 hrs. lab.
- 168L. **Civil Engineering Projects.** (3)
Introduction to the civil engineering profession; the general features of planning, design, and construction of civil engineering projects; programming and use of digital computer for civil engineering applications. Prerequisite: senior standing in civil engineering. 2 lectures, 3 hrs. lab.
- *171L. **Building Construction.** (3) Gafford, Wagner
Engineering and architectural details within the framework of a building; floor and roof systems; bearing curtain walls; use and relative costs of materials; building codes; selected field trips. Prerequisite: senior standing in engineering. 2 lectures, 3 hrs. lab.
- *173. [170] **Advanced Mechanics of Materials I.** [Advanced Strength of Materials] (3) Clough, Foss, Medearis, Zwoyer
Stresses and strains at a point; theories of failure, shear centers; unsymmetrical bending; curved flexural members; beams on continuous elastic support; flat plates; torsion on non-circular cross sections. Prerequisites: 102, Mathematics 52.
- *174. **Advanced Mechanics of Materials II.** (3) Clough, Medearis, Zwoyer
Thick-walled cylinders; contact stresses; stress concentration and concentration factors; energy methods for relating loads and deflections; inelastic behavior; buckling phenomena. Prerequisite: 173.
- *176. [167] **Engineering Foundations.** [Earthwork and Foundation Engineering] (3) Clough, Zwoyer
Types and methods of construction of foundations for buildings, bridges, and other major structures; spread footings, rafts, piles, open and pneumatic caissons, cofferdams, underpinning. Prerequisites: 112L, 157.
- *178L. **Structural Design of Civil Engineering Structures.** (3) Foss, Medearis, Zwoyer
Structural design of concrete and timber structures in conformance with modern practice and codes; concrete beam bridge, flat slab, and rigid frame; timber beam, truss, and laminated frame. Prerequisites: 140, 157. 2 lectures, 3 hrs. lab.
- *181. **Construction Management.** (3) Clough
Management principles as applied to the conduct and control of construction projects; estimating methods, bidding, construction contracts, bonds, insurance, cost accounting, labor law, labor relations, and safety. Prerequisites: senior standing in engineering.
- *183. **Intermediate Fluid Mechanics.** [Applied Fluid Mechanics] (3) Martinez
Principles of dimensional analysis, dynamic similarity, flow nets, irrotational flow, gravity flow, unsteady flow, boundary layer theory, separation, cavitation, drag; pumps and turbines. Prerequisite: 107.
- *188. [172] **Sanitary Science.** [Environmental Sanitation] (3) 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.

** Available for graduate credit except for graduate majors in civil engineering.

- *191. Traffic Engineering.** [Transportation and 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.** [Advanced Plain Concrete Design] (3) Wagner
Theories of concrete-mix proportioning; properties and usage of air-entraining agents, plasticizers, dispersing agents, and other concrete additives; special cements; review of current research in the field. Prerequisite: 117L. 2 lectures, 3 hrs. lab.
- *196L. Highway and Airport Pavements.** (3) Martinez, Wagner
Soil exploration; base courses; thickness design for flexible and rigid pavements; design and control of asphaltic concrete mixtures; airport paving requirements; a review of current research in the field. Prerequisites: 117L, 118. 2 lectures, 3 hrs. lab.
- *209. Advanced Indeterminate Structures.** (3) Clough, Foss, Zwoyer
A comprehensive study of energy methods of indeterminate analysis including the methods of consistent deformation, unit load method, Castigliano's theorem, and joint displacement method; advanced topics in moment area, slope-deflection, and moment distribution. Prerequisite: 140.
- *210. Advanced Structural Design in Metals.** [Structural Design III] (3) Foss, Zwoyer
Advanced structural design in steel and aluminum alloys; use of design codes; relation of code requirements to theories of material behavior; plastic design. Prerequisite: 166L.
- *212. Advanced Structural Mechanics.** (3) Medearis, Zwoyer
The theory and application of the column analogy method of analysis for indeterminate structures; the shearing stiffness and flexibility methods for analyzing single and multi-story structures; the analysis of multi-gable bents. Prerequisites: 140 and 209 or permission of instructor.
- *215. Advanced Reinforced Concrete Design.** [Reinforced Concrete Design II] (3) Foss, Zwoyer
Ultimate strength design; design of prestressed concrete, folded plates, shell roof structures; theory of failure of reinforced concrete members; review of current research. Prerequisites: 140, 157.
- *217. Design of Structures for Dynamic Loads.** (3) Zwoyer
Nature of dynamic loading from earthquakes and bomb blasts; nature of dynamic resistance of structural elements and complete structures; criteria for design of blast and earthquake resistance structures; application to actual problems. Prerequisites: 157, 166L, ME 106.
- *218. Elastic Stability.** (3) Zwoyer
Bending and buckling of prismatic bars, beams, rings, curved bars, thin shells, and thin plates under axial and lateral loads. Prerequisites: 173, Mathematics 143 or 147.
- *230. [205] Advanced Soil Mechanics.** [Soil Mechanics I] (3) Clough, Zwoyer
Detailed study of mechanical properties of soils; stress-strain-time characteristics of soils under static and dynamic loading; strength characteristics of cohesionless and cohesive soils; theories of elasticity and plasticity as applied to soils; sub-soil exploration. Prerequisite: 112L.
- *233. [216] Foundations and Earth Structures.** [Soil Mechanics II] (3) Clough, Zwoyer
Theoretical and practical aspects of various foundation engineering subjects including settlement problems and remedial procedures; bearing capacity of footings, piles, and other foundation types; retaining structures; design and construction of embankments, natural slopes, earth dams. Prerequisite: 230.
- *240. [206] Open Channel Hydraulics.** [Open Channel Flow] (3) Clough, Martinez
Surface curves in open channels; steady and unsteady flow; boundary resistance; standing waves in supercritical flow; hydraulic jump; surges and waves; slowly varied flow involving storage. Prerequisite: 107.
- *248. Sanitary Engineering Design.** (3) 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) Clough, Foss, Martinez, May, Wagner, Zwoyer
Advanced reading, analysis, design, or research.
- *300. **Master's Thesis.** (6) Clough, Foss, Martinez, May, Wagner, Zwoyer
- *400. **Dissertation.** Clough, Zwoyer

ENGINEERING, ELECTRICAL

Professors Moore (Chairman), Melloh, Tapy; Associate Professors Erteza, Grannemann, Koschmann; Assistant Professor Thorn; Lecturers Jordan, (Part-time) Byatt, Gschwind; Teaching Associates (Part-time) Anderson, Connell, Cook, Edison; Post, Stearns; Instructors (Part-time) Durrani, LeBlanc.

CURRICULUM

See p. 159.

- 55L. Field Bases of Electrical Engineering.** (3)
Electric fields, potential, 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, Ohm's and Kirchhoff's laws, complex algebra, power in electric circuits, resonance, network equations, coupled circuits, polyphase circuits. Prerequisites: Physics 60, Mathematics 51. 3 lectures, 3 hrs. lab.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- 111. Electromagnetic Fields.** (3)
Static electric and magnetic fields, vector calculus, Maxwell's equations, plane waves. Prerequisite: 55L; corequisite: Mathematics 147.
- 112L. Traveling Waves.** (3)
Concepts of traveling waves and distributed parameters; application to transmission lines and electromagnetic waves, acoustic waves, waves in solids, heat conduction, diffusion and related phenomena; power and communication lines; resonance; lumped models. Prerequisites: 111, 113. 2 lectures, 3 hrs. lab.
- 113-114. Electric Circuit Analysis.** (3, 3)
Transient and steady-state behavior of electric networks; introduction to Laplace transform methods, pole-zero plots, and generalized impedance functions; magnetic circuits. Prerequisite: 56L; corequisite: Mathematics 147.
- 117L. Fields and Circuits Laboratory.** (1)
Corequisites: 111, 113. 3 hrs. lab.
- **131. Electronics I.** (3) Erteza, Grannemann, Jordan, Koschmann, Melloh, Moore, Thorn
Electron tubes and semiconductor devices as circuit elements; graphical and linear analysis of untuned amplifiers; compensation; rectifiers, rectifier filters and regulators; phototube circuits. Prerequisites: 55L, 113 or permission of instructor.
- **131L. Electronics Laboratory I.** (1) Erteza, Grannemann, Jordan, Koschmann, Melloh, Moore, Thorn
Corequisite: 131. 3 hrs. lab.
- **132. Electronics II.** (3) Erteza, Grannemann, Jordan, Koschmann, Melloh, Moore, Thorn
Tuned amplifiers; push-pull; feedback; oscillators; AM and FM modulation and demodulation. Prerequisites: 113, 131.
- **132L. Electronics Laboratory II.** (1) Erteza, Grannemann, Jordan, Koschmann, Melloh, Moore, Thorn
3 hrs. lab.

** Available for graduate credit except for graduate majors in electrical engineering.

- **151L-152L. Electrical Machinery I, II. (3, 3) Erteza, Tapy**
Principles of electromechanical power devices and power systems; related electronic and solid-state devices. Prerequisites: 1 semester of fields, 2 semesters of circuits. 2 lectures, 3 hrs. lab.
- 171-172. Seminar. (1-3 each semester)**
Prerequisite: permission of instructor.
- *174. Industrial Applications. (3) Tapy**
Application and control of direct and alternating current machines. Corequisite: 151L.
- *174L. Industrial Applications Laboratory. (1) Tapy**
Corequisite: 174.
- *182. Applied Electromagnetic Waves. [Microwave Generation and Transmission] (3) Erteza, Grannemann, Melloh, Moore, Thorn**
Application of electromagnetic waves to communication and measurements, with primary stress on higher frequency (including microwave) considerations, including high-frequency amplifiers and oscillators. Graduate credit is not allowed for both 182 and 205. Prerequisite: 112L. Intended for those not planning to pursue electromagnetic theory further.
- *182L. Applied Electromagnetic Waves Laboratory. [Microwave Generation and Transmission Laboratory] (1) Erteza, Grannemann, Melloh, Moore, Thorn**
Corequisite: 182.
- *183. Instrumentation and Transducers. (3) Erteza, Grannemann, Moore, Thorn**
Coupling between electrical and nonelectrical systems, with emphasis on instrumentation. Measurement of thermal, mechanical, optical, and other physical quantities. Prerequisite: 131, or permission of instructor.
- *183L. Instrumentation and Transducers Laboratory. (1)**
Corequisite: 183.
- *186. Economics of System Engineering. (3) Tapy**
- *188. Servomechanisms. (3) Erteza, Koschmann, Melloh, Mohler, Tantzen, Tapy**
Theory and applications of servomechanisms to control problems. Prerequisite: 114.
- *188L. Servomechanisms Laboratory. (1) Erteza, Koschmann, Melloh**
Corequisite: 188.
- *190. Solid State Engineering. (3) Grannemann**
Elastic, thermal, electric and magnetic properties of crystals and metals. Magnetostrictive and piezoelectric effects. Conduction in metals and semiconductors with applications. Prerequisite: Physics 110 or equivalent.
- *191. Bases of Communication Theory. (3) Demuth, Grannemann, Koschmann, Melloh, Moore**
Frequency analysis; sampling theorem; probability and statistics applied to signals and noise; correlation analysis; measure of information. Prerequisites: 114, Mathematics 141, 143, or 147.
- *191L. Communication Laboratory I. (1) Grannemann, Koschmann, Melloh, Moore**
Corequisites: 191 and permission of instructor.
- *192. Computer and Waveforming Circuits. (3) Erteza, Grannemann, Koschmann, Melloh, Moore**
Theory and design of generators and shapers of nonsinusoidal waves. Includes clippers, clippers, stretchers, selecting circuits, circuits to perform mathematical operations, special digital computing circuits, counters, multivibrators, blocking oscillators, and sweep circuits. Prerequisites: 131 and senior standing or permission of instructor.
- *192L. Electronics Laboratory III. (1) Erteza, Grannemann, Koschmann, Melloh, Moore**
Corequisites: 192 and permission of instructor.
- *194. Introduction to Digital Computers. (3) Erteza, Grannemann, Gschwind, Koschmann, Moore**
Computer logic; coding; binary and decimal arithmetic units; computer organization; basic programming. Prerequisites: Mathematics 52 and permission of instructor.

** Available for graduate credit except for graduate majors in electrical engineering.

- *195. Industrial Electronics. (3)**
Electronics as applied to industrial problems; rectifiers, speed and voltage regulators, automatic synchronizers, industrial X-ray, high frequency heating, etc. Corequisite: 151L.
- *195L. Industrial Electronics Laboratory. (1)**
Corequisite: 195.
- *196. Power Transmission and Distribution. (3) Tapy**
Electrical and mechanical characteristics; economics of transmission and distribution systems. Prerequisite: 113.
- *196L. Power Transmission and Distribution Laboratory. (1) Tapy.**
Corequisite: 196.
- **198. Electrical Engineering Principles for Advanced Students. (3) Melloh**
Electrostatics, steady currents, magnetostatics, and Maxwell's equations. Lumped circuit approximation. Linear circuits, transforms, transients, and feedback. For students not majoring in Electrical Engineering. Prerequisite: knowledge of differential equations, vector analysis, and elementary electric circuits.
- *203. Transients in Linear Systems. (3) Erteza, Grannemann, Koschmann, Melloh, Moore, Thorn**
The methods for treating transient phenomena in linear electrical, mechanical, and electro-mechanical systems. Development and use of Laplace transforms and superposition integrals are stressed. Prerequisite: Mathematics 141, 143, or 147.
- *204. Communication Theory. (3) Basore, Grannemann, Koschmann, Melloh, Moore**
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) Byatt, Erteza, Grannemann, Gschwind, Koschmann, Melloh, Moore, Tesche, Thorn**
The derivation and application of the basic ideas and laws relating to electromagnetic waves; plane wave refraction and reflection; wave interpretation of circuit concepts. Graduate credit is not allowed for both 205 and 182. Prerequisites: 112L, Mathematics 141, 143, or 147.
- *213. Nonlinear Analysis. (3) Koschmann, Melloh**
Numerical and graphical methods, singular points, analytical methods, free and forced oscillating systems, time-varying parameters, stability considerations. Prerequisite: permission of instructor.
- *214-216. Analysis and Synthesis of Linear Networks. [Advanced Network Analysis; Network Synthesis] (3, 3) Demuth, Koschmann, Melloh**
General network analysis in the time and frequency domains, properties of two-port networks, matrix methods, elements of network topology, synthesis of one and two-port networks. Prerequisite: 203.
- *223. Principles of Communication Systems. (3) Basore, Grannemann, Koschmann, Melloh, Moore**
Analysis of various types of modulation and their relative advantages for communication in the presence of noise; detection systems and their optimization, coding; applications to wire and radio communications, radar, navigation systems and others. Prerequisite: 204.
- *226. Electronic Instrumentation for Nuclear Engineering. (3) Erteza, Grannemann, Moore**
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, Moore**
Corequisite: 226.
- *234. Antennas [Antennas and Propagation] (3) Erteza, Grannemann, Moore, Thorn**
Elements of antenna theory, including dipole radiation, arrays, reflectors, horns, and lenses. Prerequisite: 205 or equivalent.

** Available for graduate credit except for graduate majors in electrical engineering.

- *235. Radio Wave Propagation.** (3) Moore, Thorn
Theories explaining the anomalies observed in radio-wave propagation, with emphasis on microwave propagation phenomena. The turbulent as well as the stratified character of the troposphere and ionosphere is considered. Prerequisite: 205.
- *236. Microwave Techniques.** (3) Erteza, Grannemann, Moore, Thorn
The interactions of electronic currents with microwave fields with applications to magnetrons, klystrons, traveling wave tubes and related physical devices; wave guide circuits. Prerequisite: 205.
- *238. Magnetohydrodynamics.** (3) Erteza, Grannemann, Moore
Particle dynamics in electromagnetic field. Cyclotron and Larmor frequency. Macroscopic viewpoint and Boltzmann equation. Perturbation concepts. Study of *pinch phenomena* and pinch stability. Current experimental machines. Prerequisite: 205.
- *245. Digital Computers.** (3) Erteza, Grannemann, Gschwind, Koschmann, Moore
Over-all design of systems; the control unit; the arithmetic unit (addition, subtraction, multiplication, division); input devices; output devices; gates; storage devices; coding, programming. Prerequisite: 194.
- *246. Analog Computers.** (3) Grannemann, Koschmann
Mechanical, electromechanical, electrical, and electronic computing elements (adders, multipliers, dividers, integrators, differentiators, function generators); systems for solution of simultaneous linear algebraic equations, for finding roots of polynomials, for solution of trigonometric and transcendental equations; the mechanical differential analyzer; electronic analog computers. Prerequisite: Mathematics 141, 143, or 147.
- *246L. Analog Computers Laboratory.** (1) Grannemann, Koschmann
Corequisite: 246.
- *248. Advanced Digital Computers.** (3) Gschwind
Numerical procedures for digital computers, advanced programming, computer systems, operation of computer, design principles. Prerequisite: 245.
- *251-252. Problems.** (1-3 each semester) Erteza, Grannemann, Jordan, Koschmann, Melloh, Moore, Tapy, Thorn
- *253. Theory of Solid State Electronic and Magnetic Devices.** (3) Grannemann
Applications of quantum theory to photoelectric and thermionic emission, and to the conduction of electricity through solids. Transistor theory, transistors, p-n junctions, theory of magnetism and magnetic materials. Prerequisite: 190.
- *259. Seminar in Systems Engineering.** (3) Grannemann, Melloh, Moore
Case history approach to choice from alternative systems. Cases may be chosen from communications, computer, automation, or power systems.
- *261. Advanced Control Systems.** (3) Koschmann, Melloh
Logarithmic plots of transfer functions; multiple-loop and multiple-input systems; root loci; sampling servos; statistical properties of noise and servo inputs. Prerequisites: 203, 188.
- *263. Control of Nuclear Reactors and Power Plants.** (3) Demuth, Erteza, Koschmann, Mohler
Solution of reactor kinetic equations for various inputs; reactor control systems including special problems related to nuclear and thermodynamic effects; use of simulators. Prerequisites: ME 101, Mathematics 141, 143, or 147.
- *263L. Laboratory in Control of Nuclear Reactors.** (1) Erteza
Corequisite: 263.
- *271. Power System Analysis.** (3) Tapy
Theory of symmetrical components with applications to the operation of electric power systems under unbalanced steady state conditions; components of instantaneous currents and voltages and their use in transient problems, characteristics of synchronous plants. Corequisite: 196.
- *272. Power System Stability.** (3) Tapy
The ability of various synchronous machines to maintain stability under disturbances caused by faults; methods of analysis; use of swing curves; influence of stability on fault type and location, speed of clearing, system layout, system grounding, excitation systems, damper windings. Prerequisite: 196; corequisite: 271.

- *273. Protection and Relaying on Power Systems.** (3) Tapy
The relaying problem; calculation of transient short-circuit currents; vectors for relay systems; application of instrument transformers to relay systems; differential protection; high-speed relay protection; wave-form phenomena and their effects on relay circuits; lightning protection. Prerequisite: 271.
- *274. Distribution of Electric Power.** (3) Tapy
The distribution system; sub-transmission circuits and distribution substation; primary distribution circuits; transformers and secondaries; economics of distribution voltage selection and conductor size; voltage regulation; mechanics of distribution line design; lightning protection; sectionalizing the distribution system; rural distribution; rates, diversity, load factor; the integrated power system.
- *281. Advanced Power Conversion.** (3) Tapy
Advanced topics in transformers, synchronous and induction machinery including a study of synchronous reaction, transients and harmonics; power rectifier and inverter systems. Prerequisite: 152L.
- *291-292. Seminar.** (3, 3)
- *293-294. Seminar.** (3, 3)
- *300. Master's Thesis.** (6) Erteza, Grannemann, Gschwind, Jordan, Koschmann, Melloh, Moore, Tapy, Tesche, Thorn
- *400. Dissertation.** Erteza, Grannemann, Koschmann, Melloh, Moore, Thorn

ENGINEERING, MECHANICAL

Professors Grace (Chairman), Bailey, Farris, Ford, Stoever; Associate Professors Dove, Skoglund; Assistant Professor Ju; Instructors Baker, Johnson, Lutz.

CURRICULUM

See p. 161.

- 63L. Manufacturing Processes.** (4)
The theories and techniques of manufacturing articles of metal; pattern making, foundry practice, machining, welding, and the relation of design to production. 2 lectures, 6 hrs. lab.
- 73L. [113L] Kinematics.** (3)
Displacement and velocity study of machine elements such as linkages, cams, gears, and flexible connectors. Prerequisites: CE 2L, Physics 60.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- 101. Thermodynamics.** (3) Skoglund, Stoever
Principles and applications of thermodynamics. Prerequisites: Chemistry 2L, Physics 61, 63L; corequisites: Math 52 and junior standing.
- **102. Thermodynamics.** (3) Skoglund, Stoever
Principles and applications of thermodynamics. Prerequisite: 101.
- 106. Dynamics.** (3)
Principles and applications of dynamics. Prerequisites: CE 60, Mathematics 52, and junior standing.
- 108. Mechanical Equipment of Buildings.** (3)
For architecture students only. Theory and practice of heating equipment; heat loss of buildings; heating layouts; plumbing and heating codes. Prerequisite: junior standing.
- *114L. Dynamics of Machinery.** (3) Grace, Ju
Velocity, acceleration, and force analysis of machines with special emphasis on high-speed machinery, balancing of rotating and reciprocating machine elements. Prerequisites: 106, 113L. 2 lectures, 4 hrs. lab.

