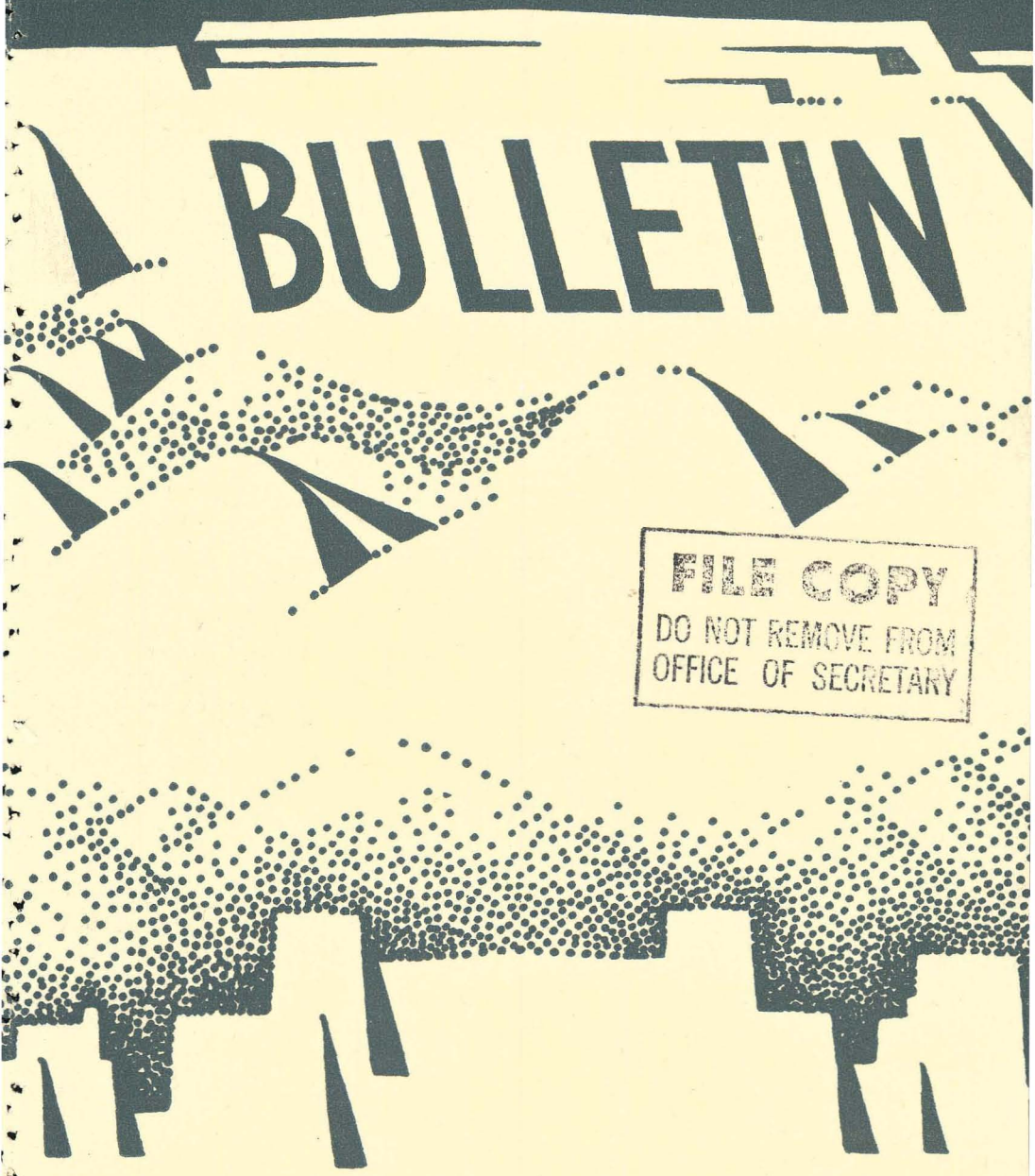
the university of new mexico

BULLETIN



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1959-60 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

COLLEGE OF LAW (other than beginning Law Admissions).....Dean of the College of Law

STUDENT AFFAIRS.....Director of Student Affairs

STUDENT EMPLOYMENT.....Placement Bureau

PERSONAL WELFARE.....Dean of Women or Men

NAVAL RESERVE OFFICERS TRAINING CORPS.....Executive Officer, Naval R.O.T.C. Unit

AIR FORCE RESERVE OFFICERS TRAINING CORPS.....Air Force R.O.T.C. Unit

VETERANS' INFORMATION.....Veterans Affairs Officer

EXPENSES .....Comptroller

VOCATIONAL ADVISEMENT, COUNSELING, TESTING.....Counseling and Testing Services

CORRESPONDENCE AND EXTENSION COURSES.....Extension Division

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

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

BULLETIN

Sixty-Eighth Catalog Issue
1959-60

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May, 1959

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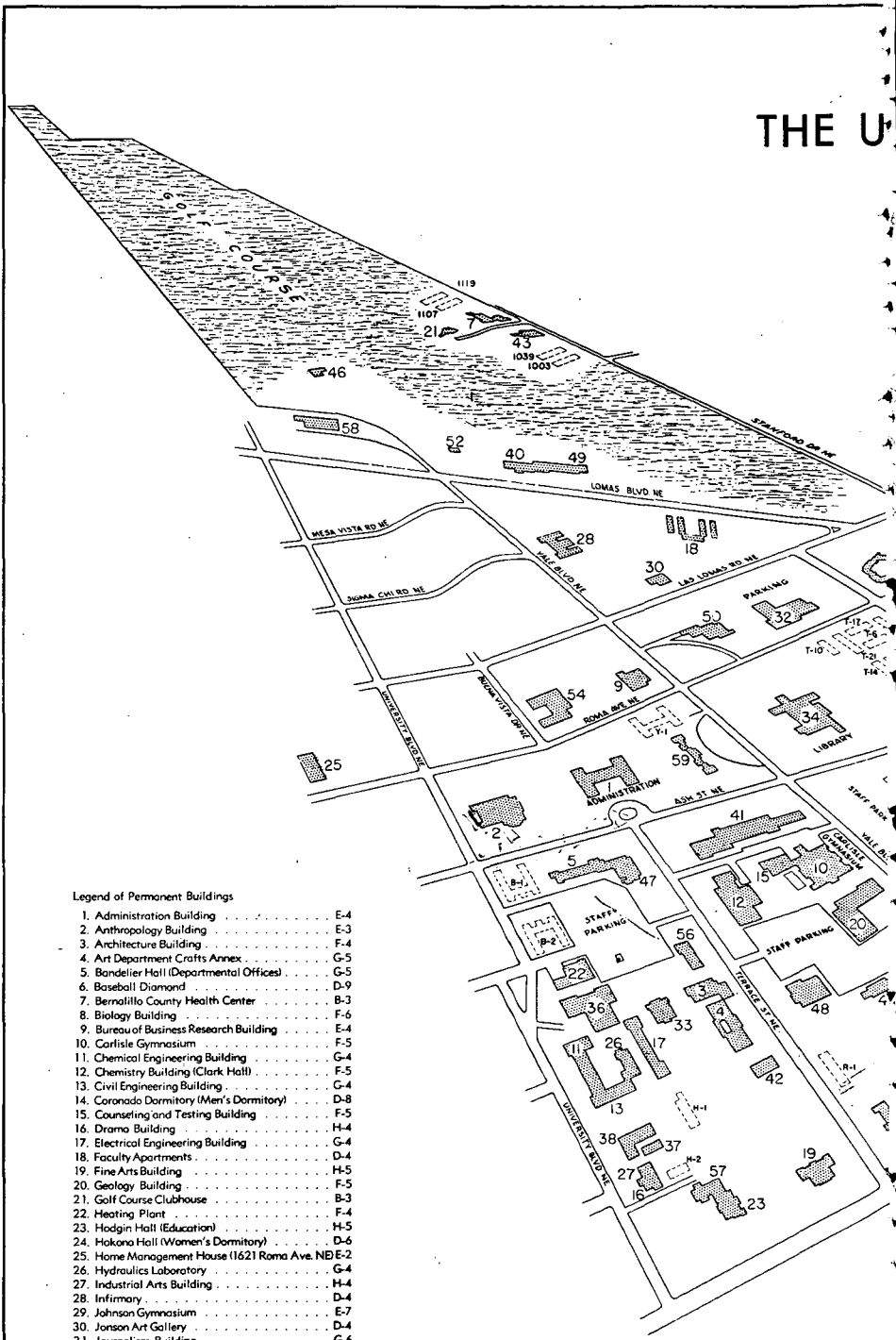

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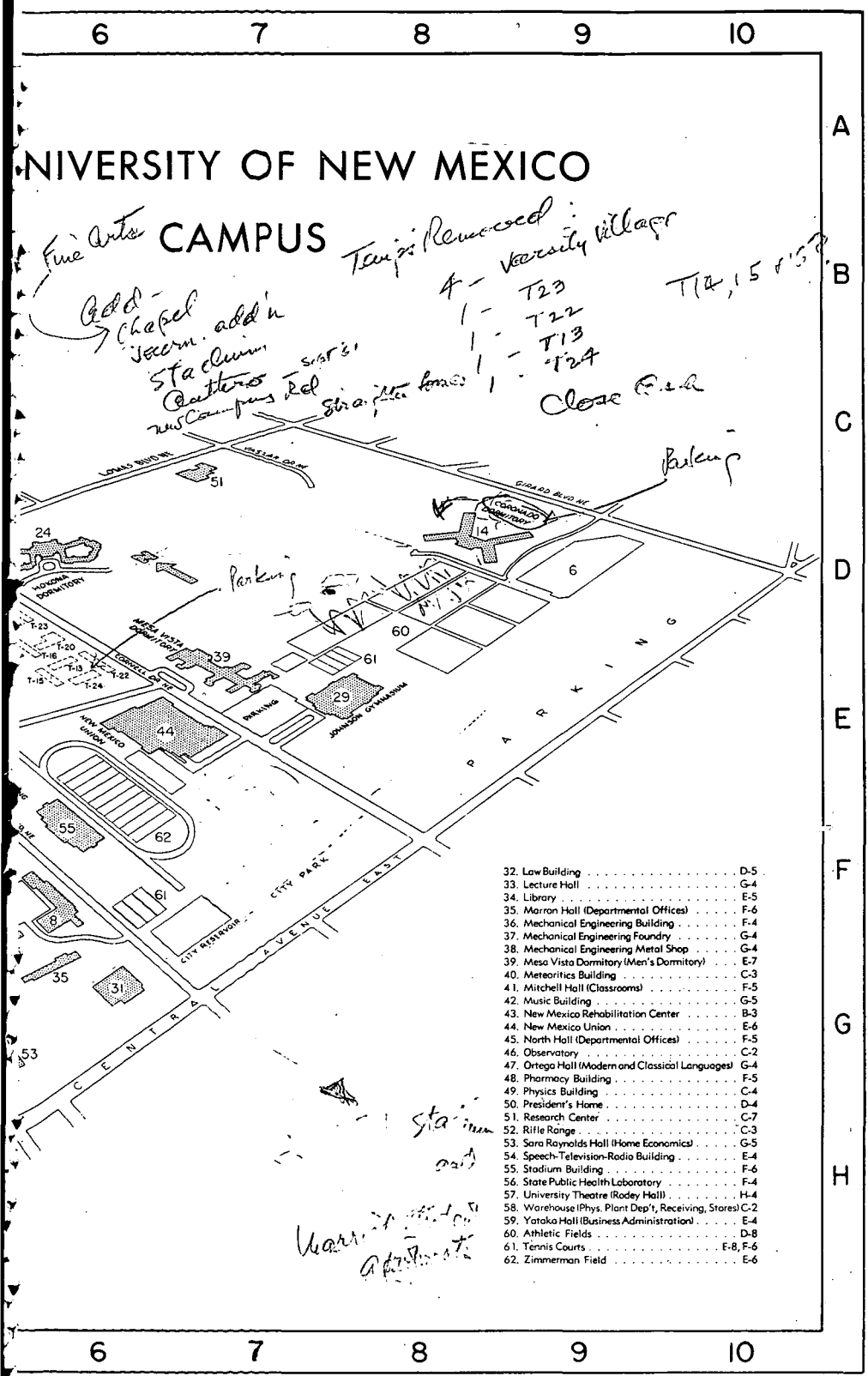
NIVERSITY OF NEW MEXICO

CAMPUS



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CALENDAR OF THE UNIVERSITY

1959 SUMMER SESSION **1959**

New Student Tests and Instructions ..... June 18, Thursday—June 19, Friday, 8 a.m.
Registration ..... June 20, Saturday
Instruction begins; late registration fee applies ..... June 22, Monday
Registration closes; last day for additions to programs;
change of program fee applies ..... June 27, Saturday noon
End of second week; last day for withdrawal from
course without grade ..... July 3, Friday, 5 p.m.
End of sixth week ..... August 1, Saturday noon
Session ends ..... August 14, Friday, 10 p.m.

1959 ANTHROPOLOGY FIELD SESSION

Registration ..... June 20, Saturday
Excavation begins ..... June 22, Monday
Field session ends ..... August 1, Saturday

SEMESTER I, 1959-60 **1959**

New Student Tests—for students in the Albuquerque area:
... September 5, Saturday or September 8, Tuesday, 8:00 a.m., Room 122, Geology Bldg.
New Student Assembly ..... September 13, Sunday, 7:30 p.m., Johnson Gymnasium
New Student Tests and Instructions ..... September 14, Monday, September 15, Tuesday, September 16, Wednesday
Preregistration processing (supplies and records)
for all AFROTC students, both old and new,
Building Y-1 ..... September 16, Wednesday—September 17, Thursday
New Student Advisement ..... September 17, Thursday
Registration ..... September 18, Friday—September 19, Saturday
Instruction begins; late registration fee applies ..... September 21, Monday
Registration closes; last day for additions to programs;
change of program fee applies ..... October 3, Saturday noon
End of fourth week; last day for withdrawal from
course without grade ..... October 16, Friday, 5 p.m.
NMEA Convention, Recess begins ..... October 21, Wednesday, 10 p.m.
Classes resume ..... October 26, Monday, 8 a.m.
Homecoming, holiday ..... October 31, Saturday
Midsemester ..... November 14, Saturday
Thanksgiving Recess begins ..... November 25, Wednesday, 10 p.m.

1959

Classes resume ..... November 30, Monday, 8 a.m.
End of twelfth week; last day for removal
of Incomplete grade ..... December 18, Friday, 5 p.m.
Christmas Recess begins ..... December 19, Saturday noon

1960

Classes resume ..... January 4, Monday, 8 a.m.
*Closed Week (pre-examination week) ..... January 18, Monday—January 25, Monday
*Semester Final Examinations ..... January 25, Monday—January 30, Saturday
Semester ends ..... January 30, Saturday, 10 p.m.

* Closed Week and Semester Final Examination Week, January 18—January 30, are closed to extra-curricular and social campus activities.

CALENDAR OF THE UNIVERSITY

SEMESTER II, 1959-60 **1960**

New Student Tests—for students in the Albuquerque area: ..... January 30, Saturday, Room 122, Geology Bldg.
New Student Assembly ..... February 1, Monday, 7:30 p.m., Johnson Gymnasium
New Student Tests and Instructions ..... February 2, Tuesday—February 3, Wednesday, 8 a.m.
New Student Advisement ..... February 4, Thursday
Registration ..... February 5, Friday—February 6, Saturday
Instruction begins; late registration fee applies ..... February 8, Monday
Registration closes; last day for additions to programs; change of program fee applies ..... February 20, Saturday noon
End of fourth week; last day for withdrawal from course without grade ..... March 4, Friday, 5 p.m.
Midsemester ..... April 2, Saturday
Easter Recess begins ..... April 13, Wednesday, 10 p.m.
Classes resume ..... April 21, Thursday, 8 a.m.
Honors Assembly ..... April 27, Wednesday, 10 a.m.
End of twelfth week; last day for removal of Incomplete grade ..... May 6, Friday, 5 p.m.
Fiesta Day, holiday ..... May 14, Saturday
†Closed Week (pre-examination week) ..... May 23, Monday—May 30, Monday
†Semester Final Examinations ..... May 30, Monday—June 4, Saturday
Semester Ends ..... June 4, Saturday, 10 p.m.
Baccalaureate Service ..... June 7, Tuesday, 7:30 p.m.
Commencement Exercises ..... June 8, Wednesday, 7:30 p.m.

1960 SUMMER SESSION **1960**

Registration (probable date) ..... June 18, Saturday
Instruction begins (probable date) ..... June 20, Monday

† Closed Week and Semester Final Examination Week, May 23—June 4, 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 wtih 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 College 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 of study in a given field. The Bachelor of Laws degree, however, is a professional degree and requires at least 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 College 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

---

*Resigned March 15, 1960

ADMINISTRATIVE OFFICES AND OFFICERS, 1958-59

TOM L. POPEJOY, M.A., LL.D. ..... President
EDWARD FRANKLIN CASTETTER, Ph.D. ..... Academic Vice-President
JOHN NICOLL DURRIE, B.A. ..... Secretary of the University

INSTRUCTIONAL DIVISIONS

COLLEGE OF ARTS AND SCIENCES

DUDLEY WYNN, Ph.D. ..... Dean
MIGUEL JORRÍN, Dr. Pub. and Civ. Law ..... Director, ~~School of Inter-American Affairs~~* Division of Foreign Studies.