** Available for graduate credit except for graduate majors in mechanical engineering.

- *117. **Fluid Mechanics.** (3) Skoglund
Kinematics of fluid motion; elements of hydrodynamics; effects of viscosity, compressibility, and drag. Prerequisites: 106, 101; corequisite: 102.
- *118L. **Mechanical Engineering Laboratory I.** [Mechanical Engineering Laboratory II] (2)
Skoglund, Stoever
Tests of instruments, fluid meters, a centrifugal pump and a steam engine; plus a study of fluid properties, pipe friction and dynamic strain. Prerequisite: 101; corequisite: 117. 6 hrs. lab.
- *120. **Heat Transfer.** (3) Skoglund, Stoever
Principles and engineering applications of heat transfer by conduction, radiation, and free and forced convection. Corequisites: 102, 117, or permission of instructor.
- **151L. **Mechanical Engineering Laboratory II.** [Mechanical Engineering Laboratory III] (2)
Skoglund, Stoever
Tests of a steam boiler, a turbine, an axial flow fan and an air compressor; metallography and heat treatment of metals. Prerequisites: 102, 117; corequisite: 161. 6 hrs. lab.
- **152L. **Mechanical Engineering Laboratory III.** [Mechanical Engineering Laboratory IV] (2)
Skoglund, Stoever
Tests of an internal combustion engine, a gas turbine, a heat exchanger, an air-conditioning system and a forced vibration setup. Prerequisites: 102, 117, 120. 6 hrs. lab.
- *155. **Power Plants.** (3) Stoever
Types and equipment. Prerequisite: 102.
- 156. **Industrial Engineering.** (2)
The principles of management applied to the general operation of engineering projects and manufacturing plants. Prerequisite: senior standing, or permission of instructor.
- *157. **Design Analysis I.** (3) Dove, Grace
Application of the principles of the physical sciences, engineering sciences, and technology to the analysis of and proportioning of machine elements, with consideration given to fatigue life and wear life, as well as to the economics of production. Prerequisites: 114L, CE 102.
- *158L. **Design Analysis Laboratory.** (1) Dove, Grace
Corequisite: 157. 3 hrs. lab.
- *159L. **Mechanical Engineering Design.** (3) Dove, Grace
Analysis and design of some piece of equipment selected from the field of mechanical, aeronautical, or petroleum engineering. Prerequisites: 157, 158L.
- *160. **Internal Combustion Engines.** (3) Stoever
Theories of Otto and Diesel type engines. Prerequisite: 102.
- 161. [175] **Engineering Metallurgy.** (3)
Principles of physical metallurgy and their application to common alloys, including the effect of composition, heat treatment and mechanical treatment on physical properties. Corequisite: 151L.
- *163. **Analysis of Fluid Systems.** (3)
Engineering analysis of fluid systems based on the principles of fluid mechanics, heat transfer, and thermodynamics. Prerequisites: 102, 117, 120.
- *165. **Refrigeration and Air Conditioning.** (3) Farris, Stoever
Analysis of refrigeration, heating, and air conditioning processes. Prerequisite: 102.
- *167-168. **Aerodynamics.** (3, 3) Skoglund
Application of the fundamental principles of mechanics and hydrodynamics to the study of airplane design and performance. Prerequisite: 117.
- 172-173. **Seminar.** (1, 1)
Preparation, presentation, and discussion of papers and reports from current technical magazines and journals. Prerequisite: senior standing, or permission of instructor.
- *177. **Physical Metallurgy.** (3)
The physical properties of metals, and how alloying, mechanical treatment, surface treatment, and heat treatment affect the physical properties of both high- and low-melting-point

** Available for graduate credit except for graduate majors in mechanical engineering.

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) Bocquet, Huzarski
Oil field development, methods of drilling and oil recovery; preliminary refining, storage, and transportation. Prerequisite: senior standing.
- *187-188. [187] **Principles of Missile Guidance.** [Principles of Guided Missiles] (3, 3) Braun
Equations of motion, theory of orbits, control theory, types of guidance, theory of inertial guidance. Prerequisites: Mathematics 143 or equivalent, mechanics, aerodynamics. (Offered at Holloman Graduate Center only.)
- *192. **Design Analysis II.** (3) Dove, Grace, Ju
Special problems in design involving combined stresses, stress concentration, and cases beyond the limitations of conventional tensile, flexure, and torsion formulas; study of theories of failure; and an introduction to methods of experimental stress analysis and their application to design. Prerequisites: 157, 158L, or permission of instructor.
- *194. **Mechanical Vibration.** (3) Dove, Grace, Ju, Skoglund
Kinematics of vibration; the single degree of freedom; two degrees of freedom; many degrees of freedom; natural frequency; forced vibration; effect of dry and viscous damping; torsional vibrations of crankshafts and geared systems; suppressions and elimination of vibration. Prerequisite: senior standing in Engineering.
- **198. **Mechanical Engineering Principles for Advanced Students.** (3) Skoglund, Stoever
Integration of the principles of mechanical engineering. For students not majoring in Mechanical Engineering. Prerequisites: 101, 106, Math 147, or their equivalents.
- *201. **Advanced Heat Transfer.** (3) Skoglund, Stoever
Advanced principles and applications of heat transfer by conduction, convection, and radiation. Prerequisite: 120 or equivalent; pre- or corequisite: Mathematics 147.
- *203. **Fluid Dynamics I.** [Fluid Dynamics] (3) Skoglund
Advanced principles and applications of fluid mechanics with emphasis on compressible flow. Prerequisites: 101, 102, and 117 or equivalents; pre- or corequisite: Mathematics 147.
- *206. **Advanced Thermodynamics I.** (3) Skoglund, Stoever
Precise development of thermodynamic definitions, principles, and analytical methods. Prerequisites: 101, 102, or equivalents; pre- or corequisite: Mathematics 147.
- *207. **Similitude in Engineering.** (3) Dove, Skoglund
Dimensional analysis and the theory of models applied to common engineering problems. The principles of design models are developed using dimensional analysis. Both scale and distorted models are considered. Prerequisite: 157.
- *209. **Gas Dynamics.** (3) Skoglund
One and two dimensional flow of gases including friction, shock waves, heat transfer, and chemical reactions. Prerequisites: 203, 206.
- *210. **Contemporary Problems of Aerodynamics.** (3)
Modern aerodynamic problems of missile and airplane trajectories and stability; aeroelasticity; aerodynamic interference; and propulsion. Prerequisites: 167, 203, and either 206 or 209.
- *211. **Advanced Heating and Air-Conditioning.** (3) Farris, Stoever
- *215L. **Experimental Stress Analysis.** (3) Dove
Modern techniques for experimental determination of stresses in complex machine parts; study of mechanical gages, optical gages, electrical gages and circuits, brittle lacquer methods, photoelasticity, strain grids, and certain models and analogies. Prerequisite: 192 or equivalent.
- *216. **Applied Elasticity I.** [Applied Elasticity] (3) Ju
Fundamental principles of the mechanics of elastic bodies; analyses of stress and strain; basic equations of elasticity; plane problems of elasticity and fundamental boundary value problems; torsion of a prismatic bar and analogy methods. Prerequisites: CE 102 or equivalent, Mathematics 147; corequisite: Mathematics 148.

** Available for graduate credit except for graduate majors in mechanical engineering.

- *218. Advanced Applied Dynamics.** (3) Ju
Fundamental concepts in mechanics; vector analysis and its application in statics and dynamics; Newton's laws of motion; principles of momentum and moment of momentum; energy principles and Lagrange's equations of motion; gyroscopic motion; small oscillation; mechanical transient and operational calculus. Prerequisites: 106 or equivalent, Mathematics 147; corequisite: Mathematics 148.
- *219. Applied Elasticity II.** (3) Ju
Application of complex variables in plane elasticity and torsion problems, energy principles and variational methods in elasticity, and an introduction to the theories of plates and shells. Prerequisite: 216.
- *220. Analysis of Thermal Stresses.** (3) Ju
Basic equations of stress and strain, elementary temperature equations, thermal stresses in one and two dimensions, transient thermal stress, special topics on thermal effects on material properties. Prerequisite: 216.
- *223. Fluid Dynamics II.** (3) Skoglund
Analysis of fluid processes, including potential theory; sources; steady, laminar and turbulent flow; jets; and unsteady flow. Prerequisite: 203 or equivalent.
- *225. Experimental Aerodynamics.** (3)
Modern techniques of measurement, and their application. Comparison of theory and measurements for aerodynamic systems. Prerequisites: 201, 203, or their equivalents.
- *231L. Reactor Analysis.** (3) Dove, Glasstone
The basic theory of reactors. The multiplication, slowing-down, and diffusion of neutrons; the conditions for criticality of bare homogeneous reactors, reflected homogeneous reactors, and heterogeneous reactors; kinetics of bare thermal reactors, intermediate and fast reactors; and the theory of reactor controls. Pre- or corequisites: Physics 110 and Mathematics 147, or equivalents.
- *232L. Reactor Engineering.** (3) Dove, Glasstone
Engineering principles of reactor design and construction. General design principles, reactor materials, fuel recovery, heat removal and thermal stresses, radiation hazards and shielding, and descriptions of typical reactors. Prerequisite: 231L; pre- or corequisites: Physics 111L and Mathematics 148 or equivalents.
- *251-252. Problems.** (3, 3) Dove, Grace, Ju, Skoglund, Stoever
Advanced reading, design or research.
- *300. Master's Thesis.** (6) Dove, Grace, Ju, Skoglund, Stoever
- *400. Dissertation.** Dove, Ju, Skoglund, Stoever

ENGLISH

Professors Trowbridge (Chairman), Arms, Jacobs, Pearce, Smith, Tedlock, Wicker, Wynn; Associate Professors Baughman, Crowell, Dickey, Freedman, Simons; Assistant Professors Buchanan, Kluckhohn, Kuntz; Visiting Lecturers (Part-time) Carstens, Fife, Peterson, Rauber; Instructors Dawson, Haley, Hill, Howard (Part-time), Pennell, Willoughby, Wykes.

MAJOR STUDY

Basically the major in English comprises 27 to 30 hours in English courses numbered above 50, at least 15 of these hours to be in courses numbered above 100. Certain required courses, both in English and in other fields, will vary with the option which the student chooses. Although each option is recommended for its special objective, it does not limit the student to that particular objective. For example, a student choosing Option I would still be preparing for secondary school teaching.

- I. GENERAL CULTURAL OPTION: 53 and 54; 21 additional hours in literature including 9 in courses before 1800; 6 hours among courses in history, philosophy, art history, music history, and comparative literature.
- II. OPTION FOR SECONDARY SCHOOL TEACHING: 53, 54, and 6 additional hours in British literature; 55 or 91; 3 hours in creative or informative writing; 6 hours in American literature; 3 hours in world or contemporary literature; and Secondary Education 155c.
- III. WRITING OPTION: 6 hours from 61, 62, 64; 9 hours from 121, Dramatic Art 155, 156, Journalism 102, 132, and Speech 192; and 15 hours from appropriate literature courses, including 6 hours in courses before 1800. Students electing this option are urged to combine it with an additional major or minor in a field in which writing opportunities are likely to exist.
- IV. OPTION FOR THOSE PLANNING GRADUATE STUDY: 53 and 54; 91; 3 hours selected from 75, 76, 139, 140; 3 hours selected from 82, 167, 168, 169; 141 or 142; 146 or 151; 6 additional hours chronologically distributed in courses after 1700; 6 hours among courses in history, philosophy, art history, music history, and comparative literature; 2 years, or the equivalent, of a foreign language. Further language study is strongly recommended.

MINOR STUDY

College of Arts and Sciences: English 1 (unless exempted), 2, and 15 hours in courses numbered above 50. A maximum of 6 hours in courses numbered above 50 may be selected from the Department of Speech or from the Department of Journalism.

College of Education and College of Fine Arts: English 1 (unless exempted), 2, and 18 hours in courses numbered above 50.

GROUP REQUIREMENTS

English 1 is a required course for all students except those who are exempted upon the basis of a placement test. English 2 is required of all students, except transfers who may offer an equivalent course toward the satisfaction of the group requirements. Students in the low percentiles of the Placement Test will take English Workshop in addition to English 1. Additional group requirements are as follows:

College of Arts and Sciences: 3 credit hours in a course in literature numbered above 50. Up to 6 additional hours in literature may be offered in meeting the requirements under Group III: Humanities.

College of Business Administration: 3 credit hours in a course in literature numbered above 50, and Speech 55. But see "General Requirements" of the College of Business Administration.

College of Education: see Education curricula.

COURSES IN GENERAL LITERATURE FOR GROUP REQUIREMENTS IN ALL COLLEGES

There are two curricula in the departmental offerings: one for the major, the other for the student of general literary interests. Neither excludes necessarily the offerings of the other, but each serves to indicate the general channel of study.

The following courses in the lower division are recommended for students selecting hours for the group requirements or for general reading: 40, 56, 57, 75, 76, 77, 82; not accepted as literature are 55, 91.

COMPARATIVE LITERATURE

The major in Comparative Literature is an interdepartmental major administered jointly by the Department of English and the Department of Modern and Classical Languages. See p. 220.

I. WRITING

1. **Writing with Readings in Exposition.** (3) Baughman, Buchanan, Staff
Expository writing, paragraph methods, and readings.
2. **Writing with Readings in Literature.** (3) Baughman, Buchanan, Staff
The types of literature with readings and reports.
3. **English for Foreign Students.** (3) Kluckhohn, Staff
A course in speaking, writing, and understanding English, designed for students to whom English is a foreign language. With the permission of the Chairman of the Department, credit in English 3 may be substituted for English 1. 5 hours of classroom work.
- English Workshop.** (0) Staff
Two hours of tutoring for students needing special instruction in the essentials of composition.
61. **Creative Writing: The Essay.** (3) Freedman
An intermediate course with emphasis on the types, structure, and style of expository writing.
62. **Creative Writing: Description and Narration.** (3) Freedman
The types, materials, and techniques of descriptive and narrative writing.
64. **Informative Writing.** (3) Staff
Professional expository composition and the preparation of elementary reports.
120. **Advanced Technical Writing.** (3) Staff
Practice in the writing and editing of technical, engineering, and scientific reports and articles. Prerequisite: 61, 62, or 64, or permission of instructor.
- *121. **Advanced Creative Writing.** (3) Freedman
An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: 61, 62 or permission of instructor.
- 155c. **The Teaching of English in Secondary Schools.** (3) Kuntz
(Same as Secondary Education 155c.)

II. LITERATURE

1. British

40. **Literary Forms and Figures.** (3) Staff
An introduction to literature with variable content, each course treating a major writer or literary type as indicated by subtitle. Open to freshmen and others. Prerequisite: English 1 or exemption.
- 53-54. **Survey of English Literature, Early and Later.** (3, 3) Crowell, Staff
53: From the Old English writings through Neo-classicism. 54: From Pre-romanticism to the contemporary period.
- *141. **Shakespeare: Histories and Comedies.** (3) Dickey, Pearce, Simons
A detailed study of the comedies and historical plays.
- *142. **Shakespeare: Tragedies.** (3) Dickey, Pearce, Simons
A detailed study of the problem plays and tragedies.
- *143. **Drama of the Restoration and 18th Century.** (3)
The best plays from D'Avenant to Sheridan. Prerequisite: 3 hrs. in literature.
- *146. **Age of Milton.** (3)
The major works of John Milton, and other masterpieces of prose and poetry from 1600-1660. Prerequisite: 3 hrs. in literature.

- *148. **Elizabethan Drama Exclusive of Shakespeare.** (3) Dickey, Pearce, Simons
Special attention to the plays of Marlowe and Jonson. Prerequisite: 3 hrs. in literature.
- *151. **Chaucer.** (3) Dickey, Pearce
A detailed study of the *Canterbury Tales* with some attention to Chaucer's other works.
- *154. **Middle-English Literature.** (3) Pearce
A general survey of the types of 13th- and 14th-century literature. Prerequisite: 6 hrs. in literature.
- *157. **Elizabethan Non-Dramatic Literature.** (3) Dickey, Pearce, Simons
Development of humanism, new poetry, literature of courtesy. Prerequisite: 3 hrs. in literature.
- *177. **The Classical Period in English Literature.** (3) Buchanan, Crowell
The chief writers in England from the Restoration to Johnson. Prerequisite: 3 hrs. in literature.
- *178. **The Romantic Period.** (3)
The eighteenth-century background of Romanticism and the major poets, Blake to Keats. Prerequisite: 3 hrs. in literature.
- *181. **Victorian Poets.** (3) Crowell, Jacobs
The representative poets from 1830 to 1890. Prerequisite: 3 hrs. in literature.
- *182. **Nineteenth-Century Prose.** (3) Crowell
Representative prose writers from 1800 to 1890. Prerequisite: 3 hrs. in literature.
- *185. **Early English Novel.** (3)
From the beginnings through Jane Austen.
- *186. **Later English Novel.** (3) Crowell
From Scott to 1910.
- *219. **Studies in Middle-English Literature (1100-1500.)** (3) Pearce
The drama, romances, ballads, religious works, or other subjects.
- *223. **Studies in the English Renaissance (1500-1616).** (3) Dickey, Pearce, Trowbridge
Marlowe, Spenser, Shakespeare, Jonson, or others.
- *225. **Studies in the 17th Century (1600-1660).** (3) Crowell, Freedman
Prose writers, metaphysical poets, or Milton.
- *230. **Studies in the Restoration and 18th Century (1660-1780).** (3) Trowbridge
Dryden, Pope, or Johnson.
- *233. **Studies in the Restoration and 18th Century (1660-1780).** (3) Crowell, Trowbridge
Fielding and other novelists or the playwrights.
- *240. **Studies in the Romantic Period: Poetry (1780-1832).** (3)
Shelley, Keats, Wordsworth, or other poets.
- *243. **Studies in the Romantic Period: Prose (1780-1832).** (3)
The novel, Coleridge, Hazlitt, or other prose writers.
- *253. **Studies in the Victorian Period: Poetry (1832-1900).** (3) Crowell, Jacobs
Tennyson, Browning, or other poets.
- *255. **Studies in the Victorian Period: Prose (1832-1900).** (3) Crowell
Dickens, Pater, Ruskin, Carlyle, Arnold, or other prose writers.

2. American

- 77. **Southwestern Literature.** (3) Pearce
Myth, legend, and song of the Indians; literary values in the Spanish colonial narratives; literature of the Santa Fe trail and the cattle country; contemporary writing.
- 82. **American Literature.** (3) Arms, Baughman, Tedlock
A general survey to 1900, with more extensive study of the great writers of the 19th century.
- 85. **American Life and Thought.** (3) Baughman
Important themes and issues of our society (1607 to the present), as reflected in American literature. Prerequisite: 82, or History 51 or 52.

- *167. **Colonial and Revolutionary Period in American Literature.** (3) Tedlock
Leading writers from 1600 to 1800.
- *168. **The Romantic Period in American Literature.** (3) Arms, Baughman
Major writers from Irving to Melville.
- *169. **The Period of Realism in American Literature.** (3) Arms, Tedlock
Major writers from Whitman to Henry Adams.
- ***American Studies 201. Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Dabney, McMurray, Tedlock, Walter
(Same as American Studies 201.)
- *203. **Studies in the Literature of Colonial and Revolutionary America (1600-1800).** (3)
The Connecticut Wits; early influences of the Frontier in literature, to 1840; or other subjects.
- *206. **Studies in Early 19th Century American Literature (1800-1855).** (3) Arms
Emerson and Thoreau; Hawthorne, Melville, and Poe; or others.
- *209. **Studies in Late 19th Century American Literature (1855-1912).** (3) Arms
Whitman, Lanier, and Dickinson; Howells, James, and Clemens; or others.