COLLEGE OF BUSINESS ADMINISTRATION

VERNON GUY SORRELL, Ph.D. ..... Dean

COLLEGE OF EDUCATION

CHESTER COLEMAN TRAVELSTEAD, Ph.D. ..... Dean

COLLEGE OF ENGINEERING

MARSHALL ELMER FARRIS, M.S. in M.E. ..... Dean

DIVISION OF EXTENSION, SUMMER SESSION, AND COMMUNITY SERVICES

HAROLD ORVILLE RIED, Ph.D. ..... Director
MORRIS H. McMICHAEL, Ed.D. ..... Assistant Director
JOHN F. WIDERGREN, M.A. ..... Assistant Director
ORVILLE GILBERT EASTMAN, M.A. ..... Assistant Director
~~BERNARR COOPER, Ph.D. ..... Director of University Television and Radio~~

COLLEGE OF FINE ARTS

EDWIN EUGENE STEIN, Ph.D. ..... Dean

GRADUATE SCHOOL

EDWARD FRANKLIN CASTETTER, Ph.D. ..... Dean

HOLLOMAN GRADUATE CENTER

JOE REEDER FOOTE, Ph.D. ..... Director

COLLEGE OF LAW

~~ROBERT EMMET CLARK~~, LL.B. ..... Acting Dean

LOS ALAMOS GRADUATE CENTER

GUIDO HERMAN DAUB, Ph.D. ..... Director

COLLEGE OF NURSING

ELEANOR MARIETTA KING, M.P.H. ..... Dean

COLLEGE OF PHARMACY

ELMON LAMONT CATALINE, Ph.D. ..... Dean

UNIVERSITY COLLEGE

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

AIR FORCE R.O.T.C. UNIT

Herbert M. Campbell Lt, ~~ELMER GUY SCHOGGEN, JR.~~, Col., U.S.A.F., B.A. ..... Commanding Officer

NAVY R.O.T.C. UNIT

PAUL LOUIS deVOS, Capt., U.S.N., M.A. ..... Commanding Officer
~~CHARLES WALTER SMITH, JR., Comdr., U.S.N., B.S.~~ ..... Executive Officer

* In 1959-60 the School of Inter-American Affairs will become the Division of Foreign Studies.

JACK T. RHOADES, Lt. Col, U.S.M.C.

STUDENT AFFAIRS DIVISION

SHERMAN EVERETT SMITH, Ph.D. ..... Director of Student Affairs

ADMISSIONS AND RECORDS OFFICE

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COUNSELING AND TESTING SERVICES

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EVELYN PHILLIPS STURGES, M.D. ..... University Physician
~~JOSEPH WILLIAM KIMBROUGH~~, M.D. ..... University Physician
Herbert Hartfiel M.D.

NEW MEXICO UNION

WILLIAM ROBERT BIERBAUM, B.S. ..... Director
List others here? cf. Stout, Marsh, O'Connell, etc.

PLACEMENT BUREAU

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STUDENT PERSONNEL OFFICES

LENA CECILE CLAUVE, M.A. ..... Dean of Women
WILLENE PAXTON, M.A. ..... Assistant Dean of Women

HOWARD VINCENT MATHANY, M.A. ..... Dean of Men
GERALD WESLEY HUBBART, JR., B.S. ..... Assistant Dean of Men

William M. Chase, M.S. ..... Associate Dean of Men

BUSINESS DIVISIONS

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HARLAND EDWIN SYMMONDS ..... Director

DINING HALL—WOMEN

DORIS M. BARKER, B.S. ..... Director

GOLF COURSE

Dick McGuire
~~ERIC L. R. WILLIAMS~~ ..... Manager

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HOUSING—WOMEN

Mary Elizabeth Reddy
~~MARY FAILING~~, M.A. ..... Director

PHYSICAL PLANT

MYRON FICKAS FIFIELD, B.S. in C.E. ..... Director
JOHN A. JACOBSON, B.S. in E.E. ..... Superintendent of Operations

PRINTING PLANT

SHEPARD ATHERTON RAYMOND ..... Manager

F. Claude Blumpa ? Manager of Station KNME-

GENERAL DIVISIONS

ALUMNI ASSOCIATION

PAUL EDWARD McDAVID, M.A. ..... Administrative Assistant to the President
WINIFRED STAMM REITER, M.A. ..... Managing Director

FUND DEVELOPMENT

PAUL EDWARD McDAVID, M.A. ..... Director
IKE SINGER, JR. ..... Assistant Director

INTERCOLLEGIATE ATHLETICS

PAUL EDWARD McDAVID, M.A. ..... Director of Athletics
JOHN P. DOLZADELLI, B.S. ..... Manager of Athletics

LIBRARY

DAVID OTIS KELLEY, M.A. ..... Librarian
HELEN HEFLING, B.S. in L.S. ..... Associate Librarian

PUBLIC INFORMATION OFFICE

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RESEARCH AND PUBLICATIONS DIVISIONS

BUREAU OF BUSINESS RESEARCH

RALPH LEMON EDGEL, M.B.A. ..... Director

ENGINEERING EXPERIMENT STATION

MARSHALL ELMER FARRIS, M.S. in M.E. ..... Director

DIVISION OF GOVERNMENT RESEARCH

FREDERICK CLARENCE IRION, Ph.D. ..... Director

INSTITUTE OF METEORITICS

[1] LINCOLN LaPAZ, Ph.D. ..... Director

NEW MEXICO HISTORICAL REVIEW

FRANK DRIVER REEVE, Ph.D. ..... Editor

RESEARCH CENTER

HAROLD LEROY WALKER, E.Met. ..... Director of Research

SOUTHWESTERN JOURNAL OF ANTHROPOLOGY

LESLIE SPIER, Ph.D. ..... Editor

UNIVERSITY PRESS, PUBLICATIONS SERIES, NEW MEXICO QUARTERLY

ROLAND FRANCIS DICKEY, B.A. ..... Director

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[1] On sabbatical leave for the year.

FACULTY

FOR THE ACADEMIC YEAR, 1958-59

TOM L. POPEJOY, B.A., M.A., University of New Mexico; LL.D., University of Arizona. President of the University.

EDWARD FRANKLIN CASTETTER, B.S., Lebanon Valley College; M.S., Pennsylvania State College; Ph.D., Iowa State College. Academic Vice-President of the University, Dean of the Graduate School, Professor of Biology.

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

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

[10] **JOHN DUSTIN CLARK**, B.S., M.S., New Hampshire College of Agriculture and Mechanical Arts; Ph.D., Stanford University. Professor Emeritus of Chemistry.

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

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

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

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

ALBERT LeROY GAUSEWITZ, B.A., LL.B., University of Minnesota; LL.M., Stanford University. Dean Emeritus of the College of Law, Professor Emeritus of Law.

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

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

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

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

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

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

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

LYNN BOAL MITCHELL, B.A., Ohio State University; M.A., Ph.D., Cornell University. Professor Emeritus of Classics.

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

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

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

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[10] Deceased February 20, 1958.

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

WILMA LOY SHELTON, B.A., B.L.S., University of Illinois. Librarian Emeritus, Professor Emeritus of Library Science.

ELIZABETH PARKINSON SIMPSON, B.S., University of New Mexico; M.S., Iowa State College. Professor Emeritus of Home Economics.

LESLIE SPIER, B.S., College of the City of New York; Ph.D., Columbia University. Professor Emeritus of Anthropology.

DOROTHY WOODWARD, B.A., Randolph-Macon Woman's College; M.A., University of Colorado; Ph.D., Yale University. Professor Emeritus of History.

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

MATTHEW JOSEPH AHERN, JR., B.A., St. Thomas College; M.A., Tulane University. Instructor in English.

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

NINA McGINNIES ANCONA, B.A., M.A., University of New Mexico. Associate Professor of Music, Acting Chairman of the Department of Music.

ROGER YATES ANDERSON, B.S., M.S., University of Arizona. Instructor in Geology.

FRANK ANGEL, JR., B.S., University of New Mexico; M.S., University of Wisconsin. Assistant Professor of Education.

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

TRUDE ROSE AUFHAUSER, B.S., Teachers College, Columbia University; M.P.H., Yale University. Assistant Professor of Nursing.

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

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

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

GEORGE LeROY BAKER, Ph.C., B.S., University of Colorado; M.S., University of Florida; Ph.D., Purdue University. Associate Professor of Pharmacy.

WILLIAM ERNEST BAKER, B.S.M.E., University of Texas. Instructor in Mechanical Engineering.

JAMES ROY BARCUS, B.S., University of New Mexico. Instructor in Physics.

WILLIS LEE BARNES, Assistant Professor of Physical Education.

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

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

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

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

DAVID THEODORE BENEDETTI, B.A., M.A., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Psychology.

NADENE SIMON BLACKBURN, B.A., Eastern Washington College of Education; M.A., Northwestern University. Assistant Professor of Dramatic Art.

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[1] On sabbatical leave for the year.

PHILIP EDMUND BOCQUET, B.S., Texas Agricultural and Mechanical College; M.S.E., Ph.D., University of Michigan. Associate Professor of Chemical Engineering.

FREDERICK GEORGE BOHME, B.A., M.A., Occidental College; Ph.D., University of New Mexico. Visiting Lecturer in History (Part-time).

JOHN G. BREILAND, B.A., Luther College; M.S., State University of Iowa; Ph.D., University of California at Los Angeles. Associate Professor of Physics.

CHESTER RAYMOND BROWN, B.S., M.S., Stout Institute. Associate Professor of Education.

KENNETH ALLEN BRUFFEE, B.A. Wesleyan University; M.A., Northwestern University. Instructor in English (Part-time).

EDITH BUCHANAN, B.A., Meredith College; Ph.D., Duke University. Assistant Professor of English.

BAINBRIDGE BUNTING, B.S., University of Illinois; Ph.D., Harvard University. Associate Professor of Art and Architecture.

HARRY BURKILL, B.A., M.A., Trinity College, Cambridge; Ph.D., University of Sheffield. Visiting Lecturer in Mathematics.

LLOYD ROBERT BURLEY, B.Ed., Duluth State Teachers College; M.A., Ph.D., State University of Iowa. Professor of Physical Education.

THOMAS VINCENT CALKINS, JR., B.A., M.A., University of New Mexico. Instructor in English (Part-time).

PATRICK GARRY CARR, B.S., Illinois Institute of Technology; M.A., University of Oregon. Instructor in Mathematics.

[7] **WILLIAM FREDERICK CARSTENS,** B.A., Ph.D., State University of Iowa. Visiting Lecturer in English (Part-time).

RAYMOND N. CASTLE, B.S., University of Idaho; M.A., Ph.D., University of Colorado. Professor of Chemistry.

THOMAS TELISPHORE CASTONGUAY, B.Met.Engr., University of Detroit; Ph.D., Iowa State College. Professor of Chemical Engineering, Chairman of the Department of Chemical Engineering.

ELMON LAMONT CATALINE, B.S., M.S., Ph.D., University of Michigan. Dean of the College of Pharmacy, Professor of Pharmacy.

LUCILE WILSON CATON, B.S. in H.&P.E., University of New Mexico; Certificate in Physical Therapy, Stanford University. Instructor in Physical Education (Part-time).

THOMAS CHRISTY CHAPIN, Ph.B., Yale University; LL.B., University of Colorado; LL.M., Columbia University. Associate Professor of Law.

[7] **FRANK SPRINGER CHAPMAN,** B.A., B.Ed., University of Colorado; M.A., University of New Mexico. Instructor in Mathematics (Part-time).

DONALD R. CHELF, B.A., M.A., State University of Iowa. Instructor in Physical Education, Assistant Football Coach.

JOAN CUNNINGHAM CHILLAG, B.S., Loyola University; M.A., Northwestern University. Instructor in English.

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.

LOUIS CISLO, Lieutenant, U.S.N.; B.A., Harvard University. Assistant Professor of Naval Science.

ROBERT EMMET CLARK, B.A., University of New Mexico; LL.B., University of Arizona. Associate Professor of Law, Acting Dean of the College of Law.

WILLIAM BELLMONT CLARKE, B.A., University of California. Instructor in Civil Engineering.

LENA CECILE CLAUVE, B.A., University of New Mexico; M.A., Teachers College, Columbia University. Dean of Women, Professor of Music Education.

WOODROW WILSON CLEMENTS, B.A., New Mexico Highlands University; M.A., University of New Mexico. Assistant Professor of Physical Education.

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[7] First semester only.

DOROTHY IRENE CLINE, B.A., University of Michigan; M.A., University of Chicago. Assistant Professor of Government.

RICHARD HUDSON CLOUGH, B.S., University of New Mexico; M.S., University of Colorado; Sc.D., Massachusetts Institute of Technology. Associate Professor of Civil Engineering.

RUBÉN COBOS, B.A., M.A., University of New Mexico. Assistant Professor of Modern Languages.

BERNARR COOPER, B.A., Wabash College; Ph.D., Stanford University. Assistant Professor of Speech. Director of University Television and Radio.

[7] **JAMES LEE CRAMER**, B.S., University of New Mexico. Instructor in Civil Engineering (Part-time).

[9] **BONNER MILTON CRAWFORD**, B.A., Central Michigan College of Education; M.A., Ph.D., University of Michigan. Professor of Education.

GLENN ARTHUR CROSBY, B.S., Waynesburg College; Ph.D., University of Washington. Assistant Professor of Chemistry.

[3] **NORTON BARR CROWELL**, B.S., M.A., Southern Methodist University; M.A., Ph.D., Harvard University. Associate Professor of English.

LOUIS CHARLES CULLEN, B.S., M.S., University of New Mexico. Assistant Professor of Physical Education, Assistant Football Coach.

GEORGE DAVID CUMMING, Captain, U.S.M.C., B.S., San Jose State College. Assistant Professor of Naval Science.

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

MARGARET KEIPER DAILEY, B.A., DePauw University; LL.B., University of New Mexico. Supervisor of Legal Aid.

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

WILLIAM FABER DAVIS, JR., B.A., Princeton University; M.A., Yale University. Instructor in English.

VIRGINIA MELINDA DEAN, B.S., M.S., University of California. Assistant Professor of Nursing.

EILEEN ROGGE DeDEA, B.B.A., University of Minnesota; M.A., University of New Mexico. Instructor in Business Administration.

WILLIAM FREDERICK JEKEL DeJONGH, B.A., M.A., University of Michigan; M.A., Ph.D., Harvard University. Professor of Modern Languages.

[7] **ELAINE MARIE CATHERINE de KOONING**, Hunter College, Leonardo Da Vinci Art School, American Artists School. Visiting Lecturer in Art.

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.

FRANKLIN MILLER DICKEY, B.A., University of Wisconsin; Ph.D., University of California at Los Angeles. Assistant Professor of English.

LORAIN FREDRICK DIEHM, B.S., M.S., Kansas State Teachers College. Instructor in Physical Education, Head Athletic Trainer.

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

[2] **RALPH WADDELL DOUGLASS**, B.A., D.F.A., Monmouth College; Art Institute of Chicago; Julian's Academy (Paris); Art Students' League of New York. Professor of Art.

RICHARD CHARLES DOVE, B.S. in M.E., M.S. in M.E., Ph.D., Iowa State College. Associate Professor of Mechanical Engineering.

DONALD WARD DUBOIS, B.S. in M.E., M.A., Ph.D., University of Oklahoma. Assistant Professor of Mathematics.

JULIAN SMITH DUNCAN, B.A., M.A., University of Mississippi; B.D., Emory University; Ph.D., Columbia University. Professor of Economics, Chairman of the Department of Economics.

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[1] On sabbatical leave for the year.
[2] On sabbatical leave first semester.
[3] On sabbatical leave second semester.
[7] First semester only.
[9] On leave 1957-59.

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

[7] **ALFRED ECKERSLEY**, B.Sc.Tech., University of Manchester, England; M.S.E.E., University of Pennsylvania. Lecturer in Electrical Engineering (Part-time).

RALPH LEMON EDGEL, B.A., University of Utah; M.B.A., Northwestern University. Director of the Bureau of Business Research, Professor of Business Administration.

AUGUSTE BADIH EL-KAREH, Certificate, University of Beirut; Certificate, Faraday House, London; Dipl.Elek.Ing., University of Delft. Instructor in Electrical Engineering.

FLORENCE HAWLEY ELLIS, B.A., M.A., University of Arizona; Ph.D., University of Chicago. Professor of Anthropology.

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

HENRY CARLTON ELLIS, B.S., College of William and Mary; M.A., Emory University; Ph.D., Washington University. Assistant Professor of Psychology.

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

GRACE LONG ELSER, B.Ped., New Mexico Highlands University; B.S., Kansas State College; M.S., Cornell University. Associate Professor of Home Economics, Chairman of the Department of Home Economics.