3. World and Contemporary

- 56-57. **Masterworks of Literature, Early and Later.** (3, 3) Simons, Staff
56: Selected American and European drama, poetry, fiction, and non-fictional prose from the Greeks to the 19th Century. 57: Selected masterworks of the 19th and 20th centuries.
75. **World Literature from Homer to Dante.** (3) Jacobs, Kuntz
Masterpieces of European and Asiatic literature, including the Bible.
76. **World Literature from Rabelais to Mann.** (3) Jacobs
Masterpieces of European literature, including the great Russian writers.
- *132. **Contemporary Poetry.** (3) Arms, Jacobs, Tedlock
The leading figures in contemporary poetry with analysis of style and critical theory.
- *135. **Contemporary Fiction.** (3) Jacobs, Tedlock
British, American, and European novelists since 1912.
- *137. **Contemporary Drama.** (3) Freedman, Jacobs
European and American playwrights from Ibsen to the present.
- *139. **Complete Greek Drama in Translation.** (3) Graham
(Same as Greek 139.)
- *140. **Latin Literature in Translation.** (3) Graham
(Same as Latin 140.)
- *161. **The Folktale in English.** (3) Baughman
The tradition of folk motifs and themes in the development of the tale as a form of storytelling in English and American literature.
- *165. **Tragedy.** (3) Dickey, MacCurdy, Trowbridge
(Same as Comparative Literature 165.) Selected tragedies from world literature in translation and theories of the tragic form. Prerequisite: 6 hrs. in literature.
- *166. **Literary Criticism.** (3) Arms, Trowbridge
(Same as Comparative Literature 166.) A history of major critical attitudes toward literature. Prerequisite: 6 hrs. in literature.
- *180. **Philosophy and Literature.** (3) Alexander, Tedlock
(Same as English-Philosophy 180.)
- *228. **Studies in Literature for Secondary Teachers.** (3) SS Buchanan, Trowbridge
Basic approaches to the interpretation, judgment, and teaching of literature, with intensive study of selected British and American writers and works. Examples chosen will be novels, plays, short stories, and poems commonly taught in junior and senior high schools.
- *260. **Studies in Contemporary Literature.** (3) Jacobs, Tedlock
Prose: James Joyce, D. H. Lawrence, William Faulkner, or others; poetry: T. S. Eliot, Wallace Stevens, Dylan Thomas, W. H. Auden, or others.

III. LINGUISTICS

- A. English Review. (0)** Howard, Staff
A non-credit course in grammar, usage, and reading comprehension for students needing additional background and drill. Especially designed for students preparing for the English Proficiency Examination, though open to others. Special fee of \$20.
- 55. Vocabulary Building. (3)** Kluckhohn, Staff
Latin and Greek word roots; introduction to etymology and semantics.
- 91. History of the English Language. (3)** Kuntz, Pearce
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.
- *101. Phonetics. (3)** 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.
- *270. Language Seminar: English. (3)** Pearce
Phonology of English speech, linguistic structure, elements of vocabulary.
- *273. Language Seminar: American. (3)** Pearce
American dialect and regional vocabulary.

IV. INDIVIDUAL STUDIES

- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *251. Problems for the Master's Degree. (1-2 each semester)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Jacobs, Pearce, Tedlock, Trowbridge
Studies in literature and philology.
- *300. Master's Thesis. (6)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Jacobs, Pearce, Tedlock, Trowbridge
- *351. Problems for the Doctor's Degree. (1-2 each semester)** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Jacobs, Pearce, Tedlock, Trowbridge
- *400. Dissertation.** Arms, Baughman, Buchanan, Crowell, Dickey, Freedman, Jacobs, Pearce, Tedlock, Trowbridge

ENGLISH-PHILOSOPHY

The combined major in English and Philosophy is an interdepartmental major administered jointly by the two Departments. Students interested in this program should consult one of the Chairmen.

The purpose of the interdepartmental major is to develop an understanding of the history of ideas, ideals, and values; their expression in literature and philosophy; and the relation of these fields. The major will serve the interests of general education, and will also be useful to many preprofessional students.

MAJOR STUDY

Students completing the English-Philosophy major are not required to have a minor. It is recommended that courses in literature and philosophy in related periods be taken concurrently where possible.

The minimum requirement is 45 hours, including: English 75 and either 53, 54, or 76; Philosophy 45 or 55, and 51 or 53; English 166 and Philosophy 102, 141,

and 142; English 141 or 142 or 146; 6 additional hours of literature above 100 and 3 additional hours of Philosophy; an additional 6 hours above 100 in English or in Philosophy; and English-Philosophy 180. Advisers may recommend as much as 6 additional hours in related fields.

MINOR STUDY

Not offered.

***180. Philosophy and Literature. (3)** Alexander, Tedlock

Selected philosophical movements and their relationship to literary masterpieces. Prerequisites: 6 hours of literature and 3 hours of Philosophy from the courses specified as requirements for the program.

FOLKLORE

See Modern and Classical Languages, and English 161.

FRENCH

See Modern and Classical Languages.

GENERAL STUDIES

All courses listed as "General Studies" are open to students by invitation only. They are designed for students enrolled in the General Honors program. This program is not to be confused with the Departmental Honors program described on p. 105 of this Catalog.

Specific information about General Studies and the General Honors program can be obtained from the office of the Dean of the College of Arts and Sciences.

Courses in General Studies will be given credit towards appropriate Group Requirements of the College of Arts and Sciences and may also satisfy certain general requirements in other colleges. The student should consult his college dean on this point.

1-2. Freshman Reading Seminar. (3, 3) Wynn, Staff

Rapid, broad general reading for first- and second-semester freshmen.

51-52. Sophomore Seminars. (3, 3)

Selected seminar topics by staff of various departments. Instructors and topics to be announced semester by semester.

101-102. Major Traditions in Western Culture. (3, 3) Longhurst, Staff

Religion, art, literature, science, and political and moral philosophy as they relate to the Western concept of man and his world. Required of all Honors students in their junior year. Extensive reading in primary sources will be required.

GEOGRAPHY

(A Division offering only minor study).

Assistant Professors Gordon, Tuan.

MINOR STUDY

Geography 1, 2, 51, and 12 additional hours.

GROUP REQUIREMENTS

Geography 51 and 179 are accepted as non-laboratory science in fulfillment of the Science (Group V) requirement of the College of Arts and Sciences; all other Geography courses are accepted toward fulfillment of the Social Science (Group IV) requirement in that College.

1. **General Geography.** (3)
Introduction to world geography; physical elements.
2. **General Geography.** (3)
Introduction to world geography; natural and cultural regions.
51. **Physical Geography.** (3)
A systematic study of the physical and biotic environment; world climate and land forms; natural vegetation and animal life. Prerequisite: Geography 1, or permission of the instructor.
63. **Economic Resources.** (3)
Survey of the basic economic resources of the world; industrial regions; trade routes.
- *101. **South America.** (3) Gordon
Regional geography of South America.
- *102. **Middle America.** (3) Gordon
Regional geography of Mexico, Central America, and the West Indies.
- *103. **North America.** (3) Gordon
Regional geography of Alaska, Canada, and the United States.
- *111. **Land Utilization.** (3) Gordon
Analysis of land use in selected areas; problems of land planning; field mapping in the middle Rio Grande area.
- *131. **Eastern Asia.** (3) Tuan
Regional geography of China, Korea, and Japan.
- *132. **Western Europe.** (3) Tuan
Regional geography of Europe, excluding the U.S.S.R.
- 151-152. **Problems.** (1-3 each semester) Gordon, Tuan
Supervised individual study and field work.
- *179. **Conservation.** (3) Dittmer
(Same as Biology 179.)
- *251-252. **Problems.** (2-3 each semester) Gordon, Tuan
Supervised individual study for graduate students.

GEOLOGY

Professors Northrop (Chairman), Kelley, Wengerd; Associate Professor Fitzsimmons; Assistant Professors Elston, Rosenzweig; Instructor Anderson.

MAJOR STUDY

For the degree of Bachelor of Arts: Geology 1, 2, 5L, 6L, 73L, 74L, 103L, and 13 additional upper-division hours. Chemistry 1L and 2L and Mathematics 15 and 16 are required.

For the degree of Bachelor of Science: Geology 1, 2, 5L, 6L, 73L, 74L, 103L, 107L, 108L, 119L; either 109L and 110L or 111L and 112L; and 2 additional upper-division hours. Chemistry 1L, 2L, Civil Engineering 1L, 4L, Mathematics 15, 16, and either Biology 1L and 2L or Physics 11L and 12L are required. The candidate must either minor in biology, chemistry, engineering, mathematics, or physics, or take a distributed minor. The distributed minor shall consist of 36

semester hours, as follows: Chemistry 1L, 2L, Civil Engineering 1L, 4L, Mathematics 15, 16, either Biology 1L and 2L or Physics 11L and 12L, and 11 additional hours as approved by the Geology Department. Civil Engineering 51L may be taken instead of 4L.

COMBINED PROGRAM IN GEOLOGY AND ENGINEERING. Students interested in petroleum exploration and production, mining geology, and geological engineering, or other specialized fields requiring a geological and engineering background are advised to supplement their programs with the Engineering minor.

A minor in Engineering may be obtained by selecting 20 hours, as approved by the Geology Department, from among the following: Civil Engineering 1L, 2L, 4L or 51L, 52L, 60, 102, 103L, 105, 107, 108L, 112L, 117L, 120; Mechanical Engineering 53, 101, 106, 156, 175, 181, 182. Observe prerequisites, especially Calculus, for several of these courses.

MINOR STUDY

Geology 1, 2, 5L, 6L, and 12 additional hours.

1. Physical Geology. (3)

Materials composing the earth, and work of agencies, both external and internal, modifying its surface.

2. Historical Geology. (3) Anderson, Northrop, Wengerd

History of the earth; rise and succession of the various forms of life. Prerequisite: 1.

4. Engineering Geology. (3) Fitzsimmons, Kelley

Introductory geology with emphasis on engineering aspects. (Open to engineers only.)

5L. Physical Geology Laboratory. (1)

Minerals, rocks, and topographic maps. Credit suspended when credit in Geology 1 is not earned. Corequisite: 1. 3 hrs. lab.

6L. Historical Geology Laboratory. (1)

Fossils and paleogeographic maps; emphasis on the historical geology of New Mexico. Credit suspended when credit in 2 is not earned. Corequisite: 2. 2 hrs. lab.

73L-74L. Mineralogy. (4, 4) Rosenzweig

Elementary geometrical and chemical crystallography; descriptive mineralogy; geologic occurrences, associations, and uses; physical and chemical methods of mineral identification. Prerequisite: 5L; pre- or corequisites: Chemistry 1L, 2L. Course 73L may be taken separately, but 73L is prerequisite to 74L: 2 lectures, 6 hrs. lab.

103L. Petrology. (3) Elston, Fitzsimmons

Classification, occurrence, origin, and hand-specimen recognition of common rocks. Prerequisites: 6L, 73L. 2 lectures, 3 hrs. lab.

107L-108L. Structural Geology. (3, 3) Kelley

Character, classification, and origin of rock structures; map, graphic, and stereographic problems. Prerequisite: 6L; Mathematics 16 and Civil Engineering 1L are strongly recommended. Course 107L may be taken separately, but 107L is prerequisite to 108L. 2 lectures, 3 hrs. lab.

***109L-110L. Stratigraphy. (4, 4)** Northrop

Principles, followed by a survey of the stratified rocks of North America, their correlation, stratigraphic relations, and guide fossils. Prerequisite: 6L; some biology is strongly recommended. Course 109L may be taken separately, but 109L is prerequisite to 110L. 2 lectures, 6 hrs. lab.

***111L-112L. Paleontology. (4, 4)** Northrop

Fossil plants, invertebrates, and vertebrates, with emphasis on the invertebrates; structure, classification, life habits, evolution, and geologic history. Prerequisite: 6L; some biology is strongly recommended. Course 111L may be taken separately, but 111L is prerequisite to 112L. 2 lectures, 6 hrs. lab.

- *114L. Micropaleontology. (3) Anderson**
Larger and smaller Foraminifera, pollen and spores, ostracods, and a survey of most other microfossils. Petroleum application, laboratory techniques, and paleoecology. Prerequisite: 6L; some biology is strongly recommended. 2 lectures, 3 hrs. lab.
- 115L. Air Photogrammetry. (2) Wengerd**
Photogrammetric computations and stereoscopy. Preparation of planimetric and contour maps. Prerequisites: 6L, Mathematics 16, Civil Engineering 4L. 1 lecture, 3 hrs. lab.
- *116L. Geologic Interpretation of Air Photographs. (2) Wengerd**
Interpretation of geology on air photographs and the construction of photogeologic maps. Prerequisites: 107L, 115L; 181 is strongly recommended. 1 lecture, 3 hrs. lab.
- 119L. Field Geology and Reports. (4) Anderson, Elston, Kelley**
Principles and techniques of field mapping; content and arrangement of reports; layout and preparation of illustrations. Prerequisites: 103L and 107L. 1 lecture and 1 full day in field each week.
- *120L. Advanced Field Geology. (3) Elston, Fitzsimmons, Kelley**
Geological mapping with plane table; mine mapping; special field problems. Prerequisites: 119L, Civil Engineering 4L. 1 full day in field each week.
- *121L-122L. Optical Mineralogy and Petrography. (4, 4) Fitzsimmons**
Optical mineralogy; the polarizing microscope; systematic study of rocks with respect to their mineralogy, texture, and genesis. Prerequisite: 74L. Course 121L may be taken separately, but 121L is prerequisite to 122L. 2 lectures, 6 hrs. lab.
- *126. Fundamentals of Geophysics. (3) Fitzsimmons**
Physical properties of rocks and their application to instrumental methods of determining subsurface geology. Prerequisites: 103L, 107L, 108L, Mathematics 15, 16, Physics 11L, 12L (or equivalent).
- *141L. Sedimentology. (4) Wengerd**
The sedimentary cycle and its products; rock-weathering and soils; transport; depositional environments; elementary sedimentary petrology. Prerequisites: 103L and senior standing. 2 lectures, 6 hrs. lab.
- *142. Petroleum Geology. (3) Wengerd**
An inductive approach to the principles of oil origin, migration, and accumulation. Characteristics of oil and gas reservoirs; techniques of petroleum exploration. Prerequisites: 141L and senior standing.
- 151-152. Problems. (2, 2)**
- *161. Ground Water. (2) Wengerd**
Occurrence and development of ground water with special emphasis on Southwestern conditions. Prerequisite: 141L.
- *171-172. Mineral Deposits. (3, 3) Kelley**
Metalliferous and nonmetalliferous deposits; their occurrence, classification, properties, origin, exploration, mining, beneficiation, and utilization. Prerequisite: 103L. Course 171 may be taken separately, but 171 is prerequisite to 172.
- *181. Geomorphology. (3) Wengerd**
Origin, development, and classification of land forms, with detailed consideration of gradation processes. Prerequisite: 107L.
- *182L. Geomorphology of the United States. (3) Anderson, Fitzsimmons**
Detailed study of the physiographic provinces and sections of the United States; emphasis on western United States. Prerequisite: 181. 2 lectures, 3 hrs. lab.
- *191L. Morphological Crystallography. (3) Rosenzweig**
The 32 point groups; crystal form and habit; crystal projections; crystal measurement and drawing. Prerequisite: Mathematics 16; Civil Engineering 1L is strongly recommended. 2 lectures, 3 hrs. lab.
- *202L. Subsurface Geology. (3) Wengerd**
Well-logging and correlation techniques; study of cuttings, drilling-time logs, electric logs, radioactivity logs, and insoluble-residue logs; construction of subsurface-contour, isopach, and isopleth maps, and of detailed cross-sections. Pre- or corequisite: 142. 1 lecture, 6 hrs. lab.

- *203. **Advanced Mineralogy.** (3) Rosenzweig
Geochemical principles; chemical and structural mineralogy; recent developments in mineral study methods. Prerequisites: 74L, 103L.
- *206L. **X-ray Crystallography.** (4) Rosenzweig
(Same as Chemistry 206L.) Theory and practical application of X-ray crystallography. Prerequisite: 191L or permission of instructor. 2 lectures, 6 hrs. lab.
- *208. **Regional Tectonics.** (2) Kelley
Principles of origin of regional structures as illustrated by Cordilleran examples.
- *210L. **Sedimentary Petrogenesis.** (3) Wengerd
Genesis of sedimentary rocks through diagenetic stages to lithification, including a study of insoluble residues, heavy minerals, and thin sections. Prerequisites: 121L, 141L. 2 lectures, 3 hrs. lab.
- *212L. **Petrography of Opaque Ores.** (2) Kelley
Determination and paragenesis of minerals in polished sections. Prerequisites: 121L, 171. 6 hrs. lab.
- *221L. **Stratigraphic Analysis.** (3) Wengerd
Quantification of stratal variations on regional bases utilizing statistical approaches to thickness, sediment content, inherent sedimentary structure, and fluid distribution in sedimentary rocks. Prerequisites: 109L, 141L. 2 lectures, 3 hrs. lab.
- *231L. **Metamorphic Petrology.** (3) Fitzsimmons
Recrystallization and metasomatism in the transformation of solid rock masses and the structural modifications attending them. Prerequisites: 103L, 121L. 2 lectures, 3 hrs. lab.
- *241-242. **Seminar.** (2, 2) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *251-252. **Problems.** (2-3 each semester) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *300. **Master's Thesis.** (6) Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd
- *400. **Dissertation.** Anderson, Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors Judah (Acting Chairman), McMurray, Jorrín; Associate Professors Irion, Richards, Cline; Assistant Professor Goldberg.

MAJOR STUDY

A total of 33 hours including Government 1, 2, 51, 52, and a minimum of 1 course from each of the following 4 groups:

Group A (International Relations and Comparative Government): 141, 143, 155, 169

Group B (Local Government and Public Administration): 101, 102, 121, 122

Group C (Political Theory): 161, 162, 168

Group D (National Government and Politics): 105, 106, 111, 175

MINOR STUDY

A total of 21 hours including Government 51, 52, and 12 hours from Groups A, B, C, D

CURRICULUM FOR STUDENTS WHO PLAN TO STUDY LAW

See School of Law.

The Department requires a qualifying examination to be administered during the first semester of graduate work in order to discover those fields in which the candidate needs additional study and to ascertain his ability to continue graduate work.

1. **Introduction to Social Science.** (3)
(Same as Social Science 1.) An introduction to those elements of thought and method common to all of the social sciences.
2. **Introduction to Social Science; Government.** (3)
An application to government of the elements of thought and method common to the social sciences. Prerequisite: 1.
51. **American Government.** (3)
Organization and procedure.
52. **American Government.** (3)
Functions.
61. **Introduction to Politics.** (3) Jorrín, Judah
The fundamental concepts of political science and the nature, forms, purposes and modes of operation of government.
62. **Politics in Action.** (3) Cline, Irion, McMurray
The application of the principles of American government to typical and specific issues, local, state and national, that come to the attention of the average citizen; the development, through demonstrations, field work, and case studies, of methods that can be utilized by citizens in influencing legislative, judicial, and administrative policies and programs.
73. **Introduction to Latin America.** (3) Jorrín
(Same as Anthropology 73, Economics 73, and Sociology 73.)
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *101. **Municipal Government and Administration.** (3) Cline
The organization, administration, and problems of counties, municipalities, metropolitan areas, and administrative districts.
- *102. **State Government and Administration.** (3) Cline, Judah, Richards
The constitutional, statutory, and administrative development of state government in the United States with special emphasis on New Mexico; problems of constitutional revision, reorganization, intergovernmental relations, political parties, trends in the executive, legislative, and judicial branches.
103. **Problems of Democracy.** (3) Irion, Judah
Government problems of special contemporary importance. (Not open to students who have taken 51.)
- *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, McMurray
The American party system, national, state, and local.
- *111. **Legislation.** (3) McMurray
The process of lawmaking in the United States, national, state, and local; legislative drafting, statute lawmaking, legislative procedure, executive ordinances, popular lawmaking, judicial review. Recommended preparation: 51, 52.
- *121. **Public Administration.** (3) Irion, McMurray, Richards
Introduction to the general problems of public administration in the modern state.
- *122. **The Administrative Process.** (3) McMurray, Richards
Policy formulation; problems of decision-making; conflicts of interests in administration; the contribution of administration to social satisfaction. Recommended preparation: 51, 121.

- *141. **International Politics.** (3) Jorrín, McMurray
The origin and nature of the problems involved in international relations. Recommended preparation: 51, 52.
- *143. **International Law and Organization.** (3) Jorrín
The nature and fundamental concepts of Public International Law, and a study of the efforts of the World Community to construct international organizations to deal effectively with its political problems. Special attention is devoted to the U.N., and the case study method will be employed in class discussions. Prerequisites: 51, 141.
- *151. **American Diplomacy.** (3) Smith
(Same as History 151.)
- *152. **Public Finance.** (3) Wollman
(Same as Economics 152.)
- *155. **The Governments of Latin America.** (3) Jorrín
The governments of a number of Latin American states including a study of their domestic problems and diplomatic policies. Prerequisites: 51, 73.
- *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.
- *169. **European Governments.** (3) Judah
A survey and comparison of the leading governments of Europe.
- *175. **Constitutional Law.** (3) Irion, Richards
The Constitution of the United States as it has been interpreted by the courts. Prerequisites: 51, 52.
- 195. **Review Seminar in Political Science.** (3)
- *201. **Methodology and Bibliography.** (3) Irion, Richards
- *American Studies 201. **Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Dabney, McMurray, Tedlock, Walter
(Same as American Studies 201.)
- *206. **Seminar in Political Parties.** (3) Judah, McMurray
- *221. **Seminar in Public Administration.** (3) McMurray, Richards
- *241. **Seminar in International Organization.** (3)
Background of international organization; special organizations for economic and scientific purposes, their methods of operation, their administrative problems; the United Nations.
- *242. **Current Problems in American Foreign Policy.** (3) McMurray
The mechanics of policy formulation; congressional and public attitudes; attitudes of foreign governments; the interrelation of foreign policies toward different areas and through international agencies.
- *251-252. **Problems.** (1-3 each semester) Irion, Jorrín, Judah, McMurray, Richards
- *260. **Seminar in Inter-American Affairs.** (3) Jorrín
- *298. **Seminar in Government Principles.** (3) Jorrín, McMurray, Richards
An attempt to integrate past and present political theory with past and present political practice on a topical basis; investigation and evaluation of the implementation of political ideals.
- *300. **Master's Thesis.** (6) Cline, Irion, Jorrín, Judah, McMurray, Richards

GREEK

See Modern and Classical Languages.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

See Education, Health, Physical Education, and Recreation.