WOLFGANG EUGENE ELSTON, B.S., City College of the City of New York; M.A., Ph.D., Columbia University. Assistant Professor of Geology.

ROGER CHARLES ENTRINGER, B.S., Iowa State College; M.S., University of New Mexico. Instructor in Mathematics (Part-time).

GEORGE PEOPLES EPPES, Lieutenant Commander, U.S.N.; B.S., United States Naval Academy. Assistant Professor of Naval Science.

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

[8] **ISMAEL ESCOBAR**, Lic. en Ciencias Fisicas y Matematicas, University of Madrid; Dr. Sc., University of Barcelona; Dr. in Aerology, University of Toulouse. Visiting Professor of Physics.

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

MELBOURNE GRIFFITH EVANS, B.A., Reed College; M.A., Ph.D., University of California. Visiting Lecturer in Philosophy.

WINIFRED EVANS, Diploma, Harlem Hospital School of Nursing; B.S., University of Pennsylvania. Instructor in Nursing.

WILBURN JOHN EVERSOLE, B.A., Berea College; M.Sc., Ph.D., New York University. Professor of Biology.

MARY FAILING, B.A., M.A., University of Oregon. Head Resident, Hokona Hall, Instructor in Education (Part-time).

MARSHALL ELMER FARRIS, B.S. in M.E., Purdue University; M.S. in M.E., University of Texas. Dean of the College of Engineering, Director of the Engineering Experiment Station, Professor of Mechanical Engineering.

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

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

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

ROLAND LEON FINLEY, B.S.C.E., University of Arkansas. Instructor in Civil Engineering.

HOWARD VIVIAN FINSTON, B.A., M.A., Ph.D., Stanford University. Associate Professor of Business Administration.

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[7] First semester only.

[8] Second semester only.

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

[2] **MARTIN WILLIAM FLECK**, B.S., M.S., University of New Mexico; Ph.D., University of Colorado. Associate Professor of Biology.

[7] **JAMES ROBERT FLEMING**, B.S., University of New Mexico. Instructor in Physical Education (Part-time).

JOE REEDER FOOTE, B.S., Texas Technological College; Ph.D., Massachusetts Institute of Technology. Professor of Mathematics, Director of the Graduate Center at the Holloman Air Force Missile Development Center.

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

[8] **JUDSON FORD**, B.P.E., Springfield College. Visiting Lecturer in Government (Part-time).

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

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

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

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

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

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

CHARLES CLARENCE GILBERT, Captain, U.S.A.F.; B.S., Tri-State College. Assistant Professor of Air Science.

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

RUDYARD BYRON GOODE, B.A., Davis-Elkins College; M.A., Ph.D., University of Virginia. Assistant Professor of Business Administration (Part-time).

BURTON LeROY GORDON, B.A., San Francisco State College; Ph.D., University of California. Assistant Professor of Geography.

FRANÇOISE CECILE GOURIER, Licence, DEPS, Faculte des Lettres, Paris; M.A., University of California; Ph.D., University of California at Los Angeles. Assistant Professor of Modern Languages.

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

DOUGLAS MAYO GRAGG, B.A., University of Texas; M.A., University of New Mexico. Instructor in Mathematics (Part-time).

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

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

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

[8] **NORMAN CHARLES GREENBERG**, B.S., Juilliard School of Music; M.A., Columbia University. Visiting Lecturer in Secondary Education (Part-time).

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

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

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[2] On sabbatical leave first semester.
[6] On leave second semester.
[7] First semester only.
[8] Second semester only.

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

EUGENE ALFRED HAMMEL, B.A., University of California. Assistant Professor of Anthropology.

JOYCE ANNETTE HANKINS, B.S. in Ed., M.Ed., University of Missouri. Instructor in Mathematics.

CHARLES GLENDON HARNDEN, Lieutenant, U.S.N.; B.S., University of Missouri. Assistant Professor of Naval Science.

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

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 Division 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.

[7] **IMELDA WASINGER HERMES**, B.S., Marymount College; M.S., Kansas State College. Instructor in Mathematics.

DAVID FRANKLIN HIATT, B.A., Earlham College; M.A., University of New Mexico. Instructor in English (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).

[11] **WILLARD WILLIAMS HILL**, B.A., University of California; Ph.D., Yale University. Professor of Anthropology, Chairman of the Department of Anthropology.

JOHN ROBERT HOBACK, B.A., Doane College; M.A., University of New Mexico. Instructor in Secondary Education (Part-time).

CLARENCE CLAYTON HOFF, B.A., Bradley University; M.S., Ph.D., University of Illinois. Professor of Biology.

WILLIAM HENRY HUBER, JR., B.A., LL.B., Ohio State University. Director of the University College, Associate Professor of Business Administration.

VIRGINIA RUTH HUNTINGTON, B.A., M.B.A., University of Kansas; C.P.A. Instructor in Business Administration (Part-time).

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

MAXWELL J. IHRIG, Captain, U.S.A.F.; B.S., Bowling Green State University. Assistant Professor of Air Science.

HITOSHI IKEDA, B.A., University of Hawaii; M.A., Iowa State Teachers College. Instructor in Elementary Education.

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 College of Education; 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.

[8] **WILLIAM LOVELACE JAMISON**, B.A., Baylor University; M.A., Ph.D., Columbia University. Instructor in Educational and Administrative Services (Part-time).

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

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[7] First semester only. [8] Second semester only.
[11] On sabbatical leave second semester, 1958-59, first semester, 1959-60.

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.

MIGUEL JORRÍN, B.A., Colegio "De la Salle"; Dr.Pub.Law, Dr.Civ.Law, Universidad de la Habana. Director of the School of Inter-American Affairs, 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.

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.

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

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

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

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

[7] **SUSAN ABBOTT KELSEY**, B.S., University of New Hampshire. Instructor in Physical Education (Part-time).

GEORGE LEONARD KEPPERS, B.Ed., St. Cloud Teachers' College; M.A., Colorado State College of Education; 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.

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

ARNOLD HERMAN KOSCHMANN, B.A., Valparaiso University; B.S.E.E., M.S., Ph.D., Purdue University. Associate Professor of Electrical Engineering.

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

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.

LaMOINE LANGSTON, B.A., New Mexico Highlands University; M.A., University of New Mexico. Instructor in Educational and Administrative Services.

[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.

ANNA MULNO LELAND, B.A., Wheaton College; M.A., Middlebury College. Instructor in English (Part-time).

MARVIN LEVY, B.A., Coe College; M.A., Harvard University. Assistant Professor of Physical Education, Head Football Coach.

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[1] On sabbatical leave for the year.

[7] First semester only.

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.

[7] **JOHN DAVID LINSLEY**, B.Phys., Ph.D., University of Minnesota. Visiting Lecturer in Physics (Part-time).

[7] **CLARENCE EDWARD LONG**, B.A., M.A., Boston College; Ph.D., University of New Mexico. Visiting Lecturer in English (Part-time).

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

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

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.

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

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[4] On leave for the year.

[7] First semester only.

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

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

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[8] **KEITH MONROE**, B.A., University of California. Visiting Professor of Art.

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[8] **GENEVIEVE ELEANOR NOBLE**, B.A., Goucher College; M.A., Teachers College, Columbia University; M.S., Yale University. Assistant Professor of Nursing.

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[8] **CULLEN BRYANT OWENS**, B.A., Berea College; M.S., Northwestern University; Ph.D., Cornell University. Associate Professor of Speech.

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JAMES MORTON PALMER, Major, U.S.A.F.; B.S., University of Kansas. Assistant Professor of Air Science.

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[8] On sabbatical leave second semester. [8] Second semester only.
[12] On leave second semester, 1957-58, first semester, 1958-59.

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[8] **TIM CHRIS PRESTON**, B.S., University of New Hampshire; M.S., University of Michigan. Instructor in Mathematics (Part-time).

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[18] **ALLAN RENE RICHARDS**, B.A., M.A., University of Colorado; Ph.D., University of North Carolina. Associate Professor of Government.

[8] **ELNA HARRISON RICHARDSON**, B.S., University of Texas; M.A., University of Southern California. Instructor in Physical Education (Part-time).

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[8] Second semester only.

[18] On leave 1958-60.

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

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[7] First semester only.

[8] Second semester only.

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[7] First semester only.

[8] Second semester only.

[7] **NOAH CLEVELAND TURPEN**, B.S., Middle Tennessee State College; M.A., George Peabody College for Teachers; Ed.D., Columbia University. Instructor in Educational and Administrative Services (Part-time).

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GEORGE MILTON WING, B.A., M.S., University of Rochester; Ph.D., Cornell University. Associate Professor of Mathematics.

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[7] First semester only.

[8] Second semester only.

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LOS ALAMOS GRADUATE CENTER

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[8] **JAMES STAFFORD COLEMAN**, B.S., State College of Washington; Ph.D., Massachusetts Institute of Technology. Professor of Chemistry (Part-time).

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[8] **RONALD RUTT MOHLER**, B.S., Pennsylvania State University; M.S., University of Southern California. Professor of Electrical Engineering (Part-time).

[8] Second semester only.

[8] **THOMAS WILLIAM NEWTON,** B.S., Purdue University; Ph.D., University of California. Professor of Chemistry (Part-time).

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[8] Second semester only.

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[7] First semester only.
[8] Second semester only.
[14] Resigned effective November 7, 1958.

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[7] First semester only.
[8] Second semester only.

[15] Resigned effective October 11, 1958.

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 1950 it was accredited as a Class A college by the Council; in 1952 it was accepted into membership by the American Association of Colleges of Pharmacy. The College 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.

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 235,000 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 67 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. The School of Inter-American Affairs was instituted during the same year. 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. 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 University has 41 instructional departments; work leading to the master's degree is offered in 32 fields, and toward the doctor's degree in 12.

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 incorporation of the School of Inter-American Affairs, 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, Counseling and Testing Building, Drama and Industrial Arts Building, Electrical Engineering Building, Faculty Apartments, Fine Arts Building, Geology Building, Golf Course Clubhouse, Heating Plant, Hodgin 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 Dormitory (Men), Meteoritics Building, Mitchell Hall (Classrooms), Music Building, North Hall (Departmental Offices), Observatory, Ortega Hall (Languages), Pharmacy Building, Physics Building, President's Home, Research Center, Rifle Range, Sara Raynolds 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). Coronado Dormitory (Men) and a new building for the New Mexico Union are also under construction and will be completed by the fall of 1959.

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 283,710 cataloged and processed volumes, several thousand other cataloged serials and pamphlets, 3,000 filing boxes of manuscripts, documents and other archival material, 3,420 reels of microfilm, 42,989 microcards, 44,000 maps, several thousand pamphlets and pictures, and 761 sound recordings. 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 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 College 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 47,000 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

Pending installation in the new Anthropology Building, the anthropological collections are temporarily on exhibit in the halls of the Administration Building. The prehistoric cultures of the American Southwest, Mexico, and Peru are well represented. Study collections of the European Paleolithic, Mesolithic, and Neolithic periods are on display. In the ethnologic field, type exhibits portray the material cultures of the Eskimo, North Pacific Coast, Plains, Mexico, the American Southwest, and Venezuela. Recent additions to the Museum collections include archaeological material from Early Man and Puebloan sites excavated during Summer Field School sessions of the University.

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 a series of map displays, an exhibit illustrating how fossils are preserved, an exhibit of uranium minerals, an exhibit of New Mexico ores, and an unusually fine fluorescence-phosphorescence exhibit.

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 900 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 coördinate, 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.

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; Vicente T. Ximenes, Associate Economist; Margarett I. Meaders, Editor of Publications; Arthur A. Blumenfeld, Assistant Economist; Sheila M. Fisher, Assistant Statistician

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, W. C. Wagner; 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 coöperate 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 15 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. Hendickson, Professor of Mathematics and Astronomy, Mathematician; 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.

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 Architectural 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 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 coöperating 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 coöperative 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.

Freshmen and sophomores attend Air Force ROTC classes two hours per week, and juniors and seniors attend classes four hours per week. 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 degree requirements.

Applicants for enrollment in the NROTC must first be accepted for enrollment by the University. Entering male freshmen who have been selected by the Navy Department after nationwide competitive examinations are enrolled as Regular NROTC students. Regular NROTC students receive $50 per month from the Navy, and have their tuition, books, and fees paid for by the Navy. Additional information concerning the Regular Program scholarship can be obtained from high school principals, Navy recruiters, and professors of Naval Science. A limited number of male freshmen may be enrolled as Contract NROTC students, after passing a selection examination and the required physical examination. Contract students receive a commuted ration allowance of approximately $27 per month during their junior and senior years.

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 approvea 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 re-

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

ALUMNI ASSOCIATION

The Association is maintained through the coöperative 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: coördinating 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 Journalism Building, rooms 213 and 215.

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 has been declared eligible for admission but who requires dormitory accommodations will be sent a contract for board and room and a request for a $25 advance housing deposit before the final notice of admission is issued. The final notice of admission will include a registration appointment and registration instructions.

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 for the fall semester or January 1 for the spring semester. The transcript should be complete for the first three years of high school study and, in addition, should list at least the courses in progress during the first semester of the senior year. 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. 100). 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 15 units (or graduation from a senior high school with 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.

Graduates of unaccredited or partially accredited high schools who present transcripts which meet admission requirements in all respects except accreditation may be admitted to the University but are expected, prior to registration, to validate 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 the 15 required units in an accredited high school, he may be admitted to the University upon written recommendation of his principal or superintendent.

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

In determining admission status, it is the primary concern of the University that the applicant have adequate preparation for successful college work. For the 1959-60 school year, as evidence of adequate preparation, it is required that the transcript of the applicant show within the 15 required total units successful completion of a minimum of 7 units in the following basic subjects:

English—3 units

Social Studies—1 unit (1 unit U. S. History required)

Laboratory Science—1 unit (only Chemistry, Biology, Physics are accepted as laboratory sciences)

Mathematics—2 units (Algebra must be one of the units offered.)

This is the minimum requirement for admission to the University. Adequate preparation for students planning to work for degrees in Engineering or in Pharmacy, to major in mathematics, physics, chemistry, geology, or to follow premedical or predental programs should include intermediate algebra and plane geometry. The student is warned that he will not be admitted to a degree program in the College of Engineering or the College of Pharmacy and may be seriously delayed in an attempt to proceed with other scientific programs unless he has completed elementary algebra and plane geometry. Because these subjects are not offered at the college level, the student is

urged to complete them as a part of his high school program. After enrollment in the University these deficiencies can be satisfied only by successful completion of a correspondence course or by enrollment in a non-credit night course validated by a satisfactory final examination score.

Completion of an additional four units from the following list of restricted electives is strongly recommended for the student seeking adequate preparation for college study:

Group A—English, Public Speaking, Journalism, Speech
Group B—French, Spanish, Latin, German and other foreign languages
Group C—Algebra, Plane Geometry, Solid Geometry, Trigonometry, General Mathematics
Group D—General Science, Biology, Chemistry, Physics, Physiology, Geology
Group E—History, Geography, Sociology, Economics, Government

The minimum qualitative requirement for University admission is a grade average of C in previous academic work.

REVISED SUBJECT-MATTER REQUIREMENTS EFFECTIVE 1960-61 Beginning with the 1960 Summer Session and the 1960-61 Fall Semester it will be required, as evidence of adequate preparation, 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, or the sciences are advised to include in their preparation intermediate algebra and plane geometry.

The remaining 4 units of the specified 13 must be chosen from the following list of restricted electives. Not more than 2 units in Groups A and 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

During the 1959-60 school year the applicant who otherwise qualifies for admission to the University, but whose record does not meet the subject-matter requirements outlined above may be admitted upon specific agreement to remove entrance deficiencies within 12 months from the date of his first enrollment.

REVISED REGULATIONS FOR THE 1960-61 ACADEMIC YEAR Effective with the 1960 Summer Session and the 1960-61 Fall Semester, an applicant who otherwise meets University admission requirements may be admitted with a high school record which shows no more than 4 subject-matter deficiencies, of which not more than 2 are from the 9 specified units. Starting with 1961-62, no student will be admitted with more than 2 deficiencies.

REMOVAL OF ENTRANCE DEFICIENCIES

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

After enrollment in the University, entrance deficiencies may be removed by:

(1) Successful completion of college-level courses in the specific areas of deficiency. A 3-semester-hour college course will remove an entrance deficiency except in Laboratory Science in which 4 semester hours will be required.

or

(2) A qualifying score on the College Entrance Board Achievement Test in the specific area of subject-matter deficiency. (A College Entrance Board Achievement Test in U. S. History is not offered.)

REVISED REGULATIONS FOR THE 1960-61 ACADEMIC YEAR Effective with the 1960 Summer Session and the 1960-61 Fall Semester, deficiencies in English or mathematics must be removed through high school, correspondence, or Community College courses, without college credit, prior to enrollment in the first college-level course in English or mathematics.

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.

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.

ADMISSION BY EXAMINATION

A student 21 years of age or more who has not completed the full requirements for admission by high school certificate may be admitted to regular status in the University by qualifying scores on the high-school-level General Educa-

tional Development Tests. The student admitted by examination will be held responsible for removal of deficiencies in the basic subject-matter areas. (See "Removal of Entrance Deficiencies" above.)