HISTORY

Professors Longhurst, Reeve, Russell, Sacks, Scholes, Smith; Associate Professors Lieuwen (Chairman), Dabney; Assistant Professors Graham, Tobias; Visiting Assistant Professor Floyd.

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, 83. The upper division requirement includes a minimum of 5 semester courses, at least 3 of which must be concentrated in European History, or American History, or Hispanic-American History.

- 1-2. Western Civilization. (3, 3)** Graham, Longhurst, Sacks, and Staff
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)** Lieuwen
11: European exploration and settlement of the Americas. 12: The Western Hemisphere nations in the 19th and 20th centuries.
- 31. History of New Mexico. (2)** Reeve
Survey from Cabeza de Vaca to 1912.
- 51-52. History of the United States. (3, 3)** Dabney, Smith
Survey of the economic, political, intellectual, and social development of the United States from 1607 to the present, including the place of the United States in world affairs, History 51 covering the period from the beginning to 1865.
- 83. Greece and Rome in the Ancient World. (3)** Graham and Staff
Political experiments and intellectual advances of Greece; development of the Roman Empire, especially in political, legal, social, and economic institutions.
- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *115. Greek Political Institutions. (3)** Graham and Staff
Urban, federal, and imperial institutions of Classical and Hellenistic Greece; emphasis upon the Athenian Constitutions.
- *116. Rome in Periods of Transition. (3)** Graham and Staff
Emphasis upon the periods of internal strife, marking the transitions from republic to principate and from principate to autocracy.

- *121. **Political and Economic History of the Middle Ages.** (3) Staff
Later Roman Empire; the Germanic Kingdoms; Mohammedan Caliphate; feudalism on the political side; and agricultural, commercial, and guild developments on the economic side, with the Church as an important factor in Europe, 313-1370.
- *122. **Social and Intellectual History of the Middle Ages.** (3) Staff
Medieval population, social classes, intellectual currents, and institutions.
- *123. **The Renaissance.** (3) Longhurst
Survey of the major figures and movements of the Italian Renaissance.
- *124. **The Reformation.** (3) Longhurst
The principal figures of the Protestant Reformation and Catholic Counter Reformation.
- *131. **English Constitutional History.** (3) Staff
Rise and development of Parliament, Common Law, and other political institutions from 1066 to 1688 as the background for understanding modern English and American constitutions.
- *133. **History of England to 1603.** (3) Staff
Settlement of peoples; rise and development of Christianity; increase of population and economic activity; and formation of the medieval English constitution.
- *134. **History of England from 1603 to the Present.** (3) Sacks
Survey of constitutional, political, social, and religious developments in the British Isles.
- *135. **The British Empire.** (3) Sacks
British possessions overseas since 1815—Canada, Australia, New Zealand, South Africa, India, Egypt, and the dependencies.
- *137. **History of Spain.** (3) Floyd, Lieuwen
From Roman times to the present.
- *141. **International Politics.** (3) Jorrin, McMurray
(Same as Government 141.)
- *142. **The Enlightenment.** (3) Longhurst
Intellectual history of the Age of Science and the Age of Reason, 17th and 18th centuries.
- *143. **French Revolution and Napoleon.** (2) Sacks
Detailed examination of the period from 1789 to 1815, basic in understanding the story of modern Europe.
- *145. **Modern Europe, 1815-1914.** (3) Sacks
Emphasis upon the ideological struggle between such forces as absolutism, individualism, nationalism, and socialism.
- *146. **Dictatorships and Democracies in Europe Since 1914.** (3) Sacks
Emphasis upon the domestic institutional experiments in the major countries—Russia, Germany, Italy, France, and Great Britain.
- *148. **Modern Russia, 1613 to 1917.** (3) Tobias
From the beginnings of the Romanoff dynasty to the Communist Revolution.
- *149. **Soviet Russia.** (3) Tobias
Domestic affairs and international relations since 1917.
- *151. **American Diplomacy.** (3) Smith
American diplomatic personalities, problems, and policies from independence to the present day.
- *157. **History of China and Japan.** (3) Tobias
Social, political, and economic institutions from historical beginnings to modern times.
- *158. **The Far East in the Contemporary World.** (3) Tobias
Relations of Eastern Asia and the West; impact of western culture upon Chinese and Japanese society; adjustment of China and Japan to the contemporary world.
- *161. **History of Latin America.** (3) Scholes
Spanish and Portuguese occupation and colonial control in the Americas.
- *162. **History of Latin America.** (3) 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 I.

- *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, Lopes
From 1500 to the present.
- *167. **History and Civilization of Portugal.** (3) Lieuwen, Lopes
Emergence of Portugal as a national state; establishment and decline of the Portuguese Empire.
- *168. **History of Mexico.** (3) Floyd, Lieuwen, Scholes
From colonial times to the present.
- *171. **The American Colonies, 1607-1763.** (3) Dabney
The settlement of British America and a study of American institutions in their infancy.
- *172. **The Period of the American Revolution, 1763-1789.** (3) Dabney
The American Revolution as a political, social, economic, cultural, and intellectual movement.
- *175. **The Era of Sectional Conflict, 1820-1860.** (3) Smith
The impact of nationalism and sectionalism upon American life from the Missouri Compromise to the election of Lincoln.
- *176. **Civil War and Reconstruction.** (3) Smith
Political, social, economic, military, and diplomatic history of the period 1860-1877, with emphasis upon the war years, 1861-1865.
- *178. **Recent History of the United States.** (3) Reeve
The United States since 1900.
- *179. **Constitutional History of the United States.** (3) Dabney, Reeve
From English origins to the present day.
- *181. **History of the American Frontier.** (3) Dabney
The Turner frontier thesis and its critics.
- *183. **Intellectual and Social History of the United States.** (3) Dabney
American society and culture from the planting of the colonies to the beginning of the Civil War.
- *184. **Intellectual and Social History of the United States.** (3) Smith
Social and cultural movements in American history from 1860 to the present, with analyses and critiques of the ideas of representative individuals.
- *185. **Economic History of the United States.** (3) Smith
Topical study of American economic life—agriculture, industry, labor, and commerce—from the beginning to the present, stressing the relations of government and business.
- *191. **History of the Southwest.** (3) Scholes
Spanish exploration and occupation of the Southwest; colonial government and missions.
- *192. **History of the Southwest.** (3) Reeve
American intrusion, conquest, and development in the region from Texas to California beginning in 1821.
- *198. **Historiography.** (3) Graham, Longhurst
Extensive reading and discussion of the great histories and historians.
- ***American Studies 201. Interdepartmental Seminar in the Culture of the United States.** (3)
Arms, Dabney, McMurray, Tedlock, Walter
(Same as American Studies 201.)
- ***Ibero-American Studies 204. Interdepartmental Seminar in Ibero-American Studies** (3) Jorrín, Lieuwen, Lopes, Nason, Scholes
(Same as Ibero-American Studies 204.)
- *248. **Seminar in Modern Russian History.** (3) Tobias
Emphasizes the period 1861-1917.
- *251-252. **Problems.** (1-3 each semester) Dabney, Floyd, Lieuwen, Longhurst, Reeve, Sacks, Scholes, Smith, Tobias
- *255. **Seminar in Early Modern European History.** (3) Longhurst
Studies in Renaissance, Reformation, and Enlightenment history.

- *256. **Seminar in Medieval History.** (3)
Emphasis upon phases of medieval English or Spanish history.
- *258. **Seminar in Modern British History.** (3) Sacks
Emphasis upon the opening decade of the 20th century; primary materials utilized include parliamentary debates, diplomatic correspondence, memoirs, and public opinion.
- *261. **Seminar in Southwest History.** (3) Scholes
Southwestern colonial history.
- *262. **Seminar in Southwest History.** (3) Reeve
Southwestern history since 1821.
- *265. **Seminar in Colonial Latin American History.** (3) Scholes
Emphasis upon the *constitutional and cultural history* of the Spanish colonies in America.
- *266. **Seminar in Recent Latin American History.** (3) Lieuwen
Seminar in the national period of Latin America.
- *271. **Seminar in Early American History.** (3) Dabney
In odd-numbered years: the period of the American Revolution, 1763-1783; in even-numbered years: the period of the Confederation, 1781-1789.
- *272. **Seminar in Civil War Period.** (3) Smith
Intensive study of bibliography, research in source materials, and the writing of original papers on the period of the Civil War and Reconstruction.
- *273. **Seminar in Recent American History.** (3) Reeve
Topical investigation in American history since 1900.
- *300. **Master's Thesis.** (6) Dabney, Floyd, Lieuwen, Longhurst, Reeve, Sacks, Scholes, Smith, Tobias
- *400. **Dissertation.** Dabney, Floyd, Lieuwen, Longhurst, Reeve, Sacks, Scholes, Smith, Tobias

IBERO-AMERICAN STUDIES

Facilities for a program leading to the degree of Doctor of Philosophy in Ibero-American Studies are provided through an interdepartmental major. For details consult the **Graduate Bulletin**.

- *204. **Interdepartmental Seminar.** (3) Jorrín, Lieuwen, Lopes, Nason, Scholes
History, literature, and institutions of Latin America.
- *400. **Dissertation.** Floyd, Lieuwen, Jorrín, Lopes, Nason, Scholes, Ulibarrí

INDUSTRIAL ARTS

See Education, Industrial Arts.

ITALIAN

See Modern and Classical Languages.

JOURNALISM

Professor Rafferty (Chairman); Associate Professor 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 192; Government 105.

Community Newspaper Sequence—30 hours including Journalism 51, 52, 111,

122, 123, 130, and 190. Six hours may be chosen from the following: English 55, 91, Government 105. (Not offered 1960-61.)

Journalism 1 counts toward the major but is not required. It is strongly recommended for all who plan on a Journalism major.

A partial list of courses which may help the person majoring in Journalism: Business Administration 114, Advertising; Economics 141, Labor Problems; Economics 152, Public Finance.

MINOR STUDY

18 hours including Journalism 51 and 52. Six hours may be chosen from the lists given under Major Study.

1. **Introduction to Journalism.** (2) Jermain
Freshmen only. Lecture two hours a week on the meaning, history, and practices of American journalism, together with some practice in news writing and an introduction to copy-editing.
51. **News Writing and Reporting.** (3) Jermain
2 lectures, 2 hrs. lab.
52. **News Writing and Reporting.** (3) Jermain, Rafferty
Prerequisite: 51. 2 lectures, 2 hrs. lab.
61. **News Photography.** (3) Jermain
Training in the use of the standard news camera, and in the taking, developing, and printing of pictures for newspaper use, together with some study of desk preparation of photographs for the photoengraving process. 1 lecture, 4 hrs. lab.
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
101. **History of Journalism in the United States.** (3) Jermain
American newspaper and magazine history from the early Colonial periodicals through the present-day streamlined mass-production newspaper.
102. **Editorial and Special Writing.** (3) Rafferty
Practice and criticism in the writing of the editorial essay and the information editorial, and in the writing of the column, and of other interpretive matter.
111. **Copy-Editing and Makeup.** (3) Rafferty
Practice in the assembling and editing of news copy, in dummied newspaper pages, in headline writing, and in page makeup. Prerequisites: 51, 52. 2 lectures, 2 hrs. lab.
112. **Copy-Editing and Makeup.** (3) Rafferty
Continuation of 111, with emphasis on wire copy and problems of typography. Prerequisite: 111. 2 lectures, 2 hrs. lab.
122. **Law of the Press.** (3) Jermain
Lectures, discussions, and case histories in the law of libel and the Constitutional guarantees, and in laws relating to contempt and injunction proceedings and other checks of law upon the press.
132. **Writing the Magazine Article.** (3) Jermain, Rafferty
Writing the longer factual article for professional publication.
175. **Advanced Reporting.** (3) Rafferty
Discussions of, and work in, news and interpretive coverage of matters and events of public concern; visits to, and investigations into, community areas and public bodies, during additional arranged sessions each week; production of a series of newspaper or magazine-type articles by each student, each eventually during the semester to work upon a specific problem, situation, or crusade, of public significance. Prerequisite: permission of instructor.
194. **The Press as a Social Force.** (3) Rafferty

COURSES NOT CURRENTLY OFFERED

123. **The Community Newspaper.** (3)
Lectures, studies, and problems relating to operation of the rural newspaper, particularly the country weekly, including general weekly newspaper management as distinguished from problems of the large dailies, and community editorial responsibilities.

- 130. Advertising Writing, Copy and Layout. (4)**
The writing and laying-out of display advertisements. 3 lectures, 3 hrs. lab.
- 165. Management of High School Publications. (3)** Jermain, Rafferty
A survey of the problems in production of high school newspapers and yearbooks, as well as some incidental publications, including approaches to design, advertising content, the news and editorials, circulation and printing, and over-all business administration and staff management. Not open to Journalism majors. (2 hrs. credit in Summer Session.)
- 190. Problems in Local and National Advertising. (2)**
Lectures in, and discussions of, local retail and national-agency advertising problems and programs.

LATIN

See Modern and Classical Languages.

LAW

Professors Countryman (Dean), Clark, Poldervaart (Librarian), Seed, Weihofen; Associate Professor Vernon; Assistant Professors Finman, Swihart.

Note: Some courses may not be offered in certain years. For information on courses offered, the year in which courses are to be taken, which courses must be taken, etc., see pp. 182-183, *supra*.

MINOR IN THE COLLEGE OF ARTS AND SCIENCES

Available only to students accepted by the School of Law in the Combined Six-Year Program leading to the bachelor's degree in the College of Arts and Sciences and the bachelor's degree in the School of Law. Twenty-one hours of law to be selected from the following courses: 101, 103, 104, 107, 108, 110, 111, 123, 128, 135, 139, 141, 158, 165, 183, 191, 193, 196.

- 100. The Legal Profession and Ethics. (0)** Staff
Attendance and participation of all first-year students required. No subject credit. "CR" recorded on satisfactory attendance.
- 101. Criminal Law. (3)** Weihofen
Criminal law viewed as a means for the prevention of criminal behavior and a general study of *criminal procedure and administration*.
- 103-104. Contracts and Contract Remedies. (3, 4)** Vernon
The basic principles of the law of contracts; offer and acceptance, consideration, formalities in contracting, third party beneficiaries, assignment, damages, failure of condition, impossibility, discharge, illegality, damages, specific performance, restitution.
- 107-108. Torts. (2, 2)** 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. (4)** Finman
An introduction to the procedural law, including the historical development of common law pleading, reception of the common law in New Mexico, and the liberalizations achieved by state and federal codes.
- 110. Legal Analysis. (2)** Swihart
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)
- *111. Law and Society. (2)** Weihofen
The evolution of legal institutions.

112. **Legal Research.** (2) Swihart
Drafting, explaining, and defending legal documents, including law office memoranda, contracts, and statutes. (Required)
118. [117] **Estates.** (3) Seed
The law of estates in real property; common law conveyancing; considerable emphasis upon the law of future interests.
119. **Conveyancing.** [Property III] (4) Seed
The modern law of conveyancing, the use and development of land; execution and delivery of deeds, subject matter, priorities, covenants for title, estoppel by deed, agreements running with the land, natural rights, servitudes and waste.
123. **Constitutional Law.** (4) Weihofen
Historical development; protection of the commercial interest; civil rights; contemporary problems including the regulation of business, state taxation, Negro problems, and freedom of communication.
125. **Business Units.** [Corporations] (4) Countryman
The law of corporations, partnerships, and other forms of business organizations, including consideration of the principles of agency.
127. **Family Law and Community Property.** (3) Clark
Marriage, separation, and divorce; solidarity and economic relations as between husband and wife; parent and child.
128. **Local Government Law.** (2) Clark
Types and objectives of local governmental units; their place in the governmental structure — intergovernmental relations; legal aspects of original organization and changes; personnel; lawmaking by local bodies; community planning and development; regulation of business activity and private conduct; finance; auxiliary powers; legal responsibility of local governmental units; remedial sanctions.
- 131-132. [131-133-134-168] **Estate Planning I and II.** (2,3) Swihart
Analysis of problems of wills, trusts, future interests, insurance, and income, estate and gift taxation in planning property dispositions.
135. **Administrative Law.** (3) Clark
The system of legal control, exercised by the law administering agencies other than the courts; definition and forms of administrative agencies; their functions; their constitutional limitations; their statutory powers and limitations; administrative procedures; agency hearings and decisions; judicial control of administrative agencies.
139. **Labor Law.** (3) Weihofen
Historical introduction; the negotiation and administration of the collective bargaining agreement; the establishment of the collective bargaining relationship; recourse to economic weapons; the individual and the union.
140. [151] **Civil Procedure II.** (3) Finman
Code procedure, including the commencement of an action, parties and joinder of actions; pleading, provisional remedies, discovery, pretrial hearing, trial practice, appellate review, judgments, and extraordinary remedies.
141. **Legal Writing.** (2) Weihofen
Exercises and drills in legal writing and methods to be done independently by each student. (Required)
147. **Commercial Transactions.** (4) Vernon
The distribution of merchandise, payment and financing thereof; particular attention to the Negotiable Instruments Law, the Uniform Sales Act, and the Uniform Commercial Code.
150. **Practical Problems.** (0) Countryman
Lectures by practicing lawyers of a how-to-do-it nature on, and discussion of, practical and ethical problems likely to confront the beginning lawyer. One and one-half hours bi-weekly Semesters I and II. Attendance of all third-year students required. No subject credit. "CR" recorded on satisfactory attendance.
152. [153] **Security.** (3) Seed
Law of mortgages; comparative analysis of vendor-purchaser concept and remedies.
154. **Federal Jurisdiction.** [Civil Procedure III] (2) Finman
Jurisdiction and functioning of federal courts; distribution of authority between federal and state courts; the roles of federal and state law in the federal system.

156. [155] **Debtors' Estates.** [Unsecured Creditors' Rights] (3) Countryman
Principal remedies of unsecured creditors including enforcement of judgments, attachment and garnishment, fraudulent conveyances, assignments for benefit of creditors, creditors' agreements and bankruptcy.
158. [157] **Legislation.** (2) Staff
Essential characteristics of the modern legislative process. Problems and methods of legislative interpretation and drafting.
160. [159-60] **Evidence.** (4) Finman
The nature of the trial of an issue of fact, of evidence, and of legal rules of evidence; a study of the legal rules compared with the Uniform Rules; the study of cases to ascertain the issues of each case under the substantive law and the law of pleading, and to evaluate the evidence offered on such issues.
165. **Trade Regulation.** (2) Finman
Common law principles and Federal and State legislation regulating competition and monopoly.
167. **Federal Income Taxation.** (3) Swihart
Income taxation of individuals, partnerships and corporations. Problem method used.
171. **Law of Oil and Gas.** (2) Seed
Major emphasis on the oil and gas lease. Selected additional materials at discretion of instructor on conservation of natural resources, taxation of minerals, solid mineral mining, and the public domain.
173. **Conflict of Laws.** (3) Vernon
The concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and status.
183. **Jurisprudence.** (2) Swihart
Introduction to problems of legal philosophy, legal analysis and classification, and law as a social science. Emphasis on current issues regarding law and morality, legal problems as verbal problems, and the construction of an adequate legal philosophy for the lawyer as a specialist and as a member of society.
190. **Seminar in Water Law.** (2) Clark
191. **Seminar in Civil Liberties.** (2) Vernon
192. **Seminar in Corporate Reorganization.** (2) Countryman
193. **Seminar in Trade Regulation.** (2) Finman
194. **Seminar in Taxation.** (2) Swihart
195. **Seminar in Mining and Public Lands.** (2) Seed
196. **Seminar in Law and Psychiatry.** (2) Weihofen
198. **Legal Aid.** (0) Finman
Service in the office of the Legal Aid Society of Albuquerque the afternoons of one or more periods of one week throughout the year. Required of all senior students. No subject credit. "CR" recorded on satisfactory attendance.

LIBRARY SCIENCE

See Education, Library Science.

MATHEMATICS AND ASTRONOMY

Professors Hendrickson (Chairman), Kolodner, LaPaz; Associate Professors Gentry, Lewis, Martin; Assistant Professors Dubois, Mayer-Kalkschmidt, Mitchell, Steger, Wylar; Instructors Bullock, Carr, Chapman, Entringer, Fiordella, Rumph, Scheer, Stumpff.

MAJOR STUDY

The student has a choice of 3 plans for the major, each requiring 21 hours of courses numbered above 100. A student working for a teaching certificate who

plans to do graduate work in mathematics may follow Plan B. **Mathematics 111, 112, 141, and 142, or equivalents, are prerequisite to regular status in the Graduate School.**

Students considering mathematics as a major should consult the Chairman (or a Mathematics Department adviser) before enrolling in Mathematics 52, if possible, and in any case before enrolling in any course numbered above 100.

Plan A. For students working for a teaching certificate: 50, 51, 52, 109 or 121 (but not both), 115, 125, 126, and 9 additional hours numbered above 100 and approved by a Mathematics Department adviser.

Plan B. For students who may intend to do graduate work in mathematics: 50, 51, 52, 109, 111, 112, 141, 142, and any 2 of the 3 courses 125, 126, 152.

Plan C. For all other students: 50, 51, 52, 109, 147, 148, at least 1 of the courses 125, 126, 152, at least 1 of 115, 111, 112, 170, and 6 more hours numbered above 100. (121 is not permitted.)

COMBINED PROGRAM IN MATHEMATICS AND ENGINEERING

Students interested in the fields of computer design, guided missiles, electronics, or aeronautics are advised to take one of the following engineering minors:

Minor in Electrical Engineering: EE 55L, 56L, 111, 113, 131, plus 2 courses selected from EE 114, 112L, 132, 188, 191, 192. Observe prerequisites.

Minor in Mechanical Engineering, Mechanisms Option: CE 1L, 60, 102, 103L; ME 73L, 106, 114L, 157, 158L. Observe prerequisites.

Minor in Mechanical Engineering, Fluids Option: CE 60; ME 101, 102, 106, 117. Observe prerequisites.

MINOR STUDY

Mathematics 50, 51, 52, or equivalents, and at least 6 more hours in courses in Mathematics or Astronomy numbered above 50 of which 3 hours must be numbered above 100.

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, 2, 15, 16.

Courses for students of Engineering, Physics majors, Chemistry majors (B.S.), Mathematics majors, and other eligible students who plan to take Mathematics 50, 51, 52: the sequence Mathematics 15, 16, or equivalent.

Other courses open to all freshmen: Astronomy 1.

ASTRONOMY

1. Introduction to Astronomy. (2) LaPaz

Non-technical introduction to the field of astronomy having no mathematical requirement beyond the University entrance requirements.

61-62. Descriptive Astronomy and Meteoritics, I, II. (3, 3) LaPaz

An introductory course not requiring extensive knowledge of science or mathematics. Prerequisites: high school algebra, 1 unit; plane geometry, 1 unit.

123-124. Spherical Astronomy and Navigation, I, II. (3, 3) LaPaz

Mathematical foundations and applications of spherical astronomy and celestial navigation and mechanics. Prerequisites: Mathematics 16 and the Calculus, or permission of instructor.

MATHEMATICS**1. College Arithmetic. (2)**

The intuitive and the logical background of arithmetic; drill in fundamental operations; critical study of methods of presentation; topics in college arithmetic. (No credit allowed in the Colleges of Engineering and Pharmacy.)

2. Intermediate Algebra. (3)

Prerequisite: 1 unit of high school algebra. (Credit towards certificate of University College and towards general 26-hour requirement for admission to degree-granting colleges; no credit towards degree from Colleges of A.&S., B.A., Engr., F.A., Pharm.) Any student who has received a passing grade in a mathematics course numbered above 2, except for Mathematics 16, may take Mathematics 2 in audit status only.

15. College Algebra. (3)

Prerequisite: a satisfactory grade on placement test.

16. Plane Trigonometry. (2)**50-51-52. Calculus and Analytic Geometry. (4, 4, 4)**

The elements of the Calculus and of plane and solid analytic geometry. Prerequisites: 15 and 16 or equivalents and a grade of C or better in the immediately preceding course of the sequence 50, 51, 52 (or equivalent). A special examination may be used instead of a C grade to demonstrate competence.

60. Introduction to Applications of Mathematics. (3)

The applications of elementary mathematics with emphasis on the applications to the various sciences.

61. Structure of Arithmetic. (3)

Axiomatic approach to the number system, properties of the natural numbers, review of arithmetic processes with an introduction to the use of bases other than 10, directed numbers and elementary algebraic processes.

The courses which follow, except 101, are open only to students who have the instructor's permission and have completed Mathematics 52 with a grade of C or better. A special examination may be used instead of a C grade to demonstrate competence.

HA. Reading in Honors. (1-3 each semester)**HB. Research in Honors. (1-3 each semester)****101. Fundamental Concepts of Mathematics. (3) Lewis**

Offered primarily for students outside the fields of mathematics and the physical sciences in order to provide an understanding of the role of mathematics in our civilization and its relation to other branches of human endeavor as part of a liberal education. Not accepted toward a major or minor in mathematics. Prerequisite: junior standing.

102. Fundamental Concepts of Analysis. (5) Gentry, Lewis

Review of algebra; the limit process; derivatives; applications of differentiation; use of derivatives in graphing; power series; Taylor's series; integration; applications of the integral. Enrollment only by permission of instructor.

109. Introduction to Foundations of Mathematics. (3) Dubois, Hendrickson, Lewis, Wyler

Introduction to logic, elementary set theory; nature and properties of an axiom system; the principle of mathematical induction; rigorous development of the real number system; limits and continuity. Required of all mathematics majors.

- **111-112. Introduction to Modern Algebra. (3, 3)** Dubois, Steger, Wyler
Groups, rings, fields, polynomials and field extensions; vector spaces, linear forms; linear transformations and matrices; quadratic and Hermitian forms; orthogonal and unitary matrices; eigenvalues and eigenvectors; canonical representations of matrices and forms.
- **115. Theory of Equations. (3)** Dubois, Gentry, Mitchell, Steger, Wyler
Solution of quadratic, cubic, and quartic equations; geometric constructability of roots; theory of determinants; resultants and discriminants; symmetric functions; approximate methods.
- *121. Mathematics for Secondary Teachers. (3)** SS Hendrickson, Lewis
Designed to enable the high school teacher to re-examine the topics of elementary mathematics from an advanced point of view.
- *123-124. Foundations of Secondary Mathematics. (1-2, 1-2)** Hendrickson, Lewis
Number systems of various bases; introduction to logic; analysis of the axiomatic method; Hilbert's axioms for plane geometry; introduction to non-Euclidean geometry; axiomatic treatment of the rational number system; elementary theory of sets; fundamental concepts of calculus. Persons who have had 121 will receive only half credit (1 hr. each semester) for this course.
- *125-126. Introduction to Higher Geometry. (3, 3)** Gentry
Projective axioms; projectivities in the plane and in space; homogeneous point and line coordinates; conic sections; poles and polars; classification of geometries. Axioms of Euclidean geometry in the plane and in space; theorems on triangles, circles, and spheres; non-Euclidean geometries.
- *132. Mathematical Probability. (3)** LaPaz, Lewis
The basic assumptions; the addition and multiplication of probabilities; permutations and combinations; theorems of Bayes, Tchebyscheff, Bernoulli, and Laplace; binomial coefficients; Stirling's formula for the gamma function; the probability integral; geometrical probability; the normal law of error; inverse probability; applications in geometry, physics, and statistics.
- *133-134. Mathematical Statistics. (3, 3)** Lewis
Probability; binomial, Poisson, and normal distributions; elementary sampling theory; correlation and regression; chi-square, t, and F distributions; testing of hypotheses; estimation; analysis of variance; multiple linear regression.
- *140. Numerical Mathematical Analysis. (3)** Hendrickson
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)** Dubois, Gentry, Kolodner, LaPaz, Lewis, Steger, Wyler
Partial differentiation and implicit functions; systematic integration; line, surface, and volume integrals; gamma and beta functions; elliptic integrals; Fourier series; selected chapters on complex variables, vectors and differential equations; geometrical and physical applications. Prerequisite: 109 or permission of instructor.
- **143. Ordinary Differential Equations. (3)** Gentry, Hendrickson, Kolodner, Lewis, Steger
Methods of finding solutions of first order equations; singular solutions; solutions of 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, 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. [Applied Advanced Calculus] (3)** Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Wyler
Review of fundamentals of calculus. Vector algebra. Derivatives in space. Integration in space. Vector calculus. Ordinary differential equations.

** Available for graduate credit except for graduate majors in mathematics.

- **148. Advanced Engineering Mathematics I.** [Applied Advanced Calculus] (3) Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Wylor
Change of variable and limits for multiple integrals; differentiation of integrals. Series: Taylor's series in one or more variables, power series, Fourier series and orthogonal functions, series solutions of ordinary differential equations, special functions. Partial differential equations: review of partial differentiation and directional derivatives, separation of variables, boundary value problems, applications. Prerequisite: 147.
- **149. Advanced Engineering Mathematics II.** (3) Carr, Dubois, Gentry, Lewis, Mayer-Kalkschmidt, Wylor
Complex variables: fundamentals, analytic functions, series expansions, contour integration and residue theory, conformal mapping. Introduction to integral equations, calculus of variations, and finite differences. Approximate methods. Prerequisite: 147.
- *150. Differential Geometry.** (3) LaPaz
The classical theory of the metric differential geometry of curves and surfaces in three-space; introductory treatment of the theory of n-dimensional metrics by use of the tensor calculus. Prerequisite: 142 or 147.
- *152. Point Set Topology.** (3) Dubois, Mayer-Kalkschmidt, Wylor
Arithmetic of infinite numbers; axioms for topological spaces; n-dimensional Euclidean space as a topological space; properties of continuous functions; fundamental notions of dimension theory; mapping theorems, metrization theorems, Brouwer fixed-point theorem. Prerequisite: 109.
- 161. History of Mathematics.** (3)
The historical development of mathematics; analysis of the content and interrelation of selected topics in elementary and intermediate mathematics. (Recommended for those who plan to teach mathematics in secondary schools.)
- *170. Theory of Numbers.** (3) LaPaz, Steger
Elementary properties of integers; Euclid's algorithm; prime numbers; theory and application of congruences; the theorems of Wilson, Euler and Fermat and their consequences; quadratic reciprocity law; primitive roots; universal quadratic forms; Waring's theorem.
- *182. Theory of Functions of a Complex Variable.** (3) LaPaz, Mayer-Kalkschmidt, Steger
Complex algebra and calculus of analytic functions; singularities and power series expansions; geometric theory and conformal mapping; contour integration and residues; harmonic and subharmonic functions; applications in physics and engineering.
- *184. Special Functions.** (3) Mayer-Kalkschmidt
Basic topics in the theory of series representations of functions of a complex variable, integral representations, Fuchsian theory of differential equations; development of the theory of gamma functions, beta functions, Legendre functions, Bessel functions, Mathieu functions, hypergeometric functions. Prerequisite: 182.
- *191-192. Principles of Applied Mathematics.** (3, 3) Kolodner, Lewis
Applications of vector analysis; elementary theory of ordinary and partial differential equations; eigenfunction expansions and boundary value problems. Matrices, quadratic forms, and applications; linear integral equations; elements of the calculus of variations; numerical methods. Prerequisites: 141-142 or 147-148. Recommended: 111-112.

The seminars and courses which follow are open only to qualified students and permission to register requires the prior consent of the instructor.

- *194-195. Proseminar.** (2-3 each semester) Dubois, Hendrickson, LaPaz, Wylor
Advanced study and independent reading.
- *201. Seminar.** (3) Gentry, Hendrickson, Kolodner, LaPaz
Advanced reading and research. Required of all students electing to take a Master's degree under Plan II.
- **221-222. Advanced Topics in Geometry.** (3, 3) Gentry
- *233-234. Theory of Mathematical Statistics.** (3, 3)
Probability and distribution functions; small sample theory; analysis of variance and covariance; curvilinear regression; multiple and partial correlation; estimation. Prerequisites: 133, 141.
- *241-242. Advanced Topics in Analysis.** (3, 3) Hendrickson, Kolodner, LaPaz, Lewis

** Available for graduate credit except for graduate majors in mathematics.

- *243-244. **Advanced Ordinary Differential Equations.** (3, 3) Kolodner
Lie's theory. Existence and uniqueness theorems. Topology of integral curves. Periodic solutions of nonlinear equations; stability theory; linear equations in the complex domain; asymptotic integration of differential equations. Prerequisites: 112, 182 or permission of instructor.
- *245-246. **Partial Differential Equations.** (3, 3) Kolodner
Equations of first order; classification of partial differential equations; elliptic differential equations and introduction to potential theory. Hyperbolic differential equations and hyperbolic systems; parabolic equations; free boundary problems. Prerequisites: 191-192 or permission of instructor.
- *251-252. **Problems.** (1-4 each semester) Dubois, Gentry, Hendrickson, Kolodner, Lewis, Steger, Wyler
- *261-262. **Topology.** (3, 3) Kolodner, Mayer-Kalkschmidt, Wyler
Axiomatic point set topology; introduction to algebraic topology; mapping theorems and applications to analysis. Prerequisite: permission of instructor.
- *271-272. **Advanced Topics in Algebra.** (3, 3) Dubois, Steger, Wyler
- *281-282. **Theory of Functions of a Real Variable.** (3, 3) Hendrickson, Wyler
Review of set theory and of fundamental properties of real functions; differentiation; modern theories of integration; measure theory; L_p spaces. Prerequisites: 109, 141-142 or permission of instructor.
- *283. **Advanced Theory of Functions of a Complex Variable.** (3) Mayer-Kalkschmidt, Wyler
Analytic continuation; Riemann surfaces; representation of functions by infinite series and products; special functions; behavior at the boundary; conformal mapping; uniformization. Prerequisite: 182.
- *284. **Calculus of Variations.** (3) LaPaz, Lewis, Mayer-Kalkschmidt
Formulation of variation problems; derivation of necessary conditions and of sets of sufficient conditions; development of the Hamilton-Jacobi Theory; applications of the calculus of variations in dynamics, physics, and celestial mechanics.
- *285-286. **Functional Analysis.** (3, 3) Kolodner, Mayer-Kalkschmidt, Wicke
Linear transformations on Banach and Hilbert spaces; integral equations; spectral theory; semi-groups; Banach algebras. Prerequisite: 281.
- *291. **Seminar in Analysis.** (2-3) Kolodner, Mayer-Kalkschmidt
- *292. **Seminar in Algebra.** (2-3) Dubois, Steger, Wyler
- *293. **Seminar in Geometry and Topology.** (2-3) Gentry, Mayer-Kalkschmidt, Wyler
- *294. **Seminar in Applied Mathematics.** (2-3) Kolodner, Lewis
- *300. **Master's Thesis.** (6) Dubois, Gentry, Hendrickson, Kolodner, LaPaz, Lewis, Mayer-Kalkschmidt, Steger, Wyler
- *400. **Dissertation.** Dubois, Gentry, Hendrickson, Kolodner, LaPaz, Lewis, Mayer-Kalkschmidt, Steger, Wyler

MECHANICAL ENGINEERING

See Engineering, Mechanical.

MODERN AND CLASSICAL LANGUAGES

Professors Duncan (Chairman), DeJongh, Jorrín, Kercheville, Lopes, MacCurdy, McKenzie, R. Sender; Visiting Professor Sacks; Associate Professor Nason; Assistant Professors Cobos, Graham, F. Sender (Part-time), Ulibarri; Instructors Evans, Luft (Part-time), Welsh; Teaching Assistants Capsas, Dixon, Hendricks, Macas, Vargas.

GROUP REQUIREMENTS

Basic Language 1, Portuguese 167, Spanish 145, 146, and courses in the Folklore Division are not accepted toward fulfillment of Foreign Language group requirements (Group II in the College of Arts and Sciences).

LANGUAGE LABORATORY

The Department operates a Language Laboratory where students in beginning languages and conversation and composition classes go for weekly exercises in pronunciation. Any student having special difficulties may be assigned work in the Laboratory. No extra credit is allowed for this work which is done chiefly in connection with regular courses.

NOTE TO FRESHMEN

Students presenting high school language credits and wishing to enter courses above the elementary level should consult the Chairman of the Department. Spanish-speaking students should enroll in Spanish 55.

BASIC LANGUAGE

No major or minor study offered.

1. Basic Language. (2) Duncan

A comparative treatment of the grammatical structure of languages, primarily for students who have experienced difficulty with foreign language study. Class does not begin until the fifth week of the semester. (Credit towards certificate of University College and towards general 26-hour requirement for admission to degree-granting colleges; no credit towards degree from Colleges of A.&S., B.A., Engr., F.A., Nurs., Pharm.)

197. Undergraduate Problems in Language. (1-4)

Qualified students may register for the course more than once, to a maximum of 4 sem. hrs. in any one language.

CLASSICS

MAJOR STUDY

15 hours of Latin in courses numbered above 50, including 51, 52, or 91, 92; 9 hours of Greek numbered above 50; 6 hours from the following History courses: 83, 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. 220.

FOLKLORE

No major or minor study offered.

97. Southwestern Hispanic Folklore. (2) Cobos

***161. Hispanic Folktales. (2)**

***162. Hispanic Folk Ballads and Songs. (2)**

FRENCH**MAJOR STUDY**

24 hours in French in courses numbered above 50; 2 years of college work in another foreign language (or reading knowledge).

MINOR STUDY

12 hours in French in courses numbered above 50.

1-2. Elementary French. (3, 3) Yr. DeJongh and Staff
Credit for 1 suspended until 2 (or more advanced course) is completed.

51-52. Intermediate French. (3, 3) DeJongh and Staff
Grammar, reading, and translation. Prerequisites: 1, 2 or equivalent.

General prerequisites for the following courses: French 51, 52, or the equivalent.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

***101-102. Advanced Composition and Conversation. (3, 3)** DeJongh, Evans
Composition based on a thorough review of French grammar, and conversation based on modern French plays.

***105-106. Modern French Literature. (3, 3)** DeJongh, Evans
Representative works in poetry, drama and fiction for 19th and 20th centuries.

***121-122. French Classical Theatre. (2, 2)** DeJongh, Evans

***151-152. Survey of French Literature from the 11th Century to the Revolution. (3, 3)** DeJongh, Evans

***251-252. Problems in French Literature. (1-3 each semester)** DeJongh, Evans

GERMAN**MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in German in courses numbered above 50.

1-2. Elementary German. (3, 3) Yr. McKenzie, Welsh
Credit for 1 suspended until 2 (or more advanced course) is completed.

51-52. Intermediate German. (3, 3) McKenzie, Welsh
Prerequisites: 1, 2 or the equivalent.

53-54. German Conversation and Composition. (2, 2) McKenzie, Welsh
Designed to give students of 51, 52 extra practice in the writing and speaking of German. May be taken concurrently with 51 or 52.

62. Scientific German. (3) Luft, McKenzie
Readings in psychology, chemistry, mathematics, biology, and anthropology. Prerequisite: 51 or equivalent.

General prerequisites for the following courses: German 51, 52, or the equivalent.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

- *105-106. **Modern German Literature.** (3, 3) McKenzie
- *151-152. **Survey of German Literature.** (3, 3) McKenzie
- *251-252. **Problems.** (1-3 each semester) McKenzie

GREEK

MAJOR STUDY

Not offered.

MINOR STUDY

A minor may possibly be worked out if sufficient demand arises.

Students who contemplate attending a school of theology requiring an undergraduate degree should plan to take Greek 1 and 2 in the junior year and Greek 101 and 102 in the senior year.

1-2. **Elementary Greek.** (3, 3) Yr. Graham

Preparation for work in Classical Greek or in New Testament Greek. Credit suspended for 1 until 2 (or more advanced course) is completed. Alternates annually with Greek 101-102.

HA. **Reading in Honors.** (1-3 each semester) Graham

HB. **Research in Honors.** (1-3 each semester) Graham

101-102. **The Greek New Testament.** (3, 3) Graham

Close scrutiny into meanings of words. (Alternates annually with Greek 1-2.)

*139. **Greek Drama in Translation.** (3) Graham

*251-252. **Problems.** (1-3 each semester) Graham

ITALIAN

No major or minor study offered.

75-76. **Beginning Italian (Accelerated).** (3, 3) Evans

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. Graham

Credit suspended for 1 until 2 (or more advanced course) is completed.

51-52. **Intermediate Latin.** (3, 3) Graham

Prerequisites: 1, 2 or the equivalent.

91-92. **Readings in Latin Literature.** (3, 3) Yr. Graham

Designed for students with 3 or 4 years of high school Latin or other students who are capable of work more advanced than Latin 51-52. The readings assigned may vary to fit the needs and interests of the student. Regular consultations with the instructor are scheduled. May be repeated with different authors by approval of the instructor and the Chairman of the Department.