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 College 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 College 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.

An applicant for the College of Law who has attended another law college must send his completed application for admission form directly to the Dean of the College 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 College 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 College 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 preparatory credits have 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. 100.)

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 has been declared eligible for admission but who requires dormitory accommodations will be sent a request for a $25 advance housing deposit and a contract for room and board before the final notice of admission is issued. The final notice of admission will include a registration appointment and registration instructions.

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 previous college work. 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. 51) 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 which are not members of the National University Extension Association 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 College of Law for the second semester should arrange to have forwarded an official transcript which includes a listing of courses in progress as well as all completed work. On the basis of these partial credentials, the Admissions Office will make a determination of readmission status pending receipt of the final transcript, thus enabling the student to make definite his plans for re-entry.

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

UNIVERSITY COLLEGE

The readmitted student in regular status who has not completed 26 semester hours of acceptable college credit will be required to enroll in the University College (see p. 100).

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 applied toward a degree in the Graduate School even though graduate status is subsequently established or re-established.

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 "College 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 creden-

tials 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 the National University Extension Association. 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.

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. A medical examination is also required for each student.

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.

MEDICAL EXAMINATIONS

A physical examination, including a Wasserman test, is compulsory for all new students (both freshmen and transfers) and all former students returning after an absence of one year. These tests are given without charge by the University Physician, but students who, without valid reason, fail to keep their examination appointments may have their registrations cancelled. Students will be re-examined by the University Physician when such examinations are indicated. Health-seeking students are accepted at the University if, in the judgment of the University Physician, their work does not endanger themselves or their associates. The University may refuse registration to, or cancel the registration 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.

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 registration numbers.

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

TUITION AND FEES

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

REGULAR SESSION FEES

REGISTRATION FEES (Undergraduate and graduate):

	Per Semester	
Students carrying 8 or more hours:	**N. M. Residents**	**Non-Residents**
Tuition*	$119.50	$234.50
Activities Fee[1]	10.50	10.50
Total Tuition and Fees	$130.00	$245.00
Student Group Health and Accident Fee (optional)[2]	7.50	7.50
Total Tuition and Fees with Group Insurance	$137.50	$252.50
All students carrying 7 hours or less:		
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

* 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.

Examination to validate credit,† per course	2.00
Other faculty-administered special examinations‡	2.00
Transcript of credit (per copy)	1.00
Deferred payment fee	5.00
Penalty for dishonored checks	2.00
Graduate record examination fee (Graduates only)	5.00
Handling fee, Air Force ROTC, per semester	6.50
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
Applied Music (see p. 62)	
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 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 satisfactory evidence 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 teaches in a public or parochial school system in New Mexico on a full-time basis for a full school year of approximately nine months may qualify as a resident of New Mexico for tuition purposes, provided such person can provide satisfactory evidence of intent to continue to make New Mexico his home.

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

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

‡ See definition of special examinations, p. 94.

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

** Subject to change by the 1959 New Mexico State Legislature.

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. 85 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	$130.00
Student health and accident insurance	7.50
Books and supplies	70.00
Board and room	338.00
Clothing, laundry, misc.	150.00
Total, per semester	$695.50

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 approved homes.

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 Dormitory, 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 dormitory. 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 RESIDENTIAL 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):	
Breakfast	.60
Luncheon	.80
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

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 expenses while they are in school as well as 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) reëmployment 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 coöperates 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 non-veteran students who have a physical disability. Other assistance may also be given to 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) Have a permanent physical disability, whether congenital or as a result of an accident or a disease. (2) Be capable of carrying a full college 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 a physical disability 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 a disability who wish to apply should do so by writing or calling one of the New Mexico Rehabilitation Offices at 117 Richmond Drive NE, in Albuquerque, New Mexico; 119 S. Castillo, P.O. Box 881, in Santa Fe, New Mexico; 121 West Walnut, Roswell, New Mexico; or 128 South Water, Las Cruces, New Mexico. A counselor will call at the University and 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, Room 103, 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 coöperate 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 upperclassmen 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. 82.

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. Five scholarships of $200 each will be given for the 1959-60 academic year to entering freshmen women, one from each of the five public high schools of Albuquerque, on the basis of recommendations from the principals, at least a B average, participation in extracurricular activities, and financial need.

The Albuquerque Classroom Teachers Association Scholarship. A scholarship of $100 is awarded annually by the Albuquerque Classroom Teachers Association to a junior or senior in the College of Education who is preparing to teach in the elementary schools of New Mexico.

The Albuquerque Junior Woman's Club Scholarship in Nursing. The Albuquerque Junior Woman's Club has provided a scholarship of $150 for a student in the College of Nursing who is recommended by the faculty of that College on the basis of need and ability.

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 $100 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 consisting of $50 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 Scholarship in Nursing. This scholarship of $100, 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 Scholarship. This scholarship of $500 was awarded to a University of New Mexico student for 1956-57.

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 Associated General Contractors of New Mexico Scholarship. One of the four scholarships of $250 each awarded to New Mexico high school students entering the field of civil engineering was awarded to a University of New Mexico student for 1956-57.

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 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 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 of $100 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 a 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 College by Dean A. L. Gausewitz will be awarded annually to a student in the College of Law who is in need of financial assistance and meets the academic requirements of the College 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 above the rank of freshman in the College of Education.

The Benevolent Patriotic Order of Does Scholarship in Nursing. An annual scholarship of $210 established by the B. P. O. Does of Santa Fe is awarded to a student in the College of Nursing upon the recommendation of the faculty of that college.

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

The Maude Doyle Memorial Scholarship. A scholarship of $200 established by the Duke City Business and Professional Women's Club as a memorial to their late member Miss Maude Doyle 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 Faculty Women's Club Scholarships. One or more scholarships of $100 are awarded to senior or junior women on the basis of need and scholarship. The awards are given the second semester 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 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 an entering 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 College 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 College of Law, to be awarded on the basis of merit and need to a deserving second- or third-year law student selected by the law faculty of the College.

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 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 College of Law beginning in 1957.

The Charles Ilfeld Company Scholarship. An award of $850 provided by the Charles Ilfeld 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 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 Prizes and Awards 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 of $150 to a male student above freshman rank on the basis of need, campus leadership, and scholastic achievement.

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

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

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 Reverend Uvaldo Martinez Memorial Scholarship. A scholarship of $200 provided by the New Mexico Health Foundation as a memorial to the late Reverend Uvaldo Martinez will be awarded to a student who desires to enter the field of public health nursing in New Mexico, needs financial assistance, and shows creditable scholarship.

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, one in the College of Nursing and two in the College of Education, 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 College of Law. Students interested in the field of race relations will be specially considered.

The Monte Vista Parent Teachers Association Scholarship in Elementary Education. A scholarship of $100 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 $250 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. Beginning in the fall of 1957, a scholarship of $150 a year for four years will be 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 Congress of Parents and Teachers Scholarship. This scholarship of $200 is awarded to a senior in the College of Education upon recommendation of the Dean of that college.

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. This scholarship of $50 is awarded to an accounting student upon the completion of his sophomore year as an inducement for him 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 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 $250 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 Pilot Club of Albuquerque Scholarships in Nursing. Two scholarships of $200 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 $250 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 Ranchos de Albuquerque Parent Teachers Association Scholarship. This scholarship of $200 is awarded on the basis of scholarship and need to a student preparing to teach in the elementary schools of New Mexico.

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

The Rocky Mountain Mineral Law Foundation Research Scholarship. A sum of money will be made available annually by the Rocky Mountain Mineral Foundation to the Dean of the College of Law to be awarded in his discretion, but upon the basis of merit, to one or more regularly enrolled students in his College who have done research in the field of mineral law.

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 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. Two annual scholarships of $50 each provided by the alumnae of Sigma Alpha Iota, national music fraternity, are awarded to students selected by the faculty of the Music Department on the basis of need, scholarship, and coöperation in the various activities of that department.

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 of $100 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 Sombra 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 College 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 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, extracurricular 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 United Daughters of the Confederacy Scholarship. The Nora Mitchell McDowell Chapter of the United Daughters of the Confederacy sponsors an annual award of $100 to a member of Kappa Alpha Fraternity.

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 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.

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 Albuquerque Homebuilders Competition. Prizes of $100, $75, $50, and $25 are awarded annually to students in the Division 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 Architectural Engineering for the winning entries in a competition in illumination design.

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 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 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.

The Architectural and Electrical Engineering Competitive Prizes. First prizes of $60, second prizes of $40, and third prizes of $25 are awarded annually in each of these fields.

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 Architectural Engineering.

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 Bristol Laboratories Award in Pharmacy. An annual prize consisting of a copy of Howard's **Modern Drug Encyclopedia** is presented to the junior Pharmacy student who has the highest grade-point average for three years of study.

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 College 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 College 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 Dietzgen Prize. A prize consisting of a set of Dietzgen drawing instruments is awarded to an outstanding regularly enrolled freshman engineering student for proficiency in engineering drawing upon recommendation of the faculty of the Department of Architectural Engineering.

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 Journal of Business Education Award. A subscription to the **Journal** and a certificate are awarded to the graduating senior with the highest grades in Business Education.

The Kappa Kappa Gamma Alumnae Memorial Prize for Poetry. An annual prize of $25 to be awarded as a single 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 Merck Award for Excellence in Pharmaceutical Chemistry and the Merck Award for Excellence in Pharmacology. Each of these awards consists of a certificate and copies of **The Merck Manual** and **The Merck Index.**

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. Two prizes of indeterminate amounts will be awarded annually for the best essays submitted to the Rocky Mountain Mineral 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 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 College 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 Today's Secretary Prize in Business Education. A one-year subscription to **Today's Secretary** is awarded to a graduating senior chosen by the faculty in business education. The recipient must have been appointed to a teaching position or expect to be so appointed by the following fall.

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 Division 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 College of Law.

The West Publishing Company Book Prizes in Law. Three law book prizes are awarded annually for outstanding achievement in the College 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 Lehn and Fink Medal in Pharmacy. A gold medal suitably inscribed is awarded annually to the graduating senior in the College of Pharmacy who has attained the highest scholastic record for his entire course of study.

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 PERSONNEL SERVICES

ALL DIVISIONS of the University concerned with student welfare and activities are under the coördinating supervision of the Director of Student Affairs. 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. 59. The services and activities described below are offered to supplement the University's educational program in assisting the student in his academic and personal development.

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 coöperate with the English Department by providing remedial reading assistance to the students enrolled in the workshop course. This coöperation 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. Students not enrolled in the English workshop may also receive this help by applying directly to the Counseling and Testing Services office.

In addition to providing individual guidance, the University Counseling and Testing Services supervise 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 General Placement Bureau and the Education Placement Bureau were combined in the fall of the 1958-59 school year. The Placement Bureau, as it is now called, is maintained to (1) assist students in finding part-time employment to supplement their expenses 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 this training and background. The Bureau maintains constant contact with the conditions and trends of the nation's job market, and 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, with a staff of 3 physicians and 8 graduate nurses, operates a Dispensary and Infirmary. Each new student on admission receives a routine physical examination, including a blood test. The health status of the student is determined, and advice and curative measures are offered to permit him to receive the greatest possible benefit during his college years. Reëxaminations of students are made when the staff feels that such reëxaminations are indicated. Former students returning after an absence of one year or more are also required to report for reëxamination. The college physicians may exclude from dormitories and classrooms students suffering from contagious or communicable diseases.

Students are encouraged to avail themselves of the services of the University Physician who maintains morning and afternoon office hours at the dispensary. Although the Medical Service is primarily for ambulatory students with minor ailments or injuries, the University Physician makes calls on campus residents who are ill, when requested by the matrons of the various dormitories.

The infirmary is open 24 hours a day. All students have the benefits of professional diagnosis of any illness. If needed, hospitalization and treatment for acute

illness of relatively short duration may be provided. Students with illnesses requiring specialist services or those requiring major surgery are referred to the constulant staff of specialists.

The Health Service maintains a constant supervision over sanitary conditions in dormitories and classrooms, in the swimming pool, 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 illness or mishap. 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. Information may also be obtained from the University Health Service.

NEW MEXICO UNION

The New Mexico Union is a well-planned facility, built with the interests of the campus in mind, 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, an organization depending upon its members' coöperation and contributions for 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 Activity Center, the hub of out-of-class activities at the University, are located in the Union. A feature of the Activity Center is the master calendar, which records 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, and music listening rooms. A barber shop, a 200-seat auditorium, and complete

games facilities including bowling, table tennis, and billiards, are located on the ground floor. 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 whole 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.

Other social groups: Phrateres and Town Club.

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

For information in regard to other student organizations and activities, see the **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** is a literary magazine issued twice during each semester and carries literary contributions submitted by the students on the campus.

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 United Student Christian Fellowship group is an interdenominational organization of Protestant students on the University campus, meeting weekly in Building T-10. A full-time office of Director of Religious Work among the Protestant student groups of all denominations has been established on the campus. This office is sponsored and largely supported by the Protestant churches in the city.

The following religious organizations hold regular meetings on the campus, and information as to time and place of such meetings may be found in the **Lobo,** the University newspaper:

Baptist Student Union, Canterbury Club, Christian Science Organization, Hillel Counsellorship, Lobo Christian Fellowship, Lutheran Student Association, Newman Club, and United Student Christian Fellowship.

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.

RECREATIONAL FACILITIES

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.

Outdoor recreational facilities maintained by the University include a golf course, a swimming pool, rifle range, tennis courts, and numerous playing fields.

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.

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 com-

plete, 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 the end of the eighth week of the semester (mid-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. In the College of Law, a student desiring to drop a course after the first 8 weeks must petition the faculty 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

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

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 the student's 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, the student may change from credit to audit only if he is earning a grade of C or better.

CLASSIFICATION

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

WITHDRAWAL FROM THE UNIVERSITY

When an undergraduate student wishes to cancel his registration and withdraw from the University 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. 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. 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

A student found guilty of dishonest practices in a quiz, test, examination, or other academic work, as well as non-disclosure or misrepresentation in filling out admission application forms, will be subject to 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 withdraws with permission before the end of the semester, a student is entitled to honorable dismissal provided that he has the necessary scholastic status, and is in good standing regarding conduct and financial obligations. Honorable dismissal implies that the University will permit the student to re-register in the next session.

EXAMINATIONS

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

GRADUATE RECORD EXAMINATION See p. 97.

SPECIAL EXAMINATIONS A special examination is one taken at a time other than regularly with the class. Classified as special examinations are: examina-

tions 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. 62.) Other types of special examinations have a per-course fee (see p. 63). 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 other universities on the approved list of the National University Extension Association.
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.
3. Credit for extension and correspondence courses completed in institutions not on the approved list of the National University Extension Association 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 exten-

sion courses to the student's program while he is in residence, refer to p. 91.

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.**

DIVISION OF HONORS WORK

The Division of Honors affords abler students an opportunity to pursue individual studies, under the guidance of a faculty member, beyond the usual course offerings. Such studies are designed to extend and deepen the student's knowledge, either through a program of reading or of original research, broadly defined.

ELIGIBILITY A junior or senior in any college is eligible for Honors work when (a) his general promise of scholarly achievement is supported by an over-all grade-point average of 2.0 or above, and (b) a faculty member agrees to supervise his project.

TYPES OF HONORS PROJECTS **(HA), Reading in Honors:** A program of reading, culminating in an oral or written examination, or both. Where agreed upon by the student and instructor, a comprehensive paper may take the place of the examination. **(HB), Research in Honors:** An original research project, terminating in a thesis.

Both HA and HB projects are organized on a one-semester basis, to earn from 1 to 3 credit hours. Departure from this may be made only with the approval of the Honors Committee.

PROCEDURE **Students who desire to register for Honors work must consult a representative of the Honors Committee at, or before, registration.**

PRIVILEGES (1) Seniors who have completed 3 hours of HA and 3 hours of HB with a grade of A and are also on the list of those graduated "With Distinction" will be graduated "With University Honors." Seniors who have completed 3 hours of HA and 3 hours of HB with a grade of A but who are not on the "Distinction" list will be graduated "With Honors in . . . . . ." The special field of Honors work will be designated in the Commencement program and on the student's diploma.

(2) Honors students will receive special consideration if they find it necessary to apply to University agencies for financial aid.

(3) Honors students are eligible for Library stack privileges.

Note: Honors work is not offered as a means of adding a few hours to a student's program when regular courses are inconvenient or unavailable.

GRADUATION WITH HONORS

THE DEGREE WITH DISTINCTION Senior students having scholarship indexes which rank them in the upper 5 percent of the graduating class of the University are eligible to be graduated "With Distinction." Ranking will be based only upon work taken by the students 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 accomplishments of such students.

THE DEGREE WITH UNIVERSITY HONORS Graduating seniors who have completed 6 hours of honors work with the grade of A (this to include 3 hours of research in honors) and who are on the "Distinction" list shall be graduated "With University Honors."

THE DEGREE WITH HONORS IN ..... Graduating seniors who have completed 6 hours of honors work with the grade of A (this to include 3 hours of research in honors) but who are not on the "Distinction" list shall be graduated "With Honors in (the specific field in which the honors work has been done)."