HA. **Reading in Honors.** (1-3 each semester) Graham

HB. **Research in Honors.** (1-3 each semester) Graham

- *101-102. Latin for Language Students. (3, 3)** Graham, 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)** Graham
- *251-252. Problems. (1-3 each semester)** Graham

PORTUGUESE

MAJOR STUDY

Not offered.

MINOR STUDY

12 hours in Portuguese in courses numbered above 50.

- 75-76. Beginning Portuguese (Accelerated). (3, 3)** Lopes
Prerequisite: 6 hours (or equivalent) of another Romance language or Latin.
- 75L-76L. Portuguese Drill. (2, 2)**
Corequisite: 75-76.

General prerequisites for the following courses: Portuguese 75, 76, or the equivalent.

- HA. Reading in Honors. (1-3 each semester)**
- HB. Research in Honors. (1-3 each semester)**
- *101-102. Advanced Composition and Conversation. (3, 3)** Lopes
- *101L-102L. Portuguese Drill. (2, 2)** Lopes
Corequisite: 101-102.
- *151. Survey of Portuguese Literature. (3)** Lopes
- *157. Survey of Brazilian Literature. (3)** Lopes
- *158. Contemporary Brazilian Literature. (3)** Lopes
- *165. Camões and Gil Vicente. (3)** Lopes
- *167. History and Civilization of Portugal. (3)** Lieuwen, Lopes
(Same as History 167.)
- *251-252. Problems. (1-3 each semester)** Lopes
For M.A. candidates.
- *351-352. Problems. (1-3 each semester)** Lopes
For Ph.D. candidates.

RUSSIAN

No major or minor study offered.

- 1-2. Elementary Russian. (3, 3)** Yr. McKenzie
Credit suspended for 1 until 2 (or more advanced course) is completed.
- 51-52. Intermediate Russian. (3, 3)** Graham, McKenzie
- 91. Readings in Russian Literature. (3)** McKenzie
Prerequisite: 52 or equivalent.
- 92. Readings in Non-Literary Russian. (3)** McKenzie
Periodical, historical, political, cultural, and technical materials. Prerequisite: 52 or equivalent.
- *138. Russian Literature in Translation. (3)** Graham

SPANISH

MAJOR STUDY

30 hours in Spanish courses numbered above 50, including 101-102, 151, 152, and 153; and two years of college work in another foreign language (or reading knowledge). (It is recommended that students who do not speak Spanish natively take 54 concurrently with 51 or 52.)

MINOR STUDY

18 hours in Spanish in courses numbered above 50.

- 1-2. Elementary Spanish.** (3, 3) Yr. Staff
Credit suspended for 1 until 2 (or more advanced course) is completed. Students are required to prepare a weekly assignment in the Language Laboratory.
- 51-52. Intermediate Spanish.** (3, 3) Duncan, MacCurdy, Staff
51 and 52 offered every semester.
- 54. Elementary Spanish Conversation.** (3) Kercheville, Staff
Designed primarily to give qualified students of 51-52 extra practice in the oral use of the language; therefore it is recommended that it be taken concurrently with 51 or 52. Enrollment limited to 15 students.
- 55-56. Primer Curso Para Estudiantes de Habla Española.** (3, 3) Cobos
All students who speak Spanish natively should enroll in this course. (Those in doubt about their proficiency should consult the Department Chairman.) The work consists of exercises in grammar, speech correction, and vocabulary building.
- 92. Introduction to Spanish Literature.** (3) Ulibarri, Staff
Assignments of advanced reading material and discussion of principal Spanish literary figures and movements. Prerequisites: 51, 52 or the equivalent.
- 95. Spanish Business Letter Writing.** (2) Cobos
Prerequisite: two years of college Spanish or equivalent.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- *101-102. Advanced Composition and Conversation.** (3, 3) Cobos, Nason, Ulibarri
Prerequisite: 54 or 56 or the equivalent.

Spanish 92 or the equivalent is prerequisite for all literature courses listed below

- *105. Contemporary Spanish Literature.** (3) Sender
- *107. The Spanish Novel.** (3) Kercheville, Sender
A survey of the novel with chief emphasis on the 19th century.
- *121. Modern Spanish Drama.** (3) Kercheville, Sender
- *145. Hispanic Civilization.** (2) Sender
- *146. Ibero-American Civilization.** (2) Jorrín
- *151-152. Survey of Spanish Literature.** (3, 3) MacCurdy
Required of Spanish majors.
- *153. Phonetics.** (2) Duncan, Nason
Required of all majors. Prerequisites: three years of college Spanish or equivalent.
- *157-158. Survey of Spanish-American Literature.** (3, 3) Nason, Ulibarri
Required of candidates for a graduate degree.
- *163. Mexican Literature.** (2) Ulibarri
- *164. The Literature of Argentina, Uruguay, and Chile.** (2) Nason
- *166. Spanish Drama from the Beginning through the 17th Century.** (3) MacCurdy

- *175. **Cervantes: The Quijote.** (3) MacCurdy
A detailed analysis of the **Quijote** and treatment of its place in world literature.
- *176. **Cervantes: Other Works.** (3) MacCurdy
Works other than the **Quijote** with emphasis on the **Novelas Ejemplares** and the theatre.
- *201. **History of the Spanish Language.** (3) Duncan
Introduction to linguistics and study of the phonological, morphological and semantic evolution from Latin to Spanish; intensive reading of selected Old Spanish texts. Required of all candidates for a graduate degree.
- *203. **Seminar: Medieval Spanish Literature.** (2) Duncan
Works in all the different genres from the earliest monuments of Spanish literature to the Renaissance.
- *Ibero-American Studies 204. **Interdepartmental Seminar.** (3) Jorrin, Lieuwen, Lopes, Nason, Scholes
(Same as Ibero-American Studies 204.)
- *205. **Introduction to Research Methods.** (1) Duncan, MacCurdy
Required of all candidates for a graduate degree.
- *206. **Spanish Bibliography.** (1) Duncan, MacCurdy
Required of candidates for the Ph.D. degree.
- *207-208. **Seminar: Spanish Novel to 1868.** (2, 2) Kercheville
- *241. **Seminar: American Spanish.** (2) Duncan
Diffusion of the Spanish language in the Americas, with emphasis on phonological, lexical, and other dialectal peculiarities.
- *251-252. **Problems.** (1-3 each semester) Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
For M.A. candidates.
- *253. **Linguistic Theory for Language Instruction.** (1)
Pre- or corequisite: Spanish 153.
- *254. **Application of Linguistics to Language Instruction in the Secondary School.** (2)
Prerequisite: Spanish 253.
- *255. **Techniques of the Language Laboratory.** (3) Nason
Pre- or corequisite: Spanish 153.
- *256. **Proseminar in Problems of Secondary Language Instruction.** (3)
Pre- or corequisite: Spanish 153 and either Spanish 253-254 or 255.
- *263-264. **Seminar: Spanish-American Literature.** (2, 2) Lopes, Nason, Ulibarri
Prerequisites: 157, 158 or the equivalent.
- *266. **Seminar: Golden Age Drama.** (2) MacCurdy
- *267-268. **Seminar: Spanish Literature.** (2, 2) Sender
Special periods and genres in Spanish Literature.
- *271-272. **Spanish Poetry.** (2, 2) Sender
- *278. **Seminar: The Spanish Picaresque Novel.** (2) MacCurdy
- *291-292. **Seminar: Pérez Galdós and the Modern Spanish Novel.** (2, 2) Kercheville
- *300. **Master's Thesis.** (6) Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
- *351-352. **Problems.** (1-3 each semester) Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri
For Ph.D. candidates.
- *400. **Dissertation.** Duncan, Kercheville, Lopes, MacCurdy, Nason, Sender, Ulibarri

MUSIC

Professors Gerschefski (Chairman), Frederick, Keller, Miller, Stein; Associate Professors Ancona, Batcheller, Rhoads, Robert, Schoenfeld, Snow, Stephenson; Assistant Professors Davis, McRae; Instructors Thornton, Whitlow.

Applied music faculty:

Piano	Ancona, Gerschefski, Keller, Robert, Schoenfeld
Organ	Ancona
Violin and Viola	Frederick
Cello and String Bass	Stephenson
Wind Instruments and Percussion	Rhoads, Thornton, Whitlow
Voice	Davis, McRae, Snow

MAJOR STUDY

For curricula leading to the B.F.A. in Music, see pp. 170-173.

For purposes of Combined Curriculum in Fine Arts (see p. 164): 45 hours including 5, 6, 39, 40, 65, 66; 16 hours of applied music and 4 hours of ensemble music.

MINOR STUDY

College of Arts and Sciences: 20 hours including Music 5, 6, 39, 40, and 4 hours of applied music. Combined Curriculum in Fine Arts: 25 hours including 39, 40, 5, 6; 4 hours of applied music and 2 hours of ensemble music.

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.

All music majors except string majors must have at least 2 semesters of chorus; all voice majors must have at least 4 semesters of chorus; piano majors must have 2 hours of piano ensemble, 2 hours of chorus, and 1 hour of accompanying; string majors must have 4 hours of chamber music and 4 hours in orchestra; woodwind, brass, and percussion majors must have 4 hours of band.

HISTORICAL MUSIC LITERATURE

Students may be required to attend listening periods of 1 to 3 hours each week at the option of the instructor.

The following courses come under the heading of "Historical Music Literature": HA, HB, 71, 72, 73, 74, 111, 112, 175, 177, 178, 179.

APPLIED MUSIC (PRIVATE INSTRUCTION)

Applied music is offered in the following areas: piano, voice, string instruments, wind instruments, percussion, and organ.

A student whose field of concentration is applied music is required to give a public recital in the junior year and another in the senior year. Students should consult the appropriate advisers before enrolling for applied music.

In applied music, the Department offers degree courses, and also secondary courses for students desiring a cultural background in music. The student may continue these courses through 4 years.

Students who have had previous training elsewhere will take a placement examination.

The degree courses are 1-2, 51-52, 101-102, 151-152, 201-202 (graduate course); 291-292 (graduate recital). Degree courses carry 4 hours credit each for 2 half-hour lessons per week. The secondary courses are 19-20, 69-70, 119-120, 169-170, 219-220 and 269-270 (graduate courses), and carry 1 hour credit each for 1 half-hour lesson a week.

REQUIREMENTS IN THE FIELDS OF APPLIED MUSIC

Piano. Entrance requirements for Piano majors: an ability to play major and minor scales correctly in moderately rapid tempo, also broken chords in octave position in all keys; studies such as Czerny's **School of Velocity**; Bach, **Little Preludes**; a few Bach Two-Part Inventions; and compositions corresponding in difficulty to Mozart, **Sonata C Major** (K.545), Beethoven, **Sonata Op. 49, No. 2**, Schubert, **Impromptu, Op. 142, No. 2**, **Scherzo in B Flat**.

At the end of the second year (Music 1, 2 and 51, 52), the student should have acquired a technique sufficient to play scales in parallel and contrary motion and in thirds, sixths, and tenths, and arpeggi and octaves in rapid tempo. He should have studied compositions of at least the following grades of difficulty: Bach, at least one complete French Suite; Beethoven, sonatas or movements from sonatas such as Op. 2, No. 1, Op. 10, No. 1, Op. 10, No. 2, Op. 14, No. 2; Haydn, **Sonata E Flat**, No. 3; Mozart, **Sonata F. Major** (K.332), **Fantasia in D Minor**; Mendelssohn, **Song Without Words**; Chopin, **Polonaise C Sharp Minor**, **Valse in A Minor**; Schumann, **Novette, Op. 21 No. 1**; and some compositions by standard modern composers. The student should demonstrate his ability to read at sight accompaniments and compositions of moderate difficulty.

During his junior year the piano major is required to present a junior recital. During his fourth year the piano major is required to present a senior recital.

Violin. Entrance requirements for Violin students: an ability to play etudes of the difficulty of the Kreutzer Etudes, up to No. 32, and the Spohr concerti. An elementary knowledge of the piano is desirable.

By the end of the second year the student should be able to play at least works corresponding in difficulty to the Bruch **Concerto in G Minor** and the Mozart Concerti.

By the end of the fourth year the student should be able to perform works such as the Mendelssohn **E Minor Concerto**, the Wieniawski **Concerto in D Minor**, or the Beethoven **Concerto**.

Voice. To enter the 4-year degree course in voice a student must demonstrate his ability to sing standard songs in English. He must possess a voice of pleasing timbre which promises to develop into a voice capable of public performance on a high level.

1-2.

- 8 Early Italian songs.
- 4 Art songs in original language if qualified to do so.
- 4 Old English songs.
- 2 Contemporary English songs.
- 2 Sacred songs.
- Total—20 songs.

51-52.

- 4 Early Italian songs.
- 1 Operatic Aria.
- 1 Recitative and aria from an Oratorio.
- 8 Songs by German or French composers in the original language.
- 4 Contemporary English songs.
- 2 Sacred songs.
- Total—20 songs.

101-102.

Junior recital.

151-152.

Senior recital.

Each student concentrating in voice is required to appear before a faculty committee at the end of each semester during his freshman and sophomore years to show completion of requirements.

Trumpet. (All other brasses, similar requirements).

1-2. Methods:

- Bousquet: 36 Etudes
- Getchell: 1st and 2nd Books of Practical Studies
- Hering: 40 Progressive Etudes, 32 Etudes
- Kopprasch: Book 1, 60 Selected Studies
- Schlossberg: Daily Drills
- Selected Solo Literature

51-52. Methods:

- Balay: 15 Etudes
- Johanson: Instructive Etudes
- Kopprasch: Book II, 60 Selected Studies
- Sachse: 100 Etudes
- Selected Solo Literature

101-102. Methods:

- Fontana: Studies for Cornet
- Laurent: *Etudes Pratiques Vol. 1*
- Paudert: 24 Virtuoso Studies
- Pietzsche: 32 Studies
- Selected Solo Literature; Transposition

151-152. Methods:

- Brandt: Etudes
- Charlier: *Etudes Transcendantes*
- Chavanne: Etudes
- Petit: *Grandes Etudes*
- Wurm: 20 Difficult Etudes
- Laurent: *Etudes Pratiques, Vols. 2 and 3*
- Selected Solo Literature; Transposition

Other Fields of Applied Music. Instruction in Applied Music is offered also in the following fields of instruments: Bassoon, Cello, String Bass, Flute, Horn, Oboe, Organ, Percussion; Trombone, and Tuba. For requirements in these fields, see the instructor.

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

1-2. Applied Music. Freshman Course. (2 or 4 hours each semester)**5. Harmony. (3) McRae, Schoenfeld**

Fundamentals of music; notation, scales, key signatures, intervals, triads, sight-singing, elementary dictation, keyboard harmony.

- 6. Harmony.** (3) McRae, Schoenfeld
Diatonic harmony; part writing, simple triads, first inversions, cadential six-four chord, dominant seventh and its inversions. Simple modulation. Sight-singing, dictation (harmonic, melodic, rhythmic), keyboard harmony.
- 11-12. Group Instruction in Piano.** (1, 1) Staff
Open to *all* beginners in piano exclusive of piano majors. Normally no class larger than four.
- 11-12. Group Instruction in Voice.** (1, 1) Davis, McRae
Open to all beginners in voice exclusive of voice majors. Normally no class larger than four.
- 19-20. Applied Music. Freshman Course.** (1 or 2 hours each semester) Staff
- 39-40. Music Appreciation.** (3, 3) McRae, Miller, Stein, Whitlow
Designed for the general student who wishes to supplement his academic training with an introduction to music literature. Listening periods are required.
- **43. University Mixed Chorus.** (1) Davis
- 51-52. Applied Music. Sophomore Course.** (2 or 4 hours each semester) Staff
- 63. Conducting.** (1) Davis, Frederick
Basic technique and theory of conducting.
- 64. Choral Conducting and Organization.** (1) Davis
Execution of choral techniques, score reading, choral interpretation, actual experience in choral conducting with major organization. Study of senior high school choral materials. Prerequisite: 63.
- 65. Harmony.** (3) Miller, Robert
Extended diatonic harmony; non-dominant seventh chords, change of mode. Simple alterations; secondary dominants. Chorale harmonization. Basic two-part counterpoint. Sight-singing, dictation (harmonic, melodic, rhythmic), keyboard harmony.
- 66. Harmony.** (3) Miller, Robert
Chromatic harmony: extended alterations, remote modulation. Modern trends.
- 69-70. Applied Music. Sophomore Course.** (1 or 2 hours each semester) Staff
- 71. The Classical Period.** (2) McRae, Miller
A survey of music from 1750 to 1820.
- 72. The Romantic Period.** (2) McRae, Miller
Form, style, and principal composers in the period 1800-1900.
- 73. Opera.** (2) Davis, McRae
The history of opera and its principal composers.
- 74. Concerto.** (2) McRae
The form and its principal composers from Bach to the present.
- HA. Reading in Honors.** (1-3 each semester) Staff
- HB. Research in Honors.** (1-3 each semester) Staff
May include projects in composition, upon the recommendation of the Chairman of the Department.
- 101-102. Applied Music. Junior Course.** (2 or 4 hours each semester) Staff
- *105. Counterpoint.** (3) Frederick, McRae, Robert
The two-part invention, invertible counterpoint, canon; three-part writing, chorale-prelude, fugal exposition. Prerequisite: 65. (Offered in alternate years.)
- *106. Counterpoint.** (3) Frederick, McRae, Robert
Three-part vocal counterpoint, three-part invention, four-part writing, detailed fugal analysis. Prerequisite: 105. (Offered in alternate years.)
- 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.

** May be repeated to the limit of 8 hours' credit for students of the College of Fine Arts or College of Education, 4 hours for others.

- *111. **The Contemporary Period.** (2) McRae, Miller
Stylistic tendencies of the 20th century and the study of representative works of the most important composers.
- *112. **The Baroque Period.** (2) Keller, Miller
A comprehensive study of the musical forms, styles, schools, principal composers, and general historical background of the period roughly from 1600 to 1750.
113. **Band Organization and Conducting.** (1) Rhoads
Band organization, materials; rehearsal techniques; marching band techniques; and laboratory experience in band conducting.
114. **Orchestral Conducting and Organization.** (1) Frederick
Orchestral organization, materials; string techniques; and laboratory experience in orchestral conducting.
- *119-120. **Applied Music. Junior Course.** (1 or 2 hours each semester) Davis, Frederick Keller, McRae, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
Prerequisite: 4 hrs. credit in the instrument to be studied, or equivalent. Maximum allowable graduate credit 4 hrs. or equivalent.
- **127. **Symphonic Wind Ensemble.** (1) Rhoads, Thornton, Whitlow
Large ensembles of wind instruments. Admission by audition.
- **129o. **Opera Workshop.** (2) Davis, Frederick, Snow
Designed to give singers the fundamentals in practical operatic experience.
- **131. **Chamber Music.** (1) Frederick, Stephenson, Thornton, Whitlow
The practice, performance, and study of chamber music in various ensemble groups.
- **133. **Symphony Orchestra.** (1) Frederick
Study and public performance of symphonic literature.
- **137. **Piano Ensemble.** (1) Keller, Robert, Schoenfeld
Study and performance of literature for two pianos selected from all periods including the contemporary. Open to qualified students with permission of instructor.
- **141. **University Band.** (1) Rhoads
Study and performance of marches and concert band literature. Appearance and performance in uniform at football games, Commencement and other University functions.
- **143. **University Mixed Chorus.** (1) Davis
Auditions required.
147. **Vocal Repertory.** (2) Snow
A survey of important and representative literature for solo voice.
149. **Piano Repertory.** (2) Schoenfeld
A survey of important and representative literature for piano.
- 151-152. **Applied Music. Senior Course.** (2 or 4 hours each semester) Staff
153. **Instrumentation.** (2) Rhoads, Thornton
Properties and limitations of band and orchestral instruments; detailed score study of instrumental techniques from the past to the present, scoring of works carrying through to completion of projects for actual performance. Prerequisite: 66.
- †155. **Orchestral Instruments.** (1) Frederick, Rhoads, Stephenson, Thornton, Whitlow
Group instruction in the playing of woodwind, brass, percussion, and string instruments.
- *157. **Advanced Choral Conducting.** (2) Davis, Frederick
Historical background and advanced techniques of choral organization and conducting. Prerequisites: 63, 110, and piano proficiency to be determined by the instructor.
- *158. **Advanced Instrumental Conducting.** (2) Frederick, Rhoads
Historical background and advanced techniques for conducting band and orchestra and studying scores. Admission by permission of instructor.
- *163. **Advanced Instrumentation.** (2) Rhoads
The scoring of larger works for the major ensembles carrying through to actual performance. Prerequisite: 153.

** May be repeated to the limit of 8 hours' credit for students of the College of Fine Arts or College of Education, 4 hours for others.

† May be repeated to the limit of 4 hours' credit.