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.

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 according to his needs.

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. 92.

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.

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. (Non-professional 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
Intro to Social Science	3	Intro to Social Science	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 5L	3	Business Ad 6L	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. 136 and 257.

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 10L	3	IA 5	1
CE 1L	3	IA 20L	3
Physical Ed	1	Elective	3
		Physical Ed	1

Sophomore Year

Literature	3	Speech 55	3
Psychology 51	3	Social Science	3
Social Science	3	IA 35L	1
IA 80L	2	CE 12L	3
CE 2L	3	Art 18	2
Art 17	2	Elective	3
Physical Ed	1	Physical Ed	1

* Suggested Elective: Commercial Art.

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

MUSIC

Freshman Year

First Semester		Second Semester	
English 1	3	English 2	3
Intro to Social Science	3	Intro to Social Science	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

Freshman Year

First Semester		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 with a satisfactory score.
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 the English Proficiency Examination 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 in academic subjects at college level ever attempted, including work in the University College.

In the first two years, or Lower Division, 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, or Upper Division, the student devotes himself to his major and minor, and to such other subjects as he may wish to take. **The student is solely responsible for completing all requirements for graduation.**

LOWER DIVISION REQUIREMENTS

1. At least 60 semester hours in courses acceptable toward graduation, in addition to 4 semester hours in physical education.
2. A 1.0 index for the total number of hours which the student has attempted.*
3. The completion of group requirements as described below.
4. Successful conclusion of a proficiency examination in English. (Failure to

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

pass this test requires the student to report to the English Workshop for English remedial help.)

5. In all subjects except foreign language, students in the Lower Division are restricted to courses numbered below 100 with the provision that a student may be admitted to Upper Division courses at the discretion of the Dean of the College: (1) if he has completed within 7 hours of the group requirements, of which not more than 1 hour shall be in physical education, nor more than 6 hours in foreign language; (2) if he has completed not less than 45 credit hours, exclusive of physical education, earning at least a 1.0 index for all hours which he has attempted; and (3) if the remaining requirements appear upon his program.

6. Students in the Lower Division may not carry more than 8 hours in one department during one semester. (Exceptions may be made in the case of premedical students.)

7. Not more than 50 hours in courses open to freshmen may be taken without a penalty of 1 hour for every 3 excessive hours.

8. Exceptions to any of these rules may be made only upon recommendation of the Dean.

UPPER DIVISION REQUIREMENTS

1. Completion of at least 40 hours in courses numbered above 100 with at least a 1.0 average in all such hours carried.

2. Completion of at least 1 major and 1 minor, or 2 majors.

3. Grade-points equal to the total number of hours which the student has attempted.*

GROUP REQUIREMENTS

In keeping with the exploratory aim of the Lower Division, the student distributes part of the work of his first 2 years among the 4 following groups of subjects. The acceptability of transferred work toward fulfilling the group requirements lies in the judgment of the Director of Admissions and the Dean of the College.

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. Failure to pass the English proficiency test at first trial will result in the student's being required to report to the English Workshop for English remedial help.

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 presenting high school language credits, 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.

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

Successful completion of the fourth-semester course in a foreign language, or demonstrated achievement equivalent to that required for completion of that course, will excuse the student from any further requirement in foreign language. Students who believe that they have such ability or achievement should apply to the Chairman of the Department of Modern Languages for excuse from the foreign language requirement.

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. 95).

III. SOCIAL SCIENCES Nine semester hours (not more than 6 from one department) must be completed in acceptable † courses in the departments of Anthropology, Economics, History, Government, Philosophy, Sociology, or Geography.

IV. MATHEMATICS AND SCIENCES Eleven semester hours (not more than 8 from one department, and including 2 semesters in courses that require laboratory work) must be completed in acceptable † courses in the Departments of Biology, Chemistry, Geology, Home Economics, Mathematics, Physics, Psychology, or Geography. (Mathematics 2 does not count toward fulfillment of this requirement.)

MAJOR AND MINOR STUDIES

A student admitted to the Upper Division shall declare a major and a minor subject, and his program of studies thereafter shall meet with the approval of the chairman of the major department.

Only work of at least C quality is accepted toward the major and the minor; courses in which grades of D are earned in the University of New Mexico may be accepted as electives toward graduation.

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 exceptions outlined below.

No credit is allowed in:

(1) Theory and methods courses in physical education.

(2) Education courses in methods, supervision, and practice teaching. (Credit will be allowed, however, for 3 hours of high school methods and up to 6 hours of high school practice teaching.)

(3) Courses in typing in the College of Business Administration.

(4) Ensemble music in excess of 4 hours.

(5) Shop work in excess of 3 hours.

† Non-acceptable courses are indicated in the respective departmental sections.

* 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.

A major in dietetics leading to the degree of Bachelor of Science may be given in special cases upon approval of the Dean of the College.

The normal program for a student intending to graduate in 4 years is 16 hours a semester. Seventeen hours, plus one semester hour of physical education, is the maximum, except by petition to the Dean, who may, at his discretion, grant up to 19 hours (including non-credit courses). Ordinarily, a petition for excessive hours will not be considered unless the student has in the preceding semester made a grade of B in more than half of his hours, and no grade below C.

NORMAL FRESHMAN PROGRAM

Following is the standard freshman program; necessary deviations from it should be made only after consultation with a faculty adviser from the University College.

First Semester		Second Semester	
†*English 1*	3	English 2	3
Foreign Language	3	Foreign Language	3
Social Science	2–3	Social Science	2–3
Natural Science or Mathematics	4–3	Natural Science or Mathematics	4–3
Physical Ed	1	Physical Ed	1
Additional group requirements	4	Additional group requirements	4
[a] Naval Science or Air Science	2–3	[a] Naval Science or Air Science	2–3

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.

SENIOR YEAR IN MEDICINE OR LAW

A candidate for the bachelor's degree may offer, in lieu of the last 30 hours at the University of New Mexico, the full first year's work (satisfactorily passed and properly certified) in an approved school of law or medicine requiring 3 years for entrance,* provided: (1) that the first 3 years of work (94 semester hours and 4 P. E.) shall have been taken in residence at the University of New Mexico unless the student has attended the Law College of the University of New Mexico in which case the 94 hours of residence is reduced to the last 30 hours of Arts and Sciences work (exclusive of P. E.) before entering the Law College; (2) that, before entrance into the professional school, the candidate shall have completed all

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

[a] Naval Science or Air Science may be substituted for one subject as prescribed by the Dean.

* Beginning in the Fall of 1960, students will not be admitted to the University of New Mexico College of Law with less than the bachelor's degree.

specific and group requirements, and major and minor requirements, in accordance with University regulations; (3) that at least 75 per cent of the hours completed before entrance into the professional school shall have been of C grade or better, and that the total of grade points shall at least equal the total number of hours which the student has attempted.

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 predental program. However, among the courses required for admission are English, social science, biology, physics, inorganic and organic chemistry.

The student should select the dental school(s) to which he plans to seek admission, and then, with the assistance of the predental 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. 112.

FOR STUDENTS WHO PLAN TO STUDY LAW

See "College 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 stu-

dent 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 Lower Division Group Requirements and all requirements as to major and minor in the College of Arts and Sciences.

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

PRESCRIBED PROGRAM—MEDICAL TECHNOLOGY

Freshman Year

First Semester		Second Semester	
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
	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	
P.E.	1	§ U.D. or L.D.	3
		P.E.	1
	18		18
	+ P.E.		+ P.E.

Junior Year

Biology 93L	4	Biology 130L	4
Chemistry 53L	4	Biology 123L	4
*Humanities U.D.	3	Electives	6–9
Electives	3–6		
	14–17		14–17

† 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.

§ Whether L.D. or U.D., this course is necessary to complete the Lower Division Group Requirements of the College. (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.

Senior Year			
*Humanities U.D.	3	12 months in	
‡Social Science U.D.	3	School of Medical	
Electives	7–10	Technology	
	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 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

* 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.

‡ 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.

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 PREPROFESSIONAL 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.

REQUIREMENTS FOR DEGREE Candidates for the Bachelor of Arts degree must fulfill lower division 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 lower division 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)

† 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.

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. Beginning this year, a new major in Western European studies has been added to the program, requiring the change of name to Division of Foreign Studies. The Latin American curriculum and the facilities of the Division will continue as in the past.

THE UNDERGRADUATE CURRICULUM

The Division offers degrees 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 LOWER DIVISION REQUIREMENTS, 20 hours

English, 9 hours
Science and Mathematics, 11 hours
(The Basic Lower Division Requirements in Foreign Language and Social Science are taken care of in the general degree requirements.)

FREE ELECTIVES, 35 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
85. Modern Russia
145. Europe 1815-1914
146. Europe since 1914
151. American Diplomacy

Three additional hours chosen from:
143. French Revolution
131. English Constitutional
135. British Empire
178. Recent United States

GOVERNMENT/SOCIOLOGY, 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

ECONOMICS, 9 hours

51. Introduction
154. Comparative
181. International Economic Relations

BASIC LOWER DIVISION REQUIREMENTS, 20 hours

English, 9 hours.
Science and Mathematics, 11 hours.
(The Basic Lower Division Requirements in Foreign Language and Social Science are taken care of in the general degree requirements.)

FREE ELECTIVES, 21 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 1959-60, 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 first.**

SCHOLARSHIPS IN INTER-AMERICAN AFFAIRS The Division of Foreign Studies is offering in the academic year of 1959-60 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 of 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 first.**

DEPARTMENTS OF INSTRUCTION

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

Anthropology
Biology
Chemistry
Comparative Literature
Economics
English
English-Philosophy
Geography
Geology
Government and Citizenship
History
Journalism
Mathematics and Astronomy
Modern and Classical Languages
Philosophy
Physics
Psychology
Sociology
Speech

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, 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 trains 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. 42.

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 con-

secutive semesters as are necessary to bring the student's total hours attempted to at least 30.

3. Completion of the English Proficiency Examination with a satisfactory score.
4. 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 complete the English Proficiency Examination during the first semester of enrollment in this University.

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 on the last 124 semester hours of degree work. 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 PROFESSIONAL COLLEGES

If a student has met all other requirements for the B.B.A. degree, he may count as his free electives sufficient hours taken in the College of Law to make up the total of 124 (plus PE). This rule applies only to work taken in law at the University of New Mexico. For such students Business Law (BA 106, 107) may be waived.

The same rule will apply to other professional colleges (Education, Fine Arts, Engineering, Pharmacy), except that Business Law (BA 106, 107) will not be waived.

If a student wishes to secure a degree in another professional 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 professional 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. 89-99). 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 the last 124 semester hours of degree work except that for specific courses as indicated in the course description a certain minimum grade may be required in a prerequisite course.

2. To graduate with a B.B.A. degree a student must have an over-all C average on all Business Administration and Economics courses attempted.

3. 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.

4. 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.

5. The following will count as laboratory science: Physics, Chemistry, Biology, Geology, Psychology, and Home Economics courses 53L, 54L.

6. The successful conclusion of the Proficiency Examination in English.

7. 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.

8. The College of Business Administration will accept as free electives credits earned in other professional 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.

9. Credit is allowed toward a degree in the College of Business Administration for typewriting, 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): American Government (6 hrs); additional 6 hours	12
3. Laboratory Science (1 yr.)	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 5L, 6L, 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
BA 5L Accounting	3	BA 6L Accounting	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 Business Statistics	3	Elective	3
BA 63 Intermediate Acct I	3	Elective	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 looking forward to a concentration in Industrial Administration will enroll for BA 84 (Cost Accounting) in place of BA 63 (Intermediate Accounting) in the first semester of the sophomore year.

Students in Marketing and Finance will enroll in BA 63 in the sophomore year.

Secretarial-Office Training students should follow the 4-year program as outlined on p. 122.

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 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. 118, which were not taken in the first two years. A general prerequisite to all upper division courses is Economics 51 and 52 and BA 5L and 6L, 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.

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
		Electives	5
BA 108	3		
BA 110	3		
BA 130	3		
	15		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		
	17		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
	15		17

Senior Year

Philosophy	3	Speech	3
Social Science Elective	3	Social Science Elective	3
BA 115	3	Economics 152	3
Electives	8	Electives	6
	17		15

Recommended Electives: BA 128, 162, 190, 198.

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

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 College 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
	15		17

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
	17		15

Concentration requirements in addition to specific requirements:

a. 11 or 12 hours in BA from the following: BA 63, 113, 114, 115, 127, 128, 134, 143, 158, 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	3		
	15		17

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	6	Elective	3
	17		15

Note: Students in this concentration will have enrolled in BA 84 in the first semester of their sophomore year.

Recommended Electives: BA 190, Soc. 150, Econ 180, Psych 58.

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 this 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	3
	15		17

Senior Year

BA 182	3	BA 185	3
Philosophy	3	Speech	3
Social Science Elective	3	Social Science Elective	3
Electives	8	Electives	6
	17		15

Recommended Electives: BA 114, 134, 127, 128; Geography 63; Economics 152.

Note: Students in this concentration are required to take BA 63.

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
BA 5L	3	BA 6L	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
	15		14
	+ PE		+ PE

Sophomore Year

BA 62	3	Laboratory Science	3–4
Laboratory Science	3–4	Economics 52	3
Economics 51	3	Government 52	3
Government 51	3	Foreign Language or Engl 64	3
Foreign Language or Engl 55	3	Physical Ed	1
Physical Ed	1	BA 65	3
	15–16		15–16
	+ 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
Elective	3	Electives	2
	17		17

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		
	17		17

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
BA 5L	BA 6L	Govt 51	Govt 52
Lab Sci	Lab Sci	BA 63	Elective
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 5L	BA 6L	Govt 51	Govt 52
Lab Sci or Soc Sci	Lab Sci or Soc S	BA 63 or 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 108, 110, 130	BA Elective
BA 108, 110, or 130	BA 111	Soc Sci or Phil	BA Elective
For Lang or Hist	BA Elective	For Lang or Engl 55	Soc Sci
NS 101	For Lang or Hist	NS 151	For Lang or Engl 64
BA Electives	NS 102	BA Elective	NS 152

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 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 its College of Education 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, 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 may 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 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 in 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 with a satisfactory score.
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 Administrative Committee of the College, which may, in its discretion, grant permission to enroll for extra hours.

EXTRACURRICULAR ACTIVITIES FOR TEACHERS

In choosing teachers, principals and superintendents are always eager to find candidates who are able to handle extracurricular activities or who have developed some particular ability which will contribute to the life of the school. From the point of view of getting and retaining a position, such specialized abilities as those which enable teachers to direct glee clubs, coach athletics and debating teams, manage student publications, and sponsor school clubs of various kinds are extremely important. There are many opportunities at the University for securing training and experience in these fields. It is strongly recommended that prospective teachers take advantage of them.

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 assignment.

The facilities of these school systems furnish an excellent opportunity for students to work in a practical laboratory in which the principles of good teaching can be observed and applied. The student teaching is correlated with the subjects taught in 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 coöperation 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. 83 for description of services.

SCHOLASTIC REGULATIONS

See pp. 92-94.

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 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 Educa-

tion; 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 p. 133.

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. 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. 97). 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. 96.

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: anthrolopogy, economics, geography, history, philosophy, sociology, and government and citizenship.	12 sem. hrs.

4. **Natural Sciences.** 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 52 sem. hrs.

CURRICULA

Curricula are outlined on the following pages under the respective departments for the purpose of directing students in their chosen fields of work. There are curricula for students preparing to teach in secondary schools and for students who wish to teach in the elementary schools.

Special curricula are provided for students preparing to teach art, music, physical education, home economics, business subjects or industrial arts in elementary or secondary schools.

NROTC and AFROTC students may substitute required military science courses for courses in required Physical Education. The courses in military science may also be substituted for certain courses in several of the curricula 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	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
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

Junior Year

Psychology 110	3	Secondary Ed 153	3
Art Ed 124	3	Art Ed 125	3
Secondary Ed 141	3	Art, Art History	3
Major Group in Art	6	Major Group in Art	6
Art Electives	2		

Senior Year

Ed Electives	3	‡Secondary Ed 156-157	6 or 9
Art Electives	6	General Electives	6
General Electives	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.)

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	General Prof Ed 102	3
Art Ed 124	3	General Prof 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		

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

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

Literature	3	Speech 55	3
Math or Science	1–3	Economics 51	3
Business Ad 62	3	Psychology 51	3
Business Ad 5L	3	Business Ad 6L	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

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
Business Ad 5L	3	Business Ad 6L	3
Social Studies	3	Social Studies	3
Math	3	Electives or Minor	3
Physical Ed	1	Physical Ed	1

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

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

‡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.

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

Sophomore Year

Literature	3	Speech 55	3
Economics 51	3	Economics 52	3
*Business Ad 89	3	Psychology 54	3
Psychology 51	3	Business Ad Elective	3
Fine Arts Elective	3	Electives or Minor	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.)

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
Physical Ed	1	Physical Ed	1
Language or Geography	3	Language or Geography	3

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

* Prerequisite: Mathematics 2 or equivalent.