- 165. Modern Arranging.** (2) Rhoads
Dance band instruments and special effects obtainable on each. Projects consisting of scoring for the modern dance orchestra. Prerequisite: 66.
- *167. Choral Arranging.** (2) Davis, Frederick, McRae
Techniques and practice in arranging for mixed chorus, men's and women's glee clubs, trios and quartets.
- *169-170. Applied Music. Senior Course.** (1 or 2 hours each semester) Davis, Frederick, Keller, McRae, Rhoads, Robert, Schoenfeld, Snow, Stephenson, Thornton, Whitlow
Prerequisite: 4 hrs. credit in the instrument to be studied, or equivalent. Maximum allowable graduate credit 4 hrs. or equivalent.
- *175. Symphonic Literature.** (2) McRae, Miller
A survey of the developments in orchestral music from Bach to the present.
- *177. The Medieval and Renaissance Periods.** (2) Keller, Miller
The musical culture of Western Europe from the early middle ages to the end of the 16th century.
- *178. History of Chamber Music.** (2) Miller
A survey of chamber music literature from the Baroque to the present.
- *179. Choral Literature.** (2) McRae
The principal developments in choral music from Palestrina to the present.
- † **187. Vocal Coaching.** (1) Robert
One half-hour of private instruction per week. Required of all senior voice students and open to juniors with permission of instructor.
- 191-192. Undergraduate Problems.** (1-3 each semester) Staff
- *193. Composers of the United States.** (2) Keller, McRae
The creative trends in the art music of the United States from the 18th century to the present. Special emphasis upon the style and contributions of the most important composers.
- **195. Accompanying.** (1) Robert
One half-hour of private instruction per week carries one hour credit. Students accompany other students in practice and at recitals as part of the requirement for receiving credit.
- *201-202. Applied Music. Graduate Course.** (2 or 4 hours each semester) Frederick, Keller, Robert, Schoenfeld, Snow, Thornton
- *205. [205-206] Advanced Composition.** (2) Keller
Individual guidance in composing for various instrumental and vocal ensembles; survey of techniques in appropriate fields; completion of one or more major works for public performance. May be repeated to the limit of 4 hrs. credit.
- *219-220. Applied Music.** (1 or 2 hours each semester) Davis, Frederick, Keller, Robert, Schoenfeld, Snow, Stephenson, Thornton
- *251-252. Problems.** (1-3 each semester) Frederick, Keller, Miller, Rhoads, Stein
- *269-270. Applied Music.** (1 or 2 hours each semester) Davis, Frederick, Keller, Robert, Schoenfeld, Snow, Stephenson
- *291-292. Graduate Recital.** (2, 2) Davis, Frederick, Keller, Robert, Schoenfeld, Snow, Stephenson, Thornton
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 Music 201, 202.
- *300. Master's Thesis.** (6) Keller, Miller, Rhoads

MUSIC EDUCATION

See Education, Music.

† May be repeated to the limit of 4 hours' credit.

** May be repeated to the limit of 8 hours' credit for students of the College of Fine Arts or College of Education, 4 hours for others.

NAVAL SCIENCE

Captain P. L. deVos, USN (Chairman), Professor; Lieutenant Colonel Rhoades, USMC, Associate Professor; Commander Sanders, USN, Assistant Professor; Lieutenant Commander Eppes, USN, Assistant Professor; Captain Cumming, USMC, Assistant Professor; Lieutenant Harnden, USN, Assistant Professor.

CURRICULUM

See p. 198.

11. **Naval Orientation.** (3)
An introduction to basic customs, traditions of the U. S. Navy; organization for national defense; junior officer responsibilities; components of modern Navy; U. S. Naval ships and aircraft; seamanship.
12. **Evolution of Sea Power.** (3)
The roles of navies of the world in shaping world affairs socially, politically, and economically with emphasis on naval strategy and tactics.
52. **Naval Weapons.** (3)
The principles of modern weapons systems, including materials and processes, fluid theory, energetics, mechanics, optics, electronics, physics of underwater sound, and atomic theory, stressing the applications of these principles in weapons systems. (Confidential security clearance required.)
101. **Naval Engineering.** (3)
Naval engineering plants, machinery and systems, including nuclear propulsion, to provide a basic understanding necessary for all naval officers.
102. **Navigation.** (3)
The theory and application of terrestrial and celestial navigation to enable prospective officers to become proficient naval navigators aboard ships and aircraft.
- 101M. **Evolution of the Art of War.** (3)
To show the Marine Corps Officer candidate how warfare has evolved from the earliest recorded times up to the present.
- 102M. **Modern Basic Strategy and Tactics.** (3)
To provide the student with a broad knowledge of the history of warfare, including a consideration of U. S. military and foreign policy, and to give an understanding of theoretical principles behind modern strategy and tactics.
151. **Naval Operations.** (3)
To provide the student with a basic understanding of relative motion, tactical communications and instructions, Rules of the Nautical Road, fleet communications, operational importance of weather and an introduction to electronic counter measures.
152. **Naval Administration and Leadership.** (3)
Three phases: Phase I, a foundation in the principles of human relations; Phase II, the basic principles of management and their application to naval situations; Phase III, command, leadership, administration, and a condensed course in the Uniform Code of Military Justice.
- 151M. **Amphibious Warfare, Part I.** (3)
Current amphibious warfare doctrine.
- 152M. **Amphibious Warfare, Part II, Leadership and Military Justice.** (3)
Continuation of 151M. Provides basic indoctrination in the principles of the Uniform Code of Military Justice, Military leadership and Marine Corps administration.

*NURSING

Professor King (Dean); Assistant Professors Dean, Jensen, Noble, Simmons; Instructors Evans, Fleischer, Lacour.

CURRICULUM

See p. 187.

With the exception of Nursing 1, Nursing courses are open only to students majoring in Nursing.

- 1. Introduction to Nursing.** (2) King
An orientation to the principles and functions of nursing and its relationship to other health professions; survey of needs for nursing from selected histories of patients, families, and communities; introduction to personal and professional adjustments.
- 51L. Fundamentals of Nursing.** (3) Evans
Principles and practice of nursing; beginning correlation of scientific and social knowledge and skills needed to plan and give nursing care adapted to each patient. 2 lectures, 4 hrs. lab.
- 52L. Fundamentals of Nursing.** (3) Evans
A continuation of 51L. 2 lectures, 4 hrs. lab.
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- 101L. Medical Nursing.** (5) Lacour
Principles and practice of nursing care required by patients with medical diseases; biological, emotional, cultural factors involved in nursing care and in the prevention and treatment of these diseases; experience in hospital and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 102L. Surgical Nursing.** (5) Dean
Principles and practice of nursing care of patients with surgical conditions; biological, emotional, cultural components of nursing care and of the prevention and treatment of these conditions; experience on hospital wards and in operating room, recovery room, and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 121L. Pediatric Nursing.** (5) Fleischer
Principles and practice of nursing care of children based on developmental patterns from birth through adolescence; biological, psychological, cultural elements influencing child-parent-nurse relationships in nursing care and in prevention and control of diseases of childhood; experience in hospital and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 122L. Obstetric Nursing.** (5) Simmons
Principles and practice of nursing care in all phases of the maternity cycle, including care of normal and premature infants; physiological, psychological, cultural factors affecting maternal and infant health and nurse-mother-family relationships; care of gynecological conditions; experience on hospital wards and in delivery room, nursery, and out-patient department. 8 wks.: 5 lectures, 20 hrs. lab.
- 135. Cancer Nursing.** (3)
Principles of nursing care of cancer patients in hospitals and at home; current knowledge of causes and effect of cancer, prevention, and treatment; psycho-physiological aspects of nursing care in preventive-medical-surgical-rehabilitative phases; community programs for the prevention and control of cancer. Prerequisite: open only to registered nurses (R.N.'s). Offered occasionally.
- 151L. Psychiatric Nursing.** (9) Noble
Principles and practice of nursing care of patients with psychiatric disorders; physiological, emotional, cultural factors involved in nursing care and in the prevention and treatment of mental illness; experience in hospital and community agencies. 4 lectures, 16 hrs. lab.
- 152L. Public Health Nursing.** (9) Jensen
Principles and practice of nursing in community programs for prevention and control of disease and promotion of health; epidemiological, cultural, economic factors influencing community health organization and nurse-family-group relationships in nursing care and health education; experience in health department, homes, clinics, schools. 4 lectures, 16 hrs. lab.
- 161L. Medical-Surgical Nursing Processes.** (5) Dean, Lacour
Synthesis of interdisciplinary knowledges applicable to needs of medical and surgical patients; organization of nursing services on medical-surgical wards; experience in hospital and out-patient department. Prerequisites: 101L, 102L. 8 wks.: 5 lectures, 20 hrs. lab.

- 162L. Advanced Obstetric-Pediatric Nursing.** (5) Fleischer, Simmons
Correlation of knowledges from biological and behavioral sciences in the care of mothers and children with health problems; organization of nursing services on obstetric and pediatric wards; experience in hospital and community agencies. Prerequisites: 121L, 122L, 8 wks.: 5 lectures, 20 hrs. lab.
- 182. Seminar: Problems and Trends in Nursing.** (2) King
Historical and contemporary issues in the evolution of nursing education and practice.

PHARMACEUTICAL CHEMISTRY

PHARMACOGNOSY

PHARMACOLOGY

See Pharmacy.

PHARMACY

Professor Cataline (Dean); Associate Professor Baker; Assistant Professors Fiedler, Malone, Stahl.

CURRICULUM

See p. 194.

- 51L. Introductory Pharmacy.** (3) Fiedler
The fundamental principles and processes of pharmacy, including background material in pharmaceutical history, literature and terminology. 2 lectures, 3 hrs. lab.
- 52. Pharmaceutical Calculations.** (2) Baker, Fiedler
Metrology: the systems of measurements and various calculations used in the practice of pharmacy. Prerequisite: 51L or concurrent registration.
- 61. History of Pharmacy.** (2) Fiedler
The historical development of pharmacy with emphasis on its history in North America.
- 122. Pharmaceutical Law.** (2) Cataline
The laws and regulations relating to the practice of pharmacy, together with a consideration of the principles of constitutional law, statutory law, and common law which bear upon the work and responsibilities of the pharmacist. Prerequisite: junior standing.
- 151L. Pharmaceutical Preparations I.** (4) Fiedler
The classification of pharmaceutical products; a survey of the official preparations by class; principles of compounding; special topics in pharmaceutical processes. Prerequisites: Pharmacy 51L, 52; Pharmacognosy 72L; Pharmaceutical Chemistry 71 (or concurrent registration); Chemistry 102, 104L. 2 lectures, 6 hrs. lab.
- 152L. Pharmaceutical Preparations II.** (4) Fiedler
A continuation of 151L. 2 lectures, 6 hrs. lab.
- 155. Drug Store Management.** (2) Cataline
Management of retail pharmacies including a description and analysis of the operating problems encountered in the successful conduct of a retail store, professional shop, and hospital pharmacy. Prerequisites: Business Administration 5 (Accounting), Economics 51 or concurrent registration, junior or senior standing.
- 158. Veterinary Pharmacy.** (2) Malone
Medicinal substances used in the treatment of diseases in animals. Prerequisite: junior standing and permission of instructor.
- 181L. Dispensing Pharmacy I.** (5) Baker
Dispensing pharmacy is broadly defined as the translation of the sciences underlying pharmacy into the art of pharmacy. More specifically it is the application of the scientific and practical knowledge upon which the practice of pharmacy is based to the extemporaneous compounding of drugs and medicines and making these available under proper control. Prerequisite: senior standing. 3 lectures, 6 hrs. lab.

- 182L. Dispensing Pharmacy II. (5) Baker**
A continuation of 181L. The compounding and dispensing of prescriptions, including incompatibilities. 3 lectures, 6 hrs. lab.
- 193. Inspection Trip. (0)**
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: senior standing.
- 197-198. Problems in Pharmacy. (1-3 hours each semester) Staff**
Experimental and library problems in some phases of pharmacy. Prerequisites: permission of instructor and of the Dean.

PHARMACEUTICAL CHEMISTRY

- 71. Inorganic Medicinals. (3) Stahl**
The chemical and pharmaceutical properties of the official and non-official inorganic substances used in medicine or in the preparation of medicinals. Prerequisite: Chemistry 2L.
- 163L. Organic Medicinals I. (5) Stahl**
A study from the chemical viewpoint of the official and non-official organic substances used in medicine or in the preparation of medicinals. These substances include those of both synthetic and natural origin. The various chemical classes of organic medicinals are subdivided upon a pharmacological basis. The laboratory includes work both in the synthesis of organic medicinals and their isolation from natural sources. This is combined with qualitative and quantitative analytical operations. Prerequisites: Chemistry 53L, 102, 104L; Pharmaceutical Chemistry 71; and senior standing. 3 lectures, 6 hrs. lab.
- 164L. Organic Medicinals II. (4) Stahl**
A continuation of Pharmaceutical Chemistry 163L. 2 lectures, 6 hrs. lab.
- 197-198. Problems in Pharmaceutical Chemistry. (1-3 hours each semester) Stahl**
Experimental and library problems in some phases of pharmaceutical chemistry. Prerequisite: permission of instructor and the Dean.

PHARMACOGNOSY

- 72L. General Pharmacognosy. (4) Stahl**
The history, sources, cultivation, collection, preparation, geographical distribution, commerce, identification, composition, morphology and histology, purity, usage, and preservation of phanerogam drugs. Prerequisites: Chemistry 101, 103L; corequisite: Biology 2L. 3 lectures, 3 hrs. lab.
- 197-198. Pharmacognosy Problems. (1-3 hours each semester) Stahl**
Experimental and library problems in some phases of pharmacognosy. Prerequisite: permission of instructor and of the Dean.

PHARMACOLOGY

- 66L. Principles of Pharmacology. (4) Malone**
The effects produced by drugs and the mechanisms whereby these effects are produced. Includes the subdivisions of pharmacology, therapy, posology, toxicology, and pharmaceutical calculations. The actions of the more important drugs are demonstrated upon living animals. Prerequisites: Biology 33L, 36, 39L; Chemistry 42L. (Primarily for students in the College of Nursing. Not open to students in the College of Pharmacy.) 3 lectures, 3 hrs. lab.
- 191. Biologic Medicinals. (3) Malone**
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) Malone**
The effects produced by drugs on the healthy organism (pharmacodynamics) and the mechanisms whereby these effects are produced. Includes the subdivisions of pharmacology, therapy, posology, toxicology, and bioassay (bioassaying). The actions of the more important drugs are demonstrated upon living animals. Prerequisite: senior standing. 3 lectures, 3 hrs. lab.

***196L. Pharmacology II. (5) Malone**

A continuation of 195L. 4 lectures, 3 hrs. lab.

197-198. Pharmacology Problems. (1-3 hours each semester) Malone

Experimental and library problems in some phases of pharmacology. Prerequisite: permission of instructor and of the Dean.

PHILOSOPHY

Professors Alexander (Chairman), Bahm; Assistant Professor Evans; Instructor Faruki.

MAJOR STUDY

Philosophy 45 or 55, 51, 53, 56, 141-142, and additional hours to a total of 30 including 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.

64. Comparative Religions. (3) Bahm

The major religions and the nature of religion.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

***102. Aesthetics. (3) Alexander**

An introduction to the philosophy of art and beauty.

***115. Philosophy of Science. (3) Evans**

Critical examination of the concepts, presuppositions, and methods of mathematics and the physical sciences.

***123. Hispanic Thought. (3) Alexander**

Major philosophies and philosophers in Spain and Hispanic America.

***129. Aesthetics Institute Workshop. (1) SS Alexander, Staff**

A one-week session in Taos, New Mexico, at the Lawrence Ranch and Harwood Foundation, featuring lectures in general aesthetics, discussions, and gallery talks by Taos artists. June 13-17, 1960. Carries graduate credit when specifically approved by the Graduate Committee.

***132. American Philosophy. [American Thought] (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 permission of instructor.
- *161. **Political Theory from Plato to Locke.** (3) Jorriñ
(Same as Government 161.)
- *162. **Political Theory from the Enlightenment to Today.** (3) Jorriñ
(Same as Government 162.)
- *171. **Plato.** (3) Alexander, Evans
Selected readings in the philosophy of Plato.
- *174. **British Empiricism.** (3) Alexander, Evans
British philosophy with special emphasis on the works of Locke, Berkeley, and Hume.
- *176. **Contemporary Philosophy.** (3) Alexander, Bahm, Evans
Prerequisite: 3 hours of philosophy.
- *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.
- *191. **Philosophy of Language.** (3) Alexander
Philosophies of meaning with special attention to the relations between language and thought.
- *241. **Seminar: Philosophical Movements.** (3) Alexander, Bahm, Evans
- *242. **Seminar: Individual Philosophers.** (3) Alexander, Bahm, Evans
- *251-252. **Problems.** (1-3 hours each semester) Alexander, Bahm, Evans
- *300. **Master's Thesis.** (6) Alexander, Bahm, Evans

PHYSICAL EDUCATION

See Education, Health, Physical Education and Recreation.

PHYSICS

Professors Regener, Thomas; Consulting Professor Froman; Associate Professors Breiland, Green, Katzenstein; Assistant Professors Leavitt (Acting Chairman), Skabelund; Visiting Lecturer Kenney (Part-time).

MAJOR STUDY

Required courses: Physics 60, 61, 62; 63L, 64L, 101, 102, 103, 104, 105, 106, 101L, 102L, 106L, 107L, 166; Mathematics 50, 51, 52, and 141-142 or 147-148; Chemistry 1L and 2L; Drawing and shop experience approved by the Department Chairman. It is recommended that at least 6 additional hours be taken from the following list of courses: Physics 110, 111L, 131, 161, 163, 191, 192, 193L, 194L, 199; Mathematics 111, 112, 191, 192; Chemistry 53L, 101, 102, 103L, 111, 112, 171; Astronomy 123, 124.

MINOR STUDY

Physics 60, 61, 62, 63L, 64L, 101, 102, 103, 105, and one of the laboratory courses numbered above 100; Mathematics 50, 51, 52, and 141 or 147.

GRADUATE STUDY

Physics 101 through 115 do not carry graduate credit for students working toward an M.S. or Ph.D. degree in Physics. Prerequisite for all courses numbered 200 and above: an undergraduate major in Physics equivalent to that outlined above.

1. **Introduction to Physics.** (2) Skabelund
A non-technical introduction, including demonstrations. (Offered occasionally.)
3. **Meteorology.** [Introduction to Weather and Climate] (3) Breiland
Introduction to the physics of the atmosphere. Weather analysis and forecasting.
- 7L. **Elementary Electronics.** (2) SS
Introduction to the concepts of electrical and electronic theory; experimental study of basic electronic components and circuit. Prerequisites: Mathematics 15, 16. (Offered in the summer session.)
- 11L. **General Physics.** (4) Breiland, Green
Mechanics, heat, sound. Required of premedical, pre dental and preoptometry students, also of ROTC students in A. & S., and of Pharmacy students. Prerequisites: Mathematics 15, 16. 3 lectures, 3 hrs. lab.
- 12L. **General Physics.** (4) Breiland, Green
Electricity and magnetism, optics. Required of premedical, pre dental and preoptometry students, also of ROTC students in A. & S., and of Pharmacy students. Prerequisites: 11L, Mathematics 15, 16. 3 lectures, 3 hrs. lab.
60. **General Physics.** (3) Breiland, Regener
Mechanics, sound. The sequence Physics 60, 61, 62, 63L, 64L is required of students planning to major in certain sciences and in engineering. Pre- or corequisite: Mathematics 50.
61. **General Physics.** (3) Breiland, Regener
Heat, electricity, magnetism. Prerequisite: 60, pre- or corequisite: Mathematics 51.
62. **General Physics.** (3) Leavitt, Regener
Optics, modern physics. Prerequisite: 61; pre- or corequisite: Mathematics 52.
- 63L. **General Physics Laboratory.** (1)
Mechanics, sound, heat. Pre- or corequisite: 61. 3 hrs. lab.
- 64L. **General Physics Laboratory.** (1)
Electricity, magnetism, optics. Pre- or corequisite: 62. 3 hrs. lab.
- **101. **Heat and Thermodynamics.** (3) Green, Katzenstein, Thomas
Kinetic theory; specific heats; conduction, convection, radiation; change of state; classical thermodynamics. Pre- or corequisite: Mathematics 141 or 147. (Offered 1961-62 (1) and alternate years.)
- **101L. **Heat Laboratory.** (2) Green, Katzenstein, Leavitt
Measurement of temperature; heat transfer; radiation; specific heat; vacuum technique; viscosity; molecular motion and Avogadro's number; change of state. 1 lecture, 3 hrs. lab. Pre- or corequisite: Mathematics 141 or 147. (Offered in Semester II every year.)
- **102. **Physical Optics.** (3) Green, Katzenstein, Leavitt, Thomas
Wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion, absorption and scattering; black-body radiation. Pre- or corequisite: Mathematics 141 or 147. (Offered 1960-61 (1) and alternate years.)
- **102L. **Optics Laboratory and Geometrical Optics.** (2) Green, Katzenstein, Leavitt
Interference and diffraction phenomena; spectroscopic and spectographic methods with visible and ultra-violet light. Pre- or corequisite: Mathematics 141 or 147. 1 lecture, 3 hrs. lab. (Offered in Semester I every year.)
- **103-104. **Analytical Mechanics.** (3, 3) Green, Katzenstein, Leavitt, Thomas
Statics and dynamics of particles and rigid bodies; introduction to Lagrange's method; hydrodynamics. Pre- or corequisites: Mathematics 141, 142 or 147, 148. (Offered 1960-61 and alternate years.)

** Available for graduate credit except for graduate majors in physics.

- **105-106. Electricity and Magnetism.** (3, 3) Green, Katzenstein, Regener, Skabelund, Thomas
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 141, 142 or 147, 148. (Offered 1961-62 and alternate years.)
- **106L. Electricity Laboratory.** (2) Green, Katzenstein, Leavitt
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. Pre- or corequisite: Mathematics 141 or 147. 1 lecture, 3 hrs. lab. (Offered in Semester I every year.)
- **107L. Electronics Laboratory and Electron Physics.** (3) Green, Katzenstein, Leavitt
Characteristics of vacuum tubes; amplifiers; oscillators; oscilloscopes; rectifiers, photoelectric cells; pulsing and scaling circuits. Pre- or corequisite: Mathematics 141 or 147. 2 lectures, 3 hrs. lab. (Offered in Semester II every year.)
- **110. Atomic and Nuclear Physics.** (3) Leavitt, Skabelund
An introduction to experiment and theory in atomic and nuclear structure: fundamental particles, the vector model of the atom, elementary relativity and wave mechanics, collision processes, energy levels and radiation. Prerequisites: 1 year of calculus, 1 year of college physics. (Offered every year.)
- **111L. Atomic and Nuclear Physics.** (3) Katzenstein, Leavitt
Experiment and theory in atomic and nuclear structure (continued from 110): radiation, radioactivity, nuclear cross sections and reactions, fission, reactors and high-energy accelerators. Prerequisites: 1 year of calculus, 1 year of college physics. 2 lectures, 3 hrs. lab. (Offered every year.)
- **112. Physics of Matter.** (3) Green, Leavitt, Skabelund
An introduction to experiment and theory in the structure of matter: physical properties and mechanics of fluids, binding in solids, mechanical and thermal properties of solids, electrical and magnetic properties of matter, semi-conductors, plasmas. Prerequisite: Physics 110. (Offered every year.)
- **115. Introduction to Atomic and Nuclear Physics.** (3) SS
Elementary particles, electro-magnetic radiation, structure of the atom, radioactivity, nuclear reactions. Prerequisite: one year of college physics. (Offered in the summer session.)
- *131. Atmospheric Physics.** (3) Breiland, Regener
Distribution of gases in the atmosphere; the ozone problem; distribution and variation of temperature; the ionosphere; aurora and the light from the night sky; atmospheric electricity. Pre- or corequisite: Mathematics 141 or 147. (Offered occasionally.)
- **153-154-155. Physics for Secondary School Teachers.** (4, 4, 4) Green, Skabelund
The fundamental concepts and principles of physics presented in qualitative and semiquantitative fashion from a mature point of view. Topics covered will include mechanics, heat and sound, thermodynamics, optics, electricity and magnetism, and selected topics in contemporary physics. Prerequisite: permission of instructor.
- *161-162. Experimental Research Methods.** (1, 1) Green, Katzenstein, Leavitt, Regener, Skabelund
Advanced laboratory work. Prerequisite: permission of instructor.
- *163-164. Experimental Research Methods.** (2, 2) Green, Katzenstein, Leavitt, Regener
Advanced laboratory work. Prerequisite: permission of instructor.
- *166. Methods of Theoretical Physics.** (3) Skabelund, Thomas
Problems of diffusion, heat conduction, wave motion and potential theory. Prerequisite: permission of instructor. (Offered in Semester II every year.)
- *191. Contemporary Physics.** (3) Green, Leavitt, Regener, Skabelund, Thomas
The theory of special relativity; early quantum theory with applications to specific heats and to atomic and molecular spectra. (Offered every year.)
- *192. Contemporary Physics.** (3) Green, Leavitt, Regener, Skabelund, Thomas
An introduction to wave mechanics, to nuclear physics and to cosmic radiation. (Offered every year.)

** Available for graduate credit except for graduate majors in physics.

- *193L-194L. **Contemporary Physics Laboratory.** (2, 2) Green, Katzenstein, Leavitt, Regener
Experiments in atomic and nuclear physics: e/m, thermionic emission, atomic energy levels, counting systems for nuclear radiations, natural and artificial radioactivity; alpha-, beta- and gamma-ray spectroscopy, and nuclear magnetic resonance absorption. Prerequisite: permission of instructor.
- *199. **Seminar.** (1 hr. each semester) Froman, Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *201. **Statistical Mechanics and Thermodynamics.** (3) Katzenstein, Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Offered 1961-62 (I) and alternate years.)
- *203. **Advanced Mechanics.** (3) Green, Katzenstein
Variational methods of treating dynamical problems; application of Lagrangian and Hamiltonian formalism to general physical systems. (Offered occasionally.)
- *206. **Methods in Theoretical Physics (Advanced).** (3) Skabelund, Thomas
Prerequisite: approval of instructor. (Offered 1961-62 (II) and alternate years.)
- *211-212. **Electrodynamics.** (3, 3) Green, Katzenstein, Thomas
Maxwell's equations applied to radiation, scattering, microwaves; Lorentz invariance. 211 is prerequisite for 212. (Offered 1960-61 and alternate years.)
- *221-222. **Quantum Mechanics.** (3, 3) Katzenstein, Thomas
Uncertainty principle; potential wells and barriers; perturbation theory; relativistic wave equation; quantization of the radiation field. (221 offered in Semester I every year; 222 offered occasionally.)
- *231. **Atomic Structure.** (3) Green, Katzenstein, Skabelund, Thomas
Relativistic corrections; Zeeman and Stark effects; calculations for many-electron systems. Prerequisite: 221. (Offered occasionally.)
- *240. **Advanced Nuclear Physics.** (3) Green, Leavitt
Selected topics in nuclear physics with detailed discussion of experimental work and related theory. Radioactive decay, nuclear reactions, neutron physics, elementary particles, high energy interactions, cosmic rays, modern experimental techniques. Prerequisite: 221.
- *241. **Theoretical Nuclear Physics.** [Nuclear Physics] (3) Green, Thomas
Binding energies; scattering; photo-disintegration; compound nuclei; beta-decay, alpha-decay; nuclear forces. Prerequisite: 221. (Offered 1961-62 (II) and alternate years.)
- *251-252. **Problems.** (2-4 each semester) Green, Katzenstein, Leavitt, Regener, Thomas
- *299. **Advanced Seminar.** (1-3 each semester) Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *300. **Master's Thesis.** (6) Froman, Green, Katzenstein, Leavitt, Regener, Skabelund, Thomas
- *350. **Research.** (6-12) Green, Regener, Thomas
- *400. **Dissertation.** Froman, Green, Regener, Thomas

PORTUGUESE

See Modern and Classical Languages.

PSYCHOLOGY

Professors Peterson (Chairman), Norman; Associate Professor Benedetti; Assistant Professors Ellis, Morgan, Nolan.

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, 193L, and 196L. The minor must be selected from one of the following departments: Biology, Chemistry, Mathematics, or Physics.

MINOR STUDY

18 hours in Psychology, of which at least 6 hours must be in courses numbered above 100.

- 1L-2L. General Psychology.** (3, 3) Yr.
Credit suspended for 1L until 2L is completed. 1L is prerequisite to 2L. 2 lectures, 2 hrs. lab.
- 51. General Psychology.** (3)
An introductory course. Not open to those who have credit for 2L.
- 52. Fields and Methods.** (3) Morgan
Prerequisite: 2L or 51.
- 60. The Psychology of Adjustment.** (3) Benedetti
The principles of adjustment and mental hygiene will be stressed. Prerequisite: 2L or 51.
- 80. Statistical Methods in Psychology.** (3) Morgan
- HA. Reading in Honors.** (1-3 each semester)
- HB. Research in Honors.** (1-3 each semester)
- *101. Social Psychology.** (3) Nolan
The behavior of individuals as influenced by other human beings. Prerequisite: 2L or 51.
- *102. Psychology of Personality.** (3) Benedetti, Ellis, Norman
An advanced course in theories, genetic development, and measurement of personality. Prerequisite: 2L or 51.
- *103. Abnormal Psychology.** (3) Benedetti, Norman
Prerequisite: 60 or permission of instructor.
- *110. Educational Psychology.** (3) Ellis, Morgan
Prerequisite: 2L or 51.
- *111. Child Psychology.** (3) Nolan
The principles of human behavior in infancy and childhood. Prerequisite: 2L or 51.
- *112. Adolescent Psychology.** (3) Nolan
Development and problems during the adolescent period. Prerequisite: 2L or 51.
- *113. The Psychology of Exceptional Children.** (3) Nolan, Norman
Prerequisite: 2L or 51.
- *121L. Experimental Psychology.** (3) Ellis
Sensory and perceptual processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- *122L. Experimental Psychology.** (3) Ellis
Learning processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- *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
Problems arising from man-machine relationships. Prerequisite: 2L or 51.
- *158. [58] Industrial Psychology.** (3) Morgan
Prerequisite: 2L or 51.
- *170. History of Psychology.** (3) Peterson
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
A comparative study of heredity, maturation, learning, and the higher mental processes as revealed in various animals. Prerequisite: 2L or 51.
- *193L. **Animal Psychology Laboratory.** (2) Peterson
6 hrs. lab.
- *196. **Physiological Psychology.** (3) Peterson
Correlation of behavior and structure, with emphasis on the nervous system. Prerequisite: 2L or 51.
- *196L. **Physiological Psychology Laboratory.** (2) Peterson
6 hrs. lab.
- 197. **Readings in Psychology.** (1-2 hours per semester to a maximum of 6.)
Independent reading in a particular field of psychology, accompanied by conference and followed by an integrated report covering material read. Prerequisite: 2L or 51.
- 199. **Undergraduate Problems.** (1-3)
Prerequisite: 2L or 51.
- *201. **Advanced Social Psychology.** (3) Nolan
Prerequisites: 80, 101.
- *221. **Experimental Design.** (3) Peterson
- *230. **Introduction to Projective Techniques.** (3) Norman
Prerequisite: 103.
- *232L. [132L] **Individual Mental Testing.** (3) Nolan, Norman
Practical laboratory study and discussion of Binet and Wechsler tests. Prerequisite: 80, 131.
- *251-252. **Problems.** (2-3 each semester) Benedetti, Ellis, Morgan, Nolan, Norman, Peterson
- *258. **Advanced Industrial Psychology.** (3) Morgan
- *270. **Psychology of Thinking.** (3) Benedetti
- *272. **Theories of Learning and Psychological Systems.** (3) Ellis
- *275. **Psychoanalytic Theory.** (3) Benedetti, Norman
Prerequisite: 103.
- *296. **Advanced Physiological Psychology.** (3) Peterson
Prerequisite: 196.
- *300. **Master's Thesis.** (6) Benedetti, Ellis, Morgan, Nolan, Norman, Peterson
- *400. **Dissertation.** Benedetti, Ellis, Morgan, Nolan, Norman, Peterson

RECREATION

See Education, Health, Physical Education and Recreation.

RUSSIAN

See Modern and Classical Languages.

SECONDARY EDUCATION

See Education, Secondary.

SOCIAL SCIENCE

- 1. **Introduction to Social Science.** (3)
An introduction to those elements of thought and method common to all of the social sciences.
- 2. **Introduction to Social Science: Economics or Government or Sociology.** (3)
(Same as Economics 2, Government 2, Sociology 2.)

SOCIOLOGY

Professor Walter; Associate Professor Ellis; Assistant Professor Sasaki (Acting Chairman); Visiting Assistant Professor Taylor.

MAJOR STUDY

Sociology: 30 hours in Sociology courses, 18 hours of which must be above 100, and including courses 55, 56, 102 and 190.

Social Work: Combined major and minor; see Social Work Curriculum, p. 119.

MINOR STUDY

18 hours in Sociology courses, of which 12 must be above 100.

1. **Introduction to Social Science.** (3)
(Same as Social Science 1.) An introduction to those elements of thought and method common to all of the social sciences.
2. **Introduction to Social Science: Sociology.** (3)
An application to sociology of the elements of thought and method common to the social sciences. Prerequisite: 1.
55. **Principles of Sociology.** (3)
Prerequisite to most advanced courses in the Department.
56. **Social Problems.** (3)
61. **Courtship and Marriage.** (3)
65. **The Fields of Social Work.** (3)
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.
70. **Community Analysis.** (2)
Methods for systematic analysis of problems and resources of small communities and more complex urban areas; typical ecological, population distribution, problem area, and expansion patterns; the structures of social relations related to such patterns.
73. **Introduction to Latin America.** (3) Jorrín
(Same as Anthropology 73, Economics 73, and Government 73.) Does not give credit toward a Sociology major or minor.
82. **Urban and Rural Sociology.** (3)
- HA. **Reading in Honors.** (1-3 each semester)
- HB. **Research in Honors.** (1-3 each semester)
- *102. **Collective Behavior.** (3) Sasaki, Walter
Sociological approach to the analysis of human behavior. Prerequisite: 55 or equivalent.
- *109. **Criminology.** (3) Walter
Crime as a social phenomenon. Prerequisite: 55 or equivalent.
- *110. **Juvenile Delinquency.** (2) Walter
Prerequisite: 55 or equivalent.
111. **Social Problems of Latin America.** (3) Jorrín
Does not give credit toward a Sociology major or minor. Prerequisite: 73 or equivalent.
- *115. **Probation and Parole.** (2) Walter
Treatment of delinquents and criminals with a major objective of rehabilitation; accumulated experience and studies of results; community interests and responsibilities involved; predictions of success of treatment. Prerequisite: 109 or 110.
- *117. **Social Problems of New Mexico.** (3) Walter
144. **Social Security.** (3)

- *150. **Industry and Society.** (3) Sasaki, Walter
- *154. **Race and Culture Relations.** (3) Sasaki, Walter
- *160. **Sociology of Industrial Relations.** (3) Sasaki, Walter
The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 82 or equivalent.
- *163. **History of Social Thought.** (3) Walter
Prerequisite: 55 or equivalent.
- *165. **Essentials of Interviewing.** (3)
Principles and methods common to all interviewing, and variations in different settings; adapted to personnel work in schools, health and welfare agencies; the integration of sociological, psychological, and cultural understandings in solving individual problems.
- *181. **Society and Personality Development.** (3)
The interaction of personality, the social structure, and ideologies; the integration of contributions from various behavior sciences based primarily on contemporary psychiatric theory.
- *190. **Current Theory and Methods in Sociology.** (2) Sasaki, Walter
- *195. **Population Problems.** (3) Walter
Prerequisite: 82 or equivalent.
- 197. **Field Observation and Participation.** (3)
- *American Studies 201. **Interdepartmental Seminar in the Culture of the United States.** (3) Arms, Dabney, McMurray, Tedlock, Walter
(Same as American Studies 201.)
- *241. **Seminar: Social Organization.** (3) Walter
- *242. **Seminar: Social Processes.** (3) Sasaki, Walter
- *300. **Master's Thesis.** (6) Walter

SPANISH

See Modern and Classical Languages.

SPEECH

Professor Eubank (Chairman); Associate Professors Bundy, Christ, Owens, St. Onge.

MAJOR STUDY

36 hours in Speech including 1 and 2 (or equivalent), 51, 60, 80, 91 or 154, 101, 170, 195 and 198.

All students majoring or minoring in Speech must take a Speech Placement Test and must make a speech and voice recording.

SPEECH MAJOR WITH EMPHASIS IN TELEVISION-RADIO. 42 hours completed in the Departments of Speech and Dramatic Art. Required Speech courses: 1, 2, 51, 60, 65, 80, 101, 170, 198 and 6 hours selected from 165, 166, and 180. Required Dramatic Art courses: 52 and 6 hours selected from 89, 152, and 161.

MINOR STUDY

21 hours completed in the Department of Speech, including 1, 2, 60, 80 and 170.

SPEECH TESTS

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.

FORENSICS

The Forensic Society, an extracurricular organization, sponsors work in debate, extempore and impromptu speaking, oratory, and other forensic activities. Students interested in these activities should join the Forensic Society. Sophomores and juniors should take Speech 77, Discussion and Debate.

The Speech Department sponsors a chapter of Tau Kappa Alpha, National Honorary Forensic Fraternity. Qualified students who have distinguished themselves in intercollegiate forensic participation are eligible for membership.

1-2. Fundamentals of Speech. (3, 3)

The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.

3. Speech Improvement. (3) Christ, St. Onge

Articulation, voice and language problems in formal and informal speech situations. 2 lectures, 2 hrs. lab.

5. Speech for Foreign Language Students. (3) Christ, 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. [Speech for Business and Professions] (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. [90] 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. [Argumentation and Debate] (3, 3) Eubank, Owens

Prerequisite: for 77: permission of instructor; for 78: 77 or permission of instructor.

80. Scientific Bases of Speech. (3) Christ, St. Onge

The bases of the speech process as presented in the scientific materials of such related fields as physics, physiology, psychology, and linguistics.

91. **History of the English Language.** (3) Kuntz
(Same as English 91.)
- *101. **Phonetics.** (3) Chreist, St. Onge
English phonetics as applied to the problems of articulation, pronunciation, rhythm, dialects, and to the teaching of speech, English, and to speech correction.
- *105. **Advanced Public Speaking.** (3) Eubank, Owens
Rhetorical principles combined with construction and delivery of various forms of public address. Prerequisites: 1 and 2 or 55 or permission of instructor.
- *121. **Pathologies of Hearing.** (3) Chreist
Principles of diagnosis of hearing problems and of teaching the acoustically handicapped to speak. Prerequisites: 80 and 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: 80 and 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. Prerequisites: 1, 2, and permission of instructor.
- *154. **The Nature of Language.** (3) Newman
(Same as Anthropology 154.)
- *165. [190] **Broadcast Programming and Policy.** [Advanced Television and Radio Production] (3) Bundy
Principles of television and radio programming; analysis of programming practices; regulations governing broadcasting; responsibilities of broadcasters. Prerequisite: 51 and permission of instructor.
- *166. [192] **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 Public School.** (3) Eubank
For teachers in the elementary and secondary schools. On the elementary level, emphases are placed on an analysis of speech needs of children, basic speaking skills, speech improvement and oral reading. Some attention will be given to choric speaking and auditorium programs. On the secondary level, emphases will be placed on discussion, debate, public speaking, oral interpretation and general speech problems. Prerequisite: permission of instructor.
- *180. [185] **Advanced Television-Radio Production and Directing.** [Utilization of Educational Television and Radio] (3) Bundy
Practicum in television-radio. Detailed study of directing techniques; planning, preparation, and presentation of program projects. Prerequisite: completion of all other requirements of Television-Radio Emphasis.
- *195. **American Public Address.** (3) Eubank, Owens
Speeches of great American speakers studied against the background of their lives and the issues of the times. Prerequisites: 1, 2, 77, or permission of instructor.
- *196. **British Public Address.** (3) Eubank, Owens
Speeches of great British speakers studied against the background of their lives and the issues of the times. Prerequisites: 1, 2, 77, or permission of instructor.
- *198. **Persuasion.** (3) Eubank, Owens
An advanced course open to students with senior classification or graduate standing. Consideration will be given such topics as arresting and holding attention, audience and crowd behavior, leadership, propaganda devices, barriers to motivation, social consciousness, suggestion, primary drives and motivation. Prerequisite: permission of instructor.

- *200. Introduction to Graduate Study.** (3) Eubank, Owens
The various areas within the field of speech with emphasis on research problems, techniques and bibliography. Each student will submit a seminar paper demonstrating research ability. Required of all graduate students.
- *220. Seminar in Television and Radio.** (3) Bundy
- *230. Advanced Speech Pathology.** (3) Christ, St. Onge
The less common types of speech and hearing problems which require clinical treatment. Aphasia, esophageal speech problems, speech for the hard of hearing and deaf, and lip reading are discussed. The work of the speech pathologist in the clinic is emphasized.
- *240. Classical Rhetoric.** (3) Eubank, Owens
Emphasis on rhetorical criticism; a study of the works of the ancients that have influenced rhetorical thought, criticism and speaking (Attic and Roman orators and rhetoricians).
- *251-252. Problems.** (2-3 each semester) Bundy, Christ, Eubank, Owens, St. Onge
- *300. Master's Thesis.** (6) Bundy, Christ, Eubank, Owens, St. Onge

STATISTICS

*ENROLLMENT FOR 1959-60

	Men	Women	Total
Semester I, 1959-60	5232	2052	7284
Semester II, 1959-60	4559	1909	6468
Summer Session, 1959 (including workshops)	1252	1011	2263

SUMMARY OF DEGREES CONFERRED 1901-1959

Bachelor's	Earned Degrees			Total Earned Degrees	Honorary Degrees
	Master's	Law	Doctor's		
10,275	2,060	202	114	12,651	73

* Exclusive of correspondence, extension, and non-credit courses.

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