Junior Year (continued)

Home Ec 138L	4	Sociology 82 or 117	3
Sociology 110	2	General Prof Ed 72	3
†Electives	4	†Electives	4

Senior Year

Elementary Ed 123	2	General Prof Ed 102	3
Government 103	3	English 82	3
Elementary Ed 136	5–9	General Prof Ed 120	2
†Electives	6–9	†Electives	6–9

HEALTH, PHYSICAL EDUCATION, AND RECREATION DIVISION OF

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 Studies	3	Social Studies	3
Biology 12L	4	Biology 36 & 39L	5
Fine Arts Elective	2–3	Physical Ed 74	2
Physical Ed 44	2	Physical Ed 75	2
Physical Ed 45	2	Physical Ed	1
Physical Ed	1		
	17–18		16

Sophomore Year

Literature	3	Speech 55	3
Social Studies	3	Social Studies	3
Psychology 51	3	Psychology 54	3
Physical Ed 40	2	Physical Ed 46	2
Physical Ed 77	2	Physical Ed 76	2
Electives	3	General Prof Ed 64	2
Physical Ed	1	Physical Ed	1
	17		16

Junior Year

Biology 126L	3	General Prof Ed 118	3
Secondary Ed 141	3	Physical Ed 119	2
Physical Ed 138	3	Physical Ed 104L	4
Physical Ed 171	3	Physical Ed 172	3
Home Ec 104	2	Physical Ed 41	2
General Prof Ed 72	3	Physical Ed 128	2
	17		16

Senior Year

Secondary Ed 153	3	Elementary Ed 136 (PE) or	
Secondary Ed 156	6	Secondary Ed 157 or elective	3
Physical Ed 169	3	Physical Ed 185	3
Physical Ed 125	3	General Prof Ed 164	3
Ed Electives	3	Electives	6
	18		15

† It is recommended but not mandatory 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	

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 104L	4
Physical Ed 128	2	Physical Ed 172	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 104L	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 coördinator 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 64	2
Physical Ed 49	1	Physical Ed 72	3
Physical Ed	1	Physical Ed	1

Sophomore Year

Literature	3	Speech 55	3
Social Science	3	Social Science	3
Psychology 51	3	Psychology 54	3
Physical Ed 97	1	Physical Ed 99	1
Physical Ed 98	1	Physical Ed	1
Physical Ed	1	Electives	6
Electives	4		

Junior Year

Biology 126L	3	Secondary Ed 141	3
Physical Ed 107	3	Physical Ed 104L	4
Physical Ed 119	2	Physical Ed 108	3
Physical Ed 121 or 156	2	Secondary Ed 155p	3
Physical Ed 138	3	Physical Ed 151	2
Physical Ed 151	1		
Gen Prof 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 49, 97, 98, 151	2
Secondary Ed 155p	3	Electives	3 or 4
Physical Ed 107 or 108	3		

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

Sophomore Year

English (Literature)	3	Speech 55 or 57	3
Natural Science	3	Psychology 60	3
Music (Recreational)	2	Social Science	3
Social Science	3	Music (Recreational Music)	2
Psychology 51	3	Physical Ed 90	2
Physical Ed 64	2	Physical Ed	1
Physical Ed	1	Electives	2–3
	17		16–17

Junior Year

Physical Ed 103	3	Physical Education 119	2
Sociology	3	Gen Prof Ed 131	3
Dramatic Art 110	3	Gen Prof 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
	16–17		15–17

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
	16		16

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	4

Courses advised for Specialty:
Art 3, 8; Art Ed 17, 18
Drama 1, 29, 30
Industrial Arts 10L, 61L, 54L, 55L
Music 5, 6, 39, 40
Physical Ed 64, W69, W80, W81, 90, 107, 108, 119, 121, 125, 131, 151, 171

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 coördinator.

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. 257.

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, 151, and 159, Chemistry 64L and Biology 93L.

MINOR STUDY IN EDUCATION

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
Electives	7	Home Ec 63L or 64L	3
		Electives	6

Senior Year

Home Ec 127L	4	Home Ec 132	3
Home Ec 138L	4	Home Ec 133L	4
Literature	3	Home Ec 196	1–2
Secondary Ed 155d	3	Secondary Ed 156	6–9
Electives	0–3		

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	3	IA 20L	3
Social Science	3	CE 12L	3
Physical Ed	1	Social Science	3
		Physical Ed	1

Sophomore Year

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	3	Social Science	3
Social Science	3	Psychology 54 or 110	3
†Elective‡	3	Physical Ed	1
Physical Ed	1		

† Students enrolled in Air Force ROTC or Navy ROTC may substitute ROTC courses.
‡ Electives selected after consultation with adviser.

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

Senior Year

General Prof Ed 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.

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	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
	16		16

Sophomore Year

Literature elective	3	Speech 55	3
Psychology 51	3	Psychology 54	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
	17		17

† 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.
* Should include 6 hours of music history.

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
	18		18

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
	17		17

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
	16		16

Sophomore Year

Literature elective	3	Speech 55	3
Psychology 51	3	Psychology 54	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
	17		17

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
	18		18

* Fine Arts elective to be chosen from art, art education, drama, industrial arts.
‡ Should include 6 hours of music history.

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
	15		16

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
		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.

PHYSICAL EDUCATION

See Health, Physical Education, and Recreation.

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

* Fine Arts elective to be chosen from art, art education, drama, industrial arts.
‡ Should include 6 hours of music history.

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. The total semester hours of these concentrations shall equal 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. 129 of this catalog.)

PROFESSIONAL EDUCATION

	Semester Credits
Educational Psychology 54 or 110	3
Secondary Education 141	3
Secondary Education 153	3
Secondary Education 155 or Education substitute	3
*Secondary Education 156	6
General Professional Education 115 or equivalent	3
Electives in Education	3
Total Professional Education	24

SUBJECT SPECIALIZATION FOR TEACHING

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

1. English: Major or Minor teaching subject
2. Foreign Languages:
   French: Major or Minor teaching subject
   German: Minor teaching subject only
   Latin: Minor teaching subject only
   Portuguese: Minor teaching subject only
   Spanish: Major or Minor teaching subject
3. Government and Citizenship: Major or Minor teaching subject
4. History: Major or Minor teaching subject
5. Mathematics: Major or Minor Teaching Subject

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

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. 130
9. Business Education: For details see p. 132
10. Home Economics: For details see p. 137
11. Industrial Arts Education: For details see p. 138
12. Music Education: For details see p. 139
13. Physical Education for Men: For details see p. 134
14. Physical Education for Women: For details see p. 135
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., Communicative 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 freshmen courses, of which 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 12 hours must be in each of 3 of these departments, and 15 hours of electives from these departments. 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 COMMUNICATIVE ARTS IN SECONDARY EDUCATION The Communicative Arts composite major is in the process of consideration and approval. Secondary Education advisers should be consulted for information about current status.

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			
Literature	3	Speech 55	3
Psychology 51	3	Psychology 54	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
General Prof Ed 115 (or equivalent)	3		

* The required 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.

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 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 3 listed in the first 2 years.

ARCHITECTURE

A student may now enroll in either the College of Engineering or the College of Fine Arts for work toward the degree of Bachelor of Architecture. See the Division of Architecture for details of this program.

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 Electrical Engineering. 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

First Semester	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. Lect.-Lab.
Math 15 College Alg	3	(3-0)	Math 50 Calc & Anal Geom	4	(4-0)
Math 16 Pl Trig	2	(2-0)	Engl 2 Writing with Rdgs in Lit	3	(3-0)
Engl 1 Writing with Rdgs in Expos	3	(3-0)	Chem 2L Gen Chem	4	(3-3)
Chem 1L Gen Chem	4	(3-3)	CE 2L Descr Geom	3	(2-4)
CE 1L Engr Draw	3	(1-6)	Physics 60 Gen	3	(3-0)
CE 3 Orientation	1	(1-0)			
	16	(13-9)		17	(15-7)
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. 265 for Mathematics; to p. 239 for English; to p. 210 for Chemistry; and to p. 228 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	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. Lect.-Lab.
Sophomore Year					
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 Statics	3	(3-0)	ChE 162 Inorg Unit Proc	2	(2-0)
†Elective (tech)	3	(3-0)	CE 102 Str of Mat'ls	3	(3-0)
	16	(14-6)	†Elective (tech)	3	(3-0)
				17	(14-9)
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)
EE 61L Prin of Circ I	3	(2-3)	EE 64L Prin of Electronics	3	(2-3)
Elective (non-tech)	3	(3-0)	Elective (non-tech)	2	(2-0)
†Elective (tech) or ChE 153 Adv ChE Calculations	2	(2-0)	ChE 194L Design	2	(1-3)
			ChE 198 Field Trip	0	(0-0)
	19	(14-15)		18	(14-12)

† 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.

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 young engineer a broad background of knowledge to allow him the maximum latitude of choice in his career.

CIVIL ENGINEERING LABORATORIES The Civil Engineering laboratories have been designed to supplement theoretical analysis with practical, on-the-job applications.

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 equipped to make all customary tests in torsion, bearing, compression, tension, shear, flexure, hardness, etc.

The combined Concrete and Soils laboratory with its 300,000 lb. testing machine and other equipment affords facilities for customary tests of soils, concrete, masonry, timber, and all conventional building materials.

The Bituminous laboratory contains equipment for making standard tests on road oils and asphalts, and for designing and testing bituminous mixes for highways, airports, and other pavements.

A separate Cement laboratory is completely equipped for making the standard physical tests on Portland cement. Equipment includes the most advanced type of temperature control mechanisms for maintaining constant temperatures during tests.

A completely equipped Sanitary laboratory affords the student the opportunity of gaining practical experience in performing customary tests and experiments with municipal and industrial wastes.

The Hydraulics laboratory, housed in a separate building, is equipped to make possible the study of pipe, orifice, weir, and open channel flow, so that the student may gain practical knowledge in the fields of water supply, sewerage, irrigation, drainage, etc.

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	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. 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)

Sophomore Year (Continued)

First Semester	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. Lect.-Lab.
Physics 63L Gen Lab	1	(0-3)	Physics 64L Gen Lab	1	(0-3)
CE 53L Elem Survey	3	(1-6)	CE 54L Adv Survey	4	(2-6)
Ec 51 Intro to Ec	3	(3-0)	CE 60 Statics	3	(3-0)
Geology 4 Engr Geol	3	(3-0)	Engl 64 Info Writing	3	(3-0)
	17	(14-9)		18	(15-9)
PE	1		PE	1	

Junior Year

CE 102 Str of Mat'ls	3	(3-0)	CE 122 Struc Anal	3	(3-0)
CE 110 Fluid Mech	3	(3-0)	CE 124 Struc Design I	2	(2-0)
CE 111L Fluid Mech Lab	1	(0-3)	CE 115L Mat'ls of Constr	3	(2-3)
CE 109L Soils Engr	4	(3-3)	CE 120 Engr Hydrology	2	(2-0)
ME 106 Dynamics	3	(3-0)	CE 126 Highway Engr	2	(2-0)
CE 103L Str of Mat'ls Lab	1	(0-3)	EE 61L Prin of Elec Circ I	3	(2-3)
*Elective	3	(3-0)	*Elective	3	(3-0)
	18	(15-9)		18	(16-6)

Senior Year

CE 158 Reinf Conc Design I	3	(3-0)	CE 163L Struc Design II	4	(2-6)
CE 160 Struc Anal	3	(3-0)	CE 162L Sewerage and Sewage Treatment	3	(2-3)
CE 161L Water Supply	3	(2-3)	CE 152 Engr Contr & Prof Rela	2	(2-0)
CE 154L Bituminous Mat'ls	3	(2-3)	ME 101 Thermodyn	3	(3-0)
*Elective	3	(3-0)	*Elective	3	(3-0)
†Tech Elective	3	(3-0)	†Tech Elective	3	(3-0)
	18	(16-6)		18	(15-9)

ELECTRICAL ENGINEERING

The technology of electrical engineering is changing extremely rapidly. Common practice one year is obsolete the next. To prepare the student for the 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.

* Electives are to be chosen from the Social Sciences and Humanities.

† Technical electives may be chosen from the following courses: CE 167, 170, 171L, 172, 183, 184, 186, 187L, 190, 191, 192 and 195L. Others may be selected with approval of the Civil Engineering Department. ROTC students may substitute ROTC courses for 6 hours of technical electives.

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

The electronics laboratory provides an opportunity to design electronic devices, quickly make experimental hook-ups, and test performance with a variety of electronic laboratory instruments. The circuits studied form the basis for radio, radar, television, automatic control, telephone, electronic computer, and other systems.

The power laboratory provides facilities for determining characteristics of various power conversion devices, including dc and ac rotating machines, transformers, rectifiers, and the associated control devices. Specialized industrial electronic devices such as induction heaters are also available.

The microwave laboratory makes possible the study of tubes and transmission devices at wave lengths below 5 meters. Standard microwave power and impedance measurement techniques are taught.

CURRICULUM IN ELECTRICAL ENGINEERING

Sophomore Year

First Semester	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. Lect.-Lab.
EE 61L Elec Circ I	3	(2-3)	EE 62L Elec Circ II	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 Statics	3	(3-0)
Elective	3	(3-0)	Elective	3	(3-0)
	17	(15-6)		18	(16-6)
PE	1		PE	1	

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 Appl Adv Calc	3	(3-0)	EE 131L Electronics Lab I	1	(0-3)
ME 106 Dynamics	3	(3-0)	CE 102 Str 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	3	(3-0)
ME 101 Thermodyn	3	(3-0)	Elective	7	(6-3)
Physics 110 Atomic & Nuclear	3	(3-0)			
Elective	4	(3-3)			
	18	(12-9)		17	(15-6)
Probable EE Electives EE 182, 182L, 191, 191L			Probable EE Electives EE 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

Sophomore Year

First Semester	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. 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)
Econ 51 Intro	3	(3-0)	CE 60 Statics	3	(3-0)
ME 53 Engr Mat'ls	3	(3-0)	Engl Elective	3	(3-0)
ME 63L Mfg Proc (Req'd)	4	(2-6)	ME 63L Mfg Proc (Req'd)	4	(2-6)
OR			OR		
*Elective	3		*Elective	3	
	17			17	
	or 18			or 18	
PE	1		PE	1	

* Electives are to be chosen from humanities and the social sciences, with the approval of the department chairman.

Junior Year

ME 101 Thermodyn	3	(3-0)	ME 102 Thermodyn	4	(4-0)
ME 103L ME Lab I	1	(0-3)	ME 117 Fluid Mech	3	(3-0)
ME 106 Dynamics	3	(3-0)	ME 118L ME Lab II	2	(0-6)
ME 113L Kinematics	3	(2-4)	ME 114L Dynamics of Mach	3	(2-4)
CE 102 Str of Mat'ls	3	(3-0)	ME 120 Heat Transfer	3	(3-0)
CE 103L Str of Mat'ls Lab	1	(0-3)	EE 61L Elec Circ I	3	(2-3)
*Elective	3			18	
	17				

Senior Year

ME 151L ME Lab III	2	(0-6)	ME 152L ME Lab IV	2	(0-6)
ME 157 Des Anal I	3	(3-0)	ME 156 Indus Engr	3	(3-0)
ME 158L Des Anal Lab	1	(0-3)	ME 173 Seminar	1	(1-0)
ME 175 Engr Metallurgy	2	(2-0)	†Tech Electives	6	
ME 172 Seminar	1	(1-0)	*Electives	6	
EE 64L Prin of Electronics	3	(2-3)		18	
†Tech Electives	6				
	18				

* Electives are to be chosen from humanities and the social sciences, with the approval of the department chairman.

† 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.

DIVISION OF ARCHITECTURE

THE DIVISION OF ARCHITECTURE, which is administered by the College of Engineering and the College of Fine Arts, offers a 5-year curriculum, leading to a Bachelor of Architecture degree. The curriculum 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 Division of Architecture; their return will be at the discretion of the Architecture faculty.

ADMISSION REQUIREMENTS

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

Students above freshman level who wish to work toward the Bachelor of Architecture degree are enrolled in either the College of Engineering or the College of Fine Arts. See those respective sections of this catalog for the college admission requirements.

SCHOLASTIC REGULATIONS

Students following the Division of Architecture program will be governed by the general scholastic regulations of the University and of the college in which the student is enrolled.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student will be required to complete the curriculum in architecture and to fulfill the graduation requirements of the college in which he is enrolled.

CURRICULUM FOR BACHELOR OF ARCHITECTURE DEGREE

First Year

First Semester	Cr.	Hrs. Lect.-Lab.	Second Semester	Cr.	Hrs. Lect.-Lab.
Arch 31L Elem of Arch	3	(0-9)	Arch 32L Elem of Arch	3	(0-9)
Arch 3 Two Dimen Design	3	(0-6)	Arch 9 Three Dimen Design	3	(0-6)
Math 15 Algebra	3	(3-0)	Math 50 Calc & Anal Geom	4	(4-0)
Math 16 Plane Trig	2	(2-0)	Engl 2 Writ with Rdgs in Lit	3	(3-0)
Engl 1 Writ with Rdgs in Expos	3	(3-0)	Social Sci elective	3	(3-0)
Social Sci elective	3	(3-0)		16	(10-15)
	17	(11-15)	PE	1	
PE	1				

Second Year

Arch 81L Arch Design I	4	(0-12)	Arch 82L Arch Design II	4	(0-12)
Arch 83 Mat'ls & Constr	2	(2-0)	Arch 84 Mat'ls & Constr	2	(2-0)
Art 6 Begin Drawing	3	(0-6)	Engl 64 Info Writing	3	(3-0)
Math 51 Calc & Anal Geom	4	(4-0)	CE 60 Applied Mechanics	3	(3-0)
Phys 60 Gen Physics	3	(3-0)	Physics 61 Gen	3	(3-0)
	16	(9-18)	Physics 63L Gen Lab	1	(0-3)
PE	1			16	(11-15)
			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)
Hist 1 Western Civ	3	(3-0)	Hist 2 Western Civ	3	(3-0)
CE 102 Str of Mat'ls	3	(3-0)	CE 122 Struc Analysis	3	(3-0)
Art 103 Landsc (Water Clr)	2	(0-6)	CE 124 Struc Des I	2	(2-0)
ME 108 Mech Eq of Bldgs	3	(3-0)	EE 61L Prin of Elec Circ I	3	(2-3)
	18	(12-18)		18	(13-15)

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)
CE 158 Rein Conc Des I	3	(3-0)	Art Elective	3	(3-0)
Art Elective	2	(2-0)	Phil 51 Intro to	3	(3-0)
CE 160 Structural—Stat Indeterm	3	(3-0)	Elective	3	(3-0)
Elective	3	(3-0)		16	(11-15)
	18	(13-15)			

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)
	17	(9-24)		17	(9-24)

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 coördinate 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: Art, Dramatic Art, and Music. In addition, the College exercises, jointly with the College of Engineering, supervision over the Division of Architecture; and, with the College of Education, over Music Education.

The College of Fine Arts offers the following degrees: 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. 158

Bachelor of Architecture

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. Completion of the English Proficiency Examination with a satisfactory score.
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.
6. A student working toward the Bachelor of Architecture degree must have completed 26 hours of the freshman program of the Division of Architecture (see p. 154), and must be eligible to enroll in Mathematics 50.

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. 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.

First Semester		Second Semester	
Freshman Year			
Major Field	6	Major	7
Minor Field	5	Minor	5
English 1	3	English 2	3
Physical Ed	1	Physical Ed	1
	15		16
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
	17		17
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
	17		17
Senior Year			
Major	5	Major	5
Minor	3	Literature	3
Literature	3	Electives	8
Science or Math	3		
Elective	3		
	17		16

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

CURRICULUM IN ARCHITECTURE

For the curriculum leading to the degree of Bachelor of Architecture see Division of Architecture, p. 154.

PRE-OCCUPATIONAL THERAPY CURRICULUM

PREPROFESSIONAL

The Pre-occupational Therapy course at the University of New Mexico covers a period of two years. The University offers the following curriculum to equip the student with the basic academic and laboratory courses which will provide him with those prerequisites required of students applying to accredited schools of occupational therapy. He will normally transfer to accredited schools of occupational therapy at the sophomore or junior level, although it is possible to enter these schools as an advanced standing student already possessing a B.F.A. degree.

The Philadelphia School of Occupational Therapy has established 3 or 4 scholarships a year for students from the University of New Mexico who have earned a degree in Fine Arts (a degree in Education or in Arts and Sciences with a major in a fine arts field is also acceptable.)

CURRICULUM

The following curriculum for freshmen interested in pre-occupational therapy during their enrollment in the University College is suggested:

First Semester		Second Semester	
Art 3	3	Art 8	3
Art 9	3	Psychology 51	3
Biology 1L	4	Biology 2L	4
English 1	3	English 2	3
Foreign Language	3	Foreign Language	3
Physical Ed	1	Physical Ed	1
	17		17

The Occupational Therapy adviser (Professor Poore) can help a student choose a program for his second year from the following courses relating to Pre-occupational Therapy, according to the requirements of the school where the student will complete this study:

Art 27, 28 Lettering		2,2
Art 65 Drawing	(2 per semester)	4
Art 57 Beginning Jewelry		2
Art 58 Beginning Textiles		2
Art 87, 88 Photography		2,2
Art 97 Beginning Ceramics		2
Art 100 Art Appreciation		3
Art 110 Interior Decoration		3
Art 127 Advanced Jewelry	(3 per semester)	6
Art 137 Advanced Ceramics		3
Art 147 Advanced Textiles		3
Biology 36 Human Anatomy & Physiology		3
Biology 93L General Bacteriology		4
Biology 126L Physiology of Exercise		3
Chemistry 41L Elements of Gen Chem		4
Chemistry 42L (continuation of 41L)		4

General Professional Education 64 First Aid	2
General Professional Education 115 Introduction to Guidance	3
Home Ec 104 Nutrition	2
PE 90 Social Recreation	2
PEM&W 93 American Country Dance	1
PE 104L Kinesiology	4
Psychology 60 Psychology of Adjustment	3
Psychology 101 Social Psychology	3
Psychology 103 Abnormal Psychology	3
Psychology 111 Child Psychology	3
Psychology 196 Physiological Psychology	3

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."

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. 197.

PRE-OCCUPATIONAL THERAPY

See curriculum on p. 159.

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. 162.)

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
	16		16

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
	17		17

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		
	17		17

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		
	16		16

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

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

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

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

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		
	17		17

* 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
	17		17

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		
	16		16

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
	17		17

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
	16		16

Junior Year

Psychology 110	3	Secondary Ed 153	3
Art Ed 124	3	Art Ed 125	3
Secondary Ed 141	3	Art, Group III	3
Major Group in Art	6	Major Group in Art	6
Art Electives	2		
	17		15

Senior Year

Ed Electives	3	*Secondary Ed 156–157	6 or 9
Art Electives	6	General Electives	6
General Electives	6		
	15		15

‡ 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. 213.

CURRICULA IN DRAMATIC ART

(Leading to the degree of Bachelor of Fine Arts in Dramatic Art. Hours required for graduation, 132.)

Freshman Year

First Semester		Second Semester	
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
	15		15

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
	16		16

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
	18		18

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
	17		17

(Curriculum leading to the degree of Bachelor of Fine Arts in Dramatic Art and meeting the requirements for provisional secondary teachers certificate in New Mexico.)

Freshman Year

(Same as Freshman year outlined above)

Sophomore Year

First Semester		Second Semester	
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 54	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	Gen Prof Ed 115 (or equivalent)	3
	18		18

Senior Year

D A 161	3	D A 162	3
Gen Prof Ed 170	3	Sec Ed 156	6
English 141 or 142	3	Gen Prof Ed 130	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, pp. 272-273.

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 Department are required to attend a specified number of the departmental recitals and concerts each semester as a regular part of their musical education. The number of recitals and concerts required is posted by the Department at the beginning of each semester. Failure to observe these requirements results in the addition of one-half hour of credit to the total graduation requirement for each unexcused excessive absence.

PROGRAM FOR FRESHMAN YEAR IN MUSIC DURING ENROLLMENT IN THE UNIVERSITY COLLEGE

Freshmen in **all** music curricula, except Music Education, should enroll for the following courses:

English 1, 2 Music 5, 6 P. E. One of the following: Social Science Language Mathematics or Science	10 hours each Semester

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

Applied music, instrumental Music 1, 2 (major instrument) Ensemble	5 hours each semester
Applied music, vocal Music 1, 2 Music 19, 20 (piano)	5 hours each semester
Theory and Composition Music 19, 20 (piano) Music 155 each semester Ensemble each semester	3 hours each semester
Music Literature Music 19, 20 (piano) Music 155 each semester Ensemble each semester	3 hours each semester

Freshmen planning to concentrate in Music Education should refer to the freshmen programs on pp. 139-140.

FIELDS OF CONCENTRATION

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.

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.

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 54, 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.

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‡ Should include 6 hrs. music history or literature.

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

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

(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 54, 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.

‡ Should include 6 hrs. music history or literature.
* Fine Arts elective to be chosen from art, art education, drama.

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, and Speech.

The degree of Doctor of Philosophy is offered in American Studies, Anthropology, Biology, Chemistry, Education, English, Geology, History, Mathematics, Physics, and Spanish. The degree of Doctor of Science is offered in Electrical 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 Bulletin.** Any student may be refused admission if his previous scholastic record

* Not required of University of New Mexico graduates.

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.

COLLEGE 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 College of Law. The College admitted its first class in September, 1947.

AIMS AND METHODS

It is the democratic ideal, of which the Judeo-Christian ethic of sympathy is a religious expression, that the human personality always be respected and that each individual be left as free to develop and express himself spiritually, politically, socially, and materially, as is compatible with the general principle. For the law, this means that every individual shall be treated on his merits, on the basis of what he is and is capable of becoming, his past life being significant only as evidence of his character and potentialities. This also means that those who seek to make and administer the law must be properly motivated, well aware of social objectives and values, and sensitive to human needs and aspirations.

The aim of the College of Law will be to insure that its graduates understand the democratic ideal and the role of law and of the lawyer in our striving to attain it. To this end, it will be urged that students enter the law school with as broad a cultural and educational background as it is possible for them to have. At present, the minimum requirement is, as stated below, 3 years of college work. (Commencing in the fall of 1960, the basic requirement will be a baccalaureate degree.) In the College of Law, the students will not only study the ideas, ideals and ways of life expressed in the substantive law and in legal literature, and the procedures provided for their application, but will also have kept before them the obligations of their profession.

The right of the lawyer to just compensation for his services will be recognized, but the duties of a lawyer as adviser, draftsman, negotiator, advocate, judge, legislator, teacher, official, and citizen, and the personal satisfaction to be gained from work well done, will continually be stressed as paramount to personal gain, especially to financial reward obtained for position and influence and not earned by professional services rendered.

The aim of the College of Law is to furnish its graduating students with a sound base for a program of self-education which will be continued by them throughout their lives. The law is deemed to be a flexible, living, and dynamic system of organizations, processes and procedures serving the purpose of (1) resolving particular conflicts of interests (adjudication) and (2) providing guides to obviate future conflicts of interests (legislation). This system is based upon a solid, although not rigid or mechanically applicable, foundation of substantive and procedural law which no official should depart from or seek to modify except in accordance with the methods of the appropriate process and after adequate notice and hearing. Therefore, the method of the College consists in the study of the organization, processes and procedures of the law as revealed in past adjudications, and in the study of legislation and contemporary problems in the areas where conflicting interests and opinions have not yet been resolved. The

materials for such study will be selected and systematized so as to give as broad and readily grasped a coverage of legal information as possible, while at the same time providing exercise in the development of skills and encouraging an attitude of truth-seeking in research, synthesis, criticism, and expression.

A persistent effort will be made to bring to the surface, and thereby to challenge the students with, ultimate ideals and aims and moral problems; this to the end that they will not proceed unconsciously on the basis of untested assumptions, or on the basis of their individual ideas, humanitarian or otherwise, but will realize the difficulties of human understanding and progress, and will develop in themselves the respect for, and the understanding of, government under law, the balance of boldness and humility, and the unselfish devotion to duty that are required of citizens who are members of the legal profession. The College also endeavors to train students in the craft, skill, or "practical" aspects of the day-to-day work of a lawyer so that a graduate will be as well prepared as he can be in three years to assume the responsibilities of practice.

Faculty time permits substantially more individual and small group work than has usually been possible in law schools; there are less than 15 students per full-time teacher.

STANDARDS OF AMERICAN BAR ASSOCIATION AND OF THE ASSOCIATION OF AMERICAN LAW SCHOOLS

The College 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 to the College in December, 1948. The College is fully accredited.

FACILITIES

LAW BUILDING

The College of Law building is of modified Pueblo Indian design and is colorfully decorated and furnished throughout. From the main entrance, corridors extend to the north and to the east. The corridor to the north is lined with student lockers. Here are the classrooms and moot court room. At the end of the corridor is the student lounge, with adjoining pantry and patio. Administrative, faculty, Student Bar Association, and law review offices are located in the corridor extending to the east.

The two-story library lies between the two corridors. Reading tables run along the north side of open stacks on each floor. Adjoining the main reading rooms are a commodious lobby with control desk, a typing room, a microcard room, offices of the librarians, a receiving room, and a cataloging room on the first floor; a seminar room, two small research offices, a rare book room, a typing room, and a Memorial Room housing a special collection of literature of the law, equipped for browsing and lounging, on the second floor. There is storage space in the basement.

Bulletin boards are ample; a telephone booth has been installed for the use of the students; the pantry is equipped with refrigerator and stove; and there is a mimeographing room. The building has an elevator to service the second floor

of the library. 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. It can also be expanded.

THE LIBRARY

The College of 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 46,125 accessioned 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, state and Federal statutes, legal treatises, periodicals, encyclopedias and digests, administrative reports, French, Spanish, Latin-American, and other classes of legal materials. 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 and with justice of the peace courts through their work with the Legal Aid Society. The Albuquerque Lawyers Club and the Albuquerque Bar Association utilize the services of students to assist their committees. 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. The Albuquerque Police Magistrate is conducting an experiment in having some law students appear for indigents in his court. Unless and until Legal Aid is extended to criminal cases, or some other provision is made, this experiment will be continued if successful.

JOHN FIELD SIMMS MEMORIAL LECTURES (1954). See p. 47.

ADMISSION

ADMISSION REQUIREMENTS—BEGINNING STUDENTS

A candidate for the degree of Bachelor of Laws must have completed, in residence, before admission to the College of Law at least 3 years of study in an accredited college or university. (Commencing in the fall of 1960, the basic requirement will be a baccalaureate degree.) In these 3 years or more of residence he must have completed three-fourths of the work acceptable for a bachelor's degree on the basis of 4 years of study.

The three-fourths of the work will usually mean (work toward degrees in the Colleges of Education, Engineering, Fine Arts, or Pharmacy will be specially considered) 96 hours of credit acceptable toward the B.A. or B.S. degree of the College of Arts and Sciences or the B.B.A. of the College of Business Administration at the University of New Mexico and may include not more than 10% of

non-theory courses in military science, hygiene, home economics, physical education, vocal or instrumental music, or courses without intellectual content of substantial value. In any case, such prelegal work must have been completed with an average at least equal to the quality of work required for graduation in the institution attended, which will normally be taken to be an average of C or better on all prelegal work, exclusive of non-theory courses (see above), undertaken (failed courses must be included) in all institutions attended. Credit earned through correspondence or by examination is not acceptable.

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

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 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 a complete official transcript from each institution attended, showing courses and grades for all academic work.

No person will be considered for admission until he has filed formal application and 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 for first semester registration, in order to afford time for evaluation and, if necessary, supplementation and correction. Transcripts must come directly from the registrar of the institution.

A limited number of students 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 they are prepared 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 of the College 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 a law school.

ADMISSION TO ADVANCED STANDING

A student may transfer from an accredited law school. The transferring student must, in addition to submitting an application and a $5 transfer application fee, have sent to the Dean of the College of Law:

1. An official transcript of his prelegal course of study from each institution attended. The College of Law requires 3 years of prelegal work of transfer students as well as of beginning students. The principle is that the College of Law will not accept transfer law credit unless it was preceded by prelaw study as required for beginning law students. Beginning in 1960, this prelaw requirement will, with certain exceptions, be a baccalaureate degree.

2. An official transcript of his law study from each institution attended.

3. A letter from the dean of the law school from which he transfers to the effect that he is presently 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. In deciding whether and upon what conditions a student may enter with advanced standing, all work attempted at other law schools is considered, including work done with a grade lower than C. In some cases a student may not be permitted, and in marginal cases a student may be required, to retake some or all courses passed with a grade of D.

The student's standing in this College is based entirely upon his work done here (see "Scholarship Index," this Catalog).

A student eligible to return to the law school last attended only on probation or its equivalent will not be considered for admission unless the dean of such school recommends that the student be admitted and states that in his opinion the student has capacity for the study of law and that the failure to do better work was occasioned by factors that will not be present at the University of New Mexico. If the student is accepted by this College, he will be admitted on probation, under such conditions as this College may impose.

A student transferring to the College 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 a law school located outside the continental limits of the United States may be accepted with certain limitations.

LAW SCHOOL ADMISSION TEST AND OTHER TESTS AND INQUIRIES

The College of Law does not require entrance tests except for students seeking to transfer from other law schools with work of only marginal quality. However, for the information of the student and for advisement purposes, the College of Law recommends the Law School Admission Test administered by the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey, which can be taken in Albuquerque as well as in other places, and would welcome reports of score on that test or any other aptitude test the student may have taken. Application forms and information booklets for the Law School Admission Test can be secured from the Secretary of the College, or by writing to the Educational Testing Service. Arrangements to take the Law School Admission Test should be made well in advance; the test is given only 2 to 4 times a year, and the application and fee must be received in Princeton at least 10 days before the date of the test.

Students may be required to take, without charge, speech, hearing, interest, and aptitude or other tests after their entrance into the College, to have their pictures taken, and to answer questionnaires or oral questions as to their past and present activities relevant to their legal study and moral fitness to practice law.

SELECTION OF PRELAW PROGRAMS

The requirement for admission to the College of Law (**see ante,** "Admission Requirements") is the completion of three-fourths of the work acceptable for a bachelor's degree. This requirement is a minimum. Many students have, and all students are urged to have, a full 4-year bachelor's degree, and this, with certain exceptions, will be made a requirement beginning in the fall of 1960.

The College has prepared and distributes at registration time (or sooner upon request) its "Recommendations for an Undergraduate Course of Studies," which recognizes the "basic skills and insights" approach of the Committee on Pre-Legal Education of the Association of American Law Schools, as opposed to a "subject matter" approach. These basic skills and insights are (1) comprehension and expression in words; (2) critical understanding of the human institutions and values with which the law deals; and (3) creative power in thinking. These are more fully explained in the printed "Recommendations" referred to above, together with suggestions of specific courses from which selections may be made that will lead toward the attainment of the three objectives mentioned.

The law touches life at so many points that one can not acquire all the information he needs. The law itself is vast in scope. This means that one can in his college and law school life acquire no more than a taste and a basis for study that will continue throughout his life. He should study the basic, the fundamental. It is fairly well agreed that a study of literature, history, and philosophy is most likely to produce a civilized and clear-thinking man. Probably one cannot say precisely how many years of study is the optimum. One can, however, know that 4 years are standard for a liberal education and that a lawyer will be vying with other lawyers of whom many will have had a full 4-year degree prior to their study of law.

Typing: Certain exercises in the law school must be typed. An ability to type will be very helpful.

THE DEGREE

REQUIREMENTS FOR BACHELOR OF LAWS DEGREES

To secure the degree in law 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 residence study of law in accredited law schools. Residence 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 shall 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 shall 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.** Therefore, a student must register for not less than 10 hours and successfully complete not less than 9 hours in each, including

his final, semester even though a lesser number would enable him to meet the **subject** credit requirements for the degree. But at least 1 year of 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 residence study, not less than 83 semester hours of credit of satisfactory grade in courses of law study (including "required" courses) with a C average on all work attempted for law credit.

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 for bar admission. The curriculum of the College 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

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 Writing, Constitutional Law, Practice Court, Practical Problems, and Legal Aid are required; that is, they must be taken and passed. Brief and Argument is required for students who have not taken Legal Research or its equivalent. All first-year subjects must be taken, but are not "required" in the sense that they must be passed unless the faculty so rules in a particular case. All other subjects are elective, but not all courses can be so scheduled as to make election feasible for all students. The faculty 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 Three credits of elementary accounting, if not previously taken, may be taken for law credit after entry in the College of Law. Not to exceed 8 credits in other courses in other colleges of this University or other fully accredited institutions of higher learning may be taken 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 is required, and the student should be warned of possible conflicts of law school examination schedules with his class meeting and examination schedules. Grades of C or better secured in such courses will not be counted in the computation to determine the student's standing in the College of Law.

OFFERINGS

Note: All first-year courses must be taken; all other courses are elective unless marked Required. Description of courses will be found under "Law" in the Catalog section "Courses of Instruction."

First Year

Semester I		Semester II	
100 The Legal Profession and Ethics	0	100 The Legal Profession and Ethics	0
103 Contracts	3	101 Criminal Law	3
105 Property I	3	104 Contracts	3
107 Torts	3	108 Torts	2
109 Civil Procedure I	4	112 Legal Research	2
111 Law and Society	2	115 Agency and Partnership	2
		117 Property II	3
	15		15

Second Year

119 Property III	3	[4] 113 Brief and Argument (Req'd)	1
125 Corporations	4	123 Constitutional Law (Req'd)	4
[1] 127 Family Law & Comm. Property	3	131 Trusts	3
141 Legal Writing	3	147 Commercial Transactions	4
[1] 159 Evidence	2	[1] 160 Evidence	2
	15		14

Third Year

[2] 122 Remedies	(2)	[3] 128 Local Government Law	2
[3] 133 Wills	2	[3] 134 Probate Practice	1
135 Administrative Law	3	150 Practical Problems	0
[3] 139 Labor Law	3	151 Civil Procedure II	3
150 Practical Problems	0	153 Security	4
163 Water Law	2	[3] 154 Civil Procedure III	3
167 Taxation I	3	155 Unsecured Creditors' Rights	3
[2] 171 Oil and Gas	(2)	[2] 157 Legislation	1
173 Conflict of Laws	3	161 Practice Court (Req'd)	1
[5] 175 Patent Law (evening)	(2)	168 Taxation II	2
179 Seminar	1	179 Seminar	1
[2] 181 International Law	(2)	198 Legal Aid (Req'd)	0
198 Legal Aid (Req'd)	0		
	17		21

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 was set up under the chairmanship of Sam G. Bratton, Chief Judge of the United States Court of Appeals, Tenth Circuit. Responses by members of the bar to solicitations from this committee and from a committee of the alumni of the College of Law have been most generous and have demonstrated a sincere interest in legal education and in this College. Although the books have not been closed, $7,500 has been contributed. The fund is administered by a committee made up of three members of the faculty, one of whom serves

[1] A student may elect to defer this course until his third year.
[2] Will not be offered 1959-60. Will be offered 1960-61.
[3] Will not be offered 1960-61. May be taken by second-year students.
[4] Required unless student has taken Legal Research or its equivalent.
[5] Will not be offered 1959-60.

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. 71-82.

LEGAL AID

Seniors in the College 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 for 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 Margaret Keiper Dailey, General Counsel of the Society and Supervisor of Legal Aid on the College of Law staff, and Virginia F. Ufert, Assistant Counsel.

STUDENT-FACULTY RELATIONS AND HONOR CODE

All students registered in the College 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 College. All study is carried on as a co-öperative enterprise, the relationship between faculty and students being more nearly the professional relation of lawyer and law clerk than that of teacher and student. An Honor Code administered by the students has been in operation since the establishment of the College.

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.

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.

LICENSURE OF GRADUATES

Graduates of the College of Nursing will be eligible to take the State Board Examinations which provide the legal basis for becoming registered nurses.

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. Completion of the English Proficiency Examination with a satisfactory score.

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 complete the English Proficiency Examination during the first semester of enrollment in this University.

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 upon completion of the courses outlined in the nursing curriculum 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.

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	3	Engl 2 Writings with Readings in Lit	3
*Chem 41L Elem of Gen Chem	4	*Chem 42L Elem of Org Chem	4
Anthro 2 Develop of Cult	3	*Biol 36 Human Anat & Physiol	3
Nursing 1 Intro to	2	*Biol 39L Human Anat & Physiol Lab	2
Elective (Anthropology, Biology, Foreign Language, History, Philosophy, Sociology, Speech)	3	Elective (Anthropology, Biology, Foreign Language, History, Philosophy, Sociology, Speech)	3
Physical Ed	1	Physical Ed	1
	16		16

Sophomore Year

*Biol 33L Microbiology	3	Pharmacology 66L Prin of	4
Psych 51 Gen	3	Home Ec 104 Nutrition	2
Home Ec 138L Child Care & Development	4	†Nursing 51L Fund of	3
Soc 55 Prin of	3	Nursing 52L Fund of	3
Elective (Anthropology, Economics, English, Foreign Language, Government, History, Sociology, Speech)	3	Elective (Anthropology, Economics, English, Foreign Language, Government, History, Psychology, Sociology, Speech)	3
Physical Ed	1	Physical Ed	1
	17		16

Junior Year

Soc 165 Essentials of Interviewing	3	Soc 117 Social Problems of New Mexico	3
Nursing 101L Medical Nursing	5	Nursing 121L Pediatric Nursing	5
Nursing 102L Surgical Nursing	5	Nursing 122L Obstetric Nursing	5
Elective (Anthropology, English, Foreign Language, Government, History, Psychology, Sociology)	3	Elective (Anthropology, English, Foreign Language, Government, History, Psychology, Sociology)	3
	16		16

Senior Year

Nursing 151L Psychiatric Nursing	9	Nursing 161L Medical-Surgical Nursing Processes	5
Nursing 152L Public Health Nursing	9	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
	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

* Prerequisites for Nursing 51 in sophomore year.

† Prerequisites: Chemistry 41L-42L, Biology 36, Biology 39L, Biology 33L.

in Nursing if evaluation of previous professional and general education qualifies them to meet the minimum requirements listed under "Transfers" on p. 180. Advanced standing is determined on an individual basis.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING

1. Completion of the following group requirements, including at least 40 semester hours of upper division courses:

a. Natural Sciences	— 21 semester hours
b. Social Sciences	— 21 semester hours
c. English	— 6 semester hours
d. General Electives	— 20 semester hours
e. Nursing	— 58 semester hours

2. 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 on the approved list of the National University Extension Association.)
3. 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.
4. Completion of the English Proficiency Examination with a satisfactory score.

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 application and payment of the required fee, be issued a certificate of registration as a pharmacy interne.

An applicant for examination for licensure as a registered pharmacist by the New Mexico State Board of Pharmacy must be a graduate of a recognized college of pharmacy, must be not less than 21 years old, of good moral character, and not addicted to the use of narcotic drugs or alcoholic beverages. However, before he can receive a certificate as a registered pharmacist he must have had not less than 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 with a satisfactory score.

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 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, sophomores; Dr. George L. Baker, juniors; Dr. Elmon L. Cataline, seniors. 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*

The degree of Bachelor of Science in Pharmacy is granted upon completion of all the specified requirements. The candidate for this degree must:

1. Complete all of the work outlined in the pharmacy curriculum.

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 all work attempted while enrolled in the College of Pharmacy and, in the case of a student who transferred from the University College, the work attempted in the two semesters previous to transfer to the College of Pharmacy (minimum of 26 hours).

4. Receive grades of C or better in all the required courses in the fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology, except that a candidate who has received grades of D in no more than a total of three such required courses may, upon written petition to the faculty of the College of Pharmacy, be granted credit toward graduation for the work in such courses. (For the purposes of administering this exception, each semester of a course which runs throughout the year shall be considered as a separate course.)

5. Satisfy the minimum residence requirement.

6. Be unanimously recommended for the degree by the faculty of the College of Pharmacy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

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

First Year

(Program recommended for Freshmen in the University College)

The following is the recommended Freshman Pharmacy Program for University College students who desire to enter the College of Pharmacy. At the time of their first enrollment, such

* The requirements specified in this section are for those students who enter the College of Pharmacy prior to April 1, 1960. Those who enter after April 1, 1960 will be required to complete a total of 160 semester hours of work, including one year of preprofessional college-level studies. Admission to the College of Pharmacy after April 1, 1960 will be on the same basis as is outlined under "Admission," p. 52.

students will be assigned to an adviser from the College of Pharmacy. See p. 184 for specific requirements for admission to the College of Pharmacy.

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

PHARMACY CURRICULUM

Second 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	Business Ad 5L Prin of Acct	3
Physics 11L Gen	4	Physics 12L Gen	4
*Physical Ed	1	*Physical Ed	1
	17		18

Third 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 Speech for Bus and Prof	3	Biol 123L Biological Chemistry	4
Phmcol 191 Biol Med	3	*Economics 51 Intro	3
	18		17

Fourth 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

† Students who are required to take Mathematics 2 (Intermediate Algebra) must do so in addition to the regularly prescribed courses in Mathematics. The College of Pharmacy does not grant credit toward graduation for Mathematics 2.

‡ The student will elect courses from the following list: Government, History, Modern Languages, Philosophy, Sociology.

* With 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

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. 91.

CORRESPONDENCE COURSES A number of correspondence courses are offered. These courses 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 particular student group of the session. Emphasis is placed on advanced and graduate work. A special program is offered for teachers and school administrators. The summer climate is warm but delightful; nights are cool. The residential halls are regularly operated during the Summer Session. A separate bulletin on the Summer Session may be obtained by addressing the Director of the Summer Session, 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. 57 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 coördinated through the Division of Extension. The development of any conference, institute or short course is, of necessity, a coöperative 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. In the summer a field school is sometimes held in conjunction with the Art Department of the University of New Mexico.

TELEVISION PROGRAMMING

The University offers courses at the freshman level via closed-circuit on its campus. In selected cities in the state these same course offerings are available on a residence credit basis, through the Division of Extension. Under the call letters KNME-TV, over Channel 5, the University operates an open-channel station in coöperation with the Albuquerque Public Schools. Open-channel programming under the Director of University Television and Radio is closely coördinated with the University's academic course offerings in television and radio. Students in all University television and radio courses receive in-studio practicum work under broadcasting conditions.

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 $6.50 fee for Military Property and Special Handling must be paid to the University Cashier before AFROTC processing. Students are urged to pay tuition and other fees at this time also.

(For further information refer to the section on Military Training under General Information, p. 47 in this bulletin.)

DEPARTMENT OF AIR SCIENCE

First Semester		Second Semester
	Freshman Year (Air Science I)	
Air S 11 (2)		Air S 12 (2)
	Sophomore Year (Air Science II)	
Air S 51 (2)		Air S 52 (2)
	Junior Year (Air Science III)	
Air S 101 (4)		Air S 102 (4)

Senior Year
(Air Science IV)

Air S 151 (4)	Air S 152 (4)

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.

First Semester		Second Semester	
	Freshman Year		
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	3

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

First Semester		Second Semester	
	Junior Year		
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.

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.

Courses numbered from 1-49, lower division, are normally open to freshmen; from 50-99, lower division, normally open to sophomores; from 100-199, upper division, normally open to juniors, seniors, and graduates; 200-400, open to graduates only. Graduate credit for courses listed is allowed at the discretion of the Graduate Committee.

A schedule of course offerings, including hours of meeting, is issued at the opening of each session. The University reserves the right to cancel any listed course or to make a substitution in instructors when necessary.

The departments and fields of study are arranged in alphabetical order in accordance with the table below:

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

Elmer G. Schoggen, Colonel USAF (Chairman), Professor of Air Science; Assistant Professors: James M. Palmer, Major USAF; LeRoy R. Waterman, Major USAF; Maxwell J. Ihrig, Captain USAF; Charles C. Gilbert, Captain USAF.

CURRICULUM

See p. 190.

11-12. AIR SCIENCE I. (2, 2) Yr.

Foundations of Air Power—1. The elements of air power, and basic aeronautical science. Credit for 11 is suspended until 12 is completed.

51-52. AIR SCIENCE II. (2, 2) Yr.

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. Credit for 51 is suspended until 52 is completed.

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.

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.

AMERICAN STUDIES

See English and History.

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. Recommended preparatory courses: Biology 1L and 2L, History 1 and 2, Geology 1 and 2, Psychology 1L and 2L.

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 archaeologic 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

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, Hammel, Hibben, Hill, Newman

400. Dissertation. Basehart, Ellis, Hammel, Hibben, Hill, Newman

ARCHITECTURE

(A Division)

Professor Heimerich (Chairman); Associate Professor Bunting; Assistant Professors Mallary, Schlegel.

CURRICULUM

See p. 154.

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 and various media of delineation based on abstract and single cell architectural problems. 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 coördination 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, and 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 coördination 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 coördination 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)
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)
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)
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, Poore, Smith; Assistant Professors Mallary, Paak; Instructor Lewis.

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. 160.)

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. 158) 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. [Contemporary Art and Tradition] **(3)** Haas, Tatschl
Introduction to the visual arts; acquaints the general student with various fields, media, and masterpieces.

110. Interior Decoration. (3) Poore
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, Smith
Landscape painting in water-color, 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, Mallary, Smith
Prerequisite: 63. May be repeated to a maximum of 18 hours.

165. Advanced Life Drawing. (3) Adams, 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) Graduate Staff
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) Graduate Staff

300. Master's Thesis. (6) Graduate Staff
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, Poore
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)
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. Prerequisite: 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, Poore
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) Poore
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) Paak, Poore
Continuation of 97. May be repeated to a maximum of 6 hours.

147. Advanced Textiles. (3) Poore
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) Poore
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) Graduate Staff
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.

300. Master's Thesis. (6) Graduate Staff
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
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
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
A general survey of Hispanic art in Spain 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) Graduate Staff
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 the Art of the Renaissance and Counter Reformation. (2, 2) Bunting

300. Master's Thesis. (6) Graduate Staff
The thesis should be taken over 2 semesters.

ART EDUCATION

See Education, Art

ASTRONOMY

See Mathematics and Astronomy

BIOLOGY

Professors Potter (Chairman), Castetter, Dittmer, Eversole, Hoff, Koster; Consulting Professor Johnson; Associate Professor Fleck; Assistant Professors Findley, Martin, 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 1L and 2L and 12 additional hours. 33L and 126L are not acceptable toward the minor.

CURRICULA PREPARATORY TO DENTISTRY, FORESTRY, MEDICAL TECHNOLOGY, OR MEDICINE

See pp. 108-111.

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 microörganisms 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
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.

93L. General Bacteriology. (4) Rypka
Biology and significance of bacteria and other microörganisms; fundamental principles governing the bacteriology of water, sewage, milk, food, and sanitation. Prerequisites: 1L, 2L, Chemistry 1L, 2L. 2 lectures, 4 hrs. lab.

96L. Ornithology. (4) Findley
Identification, classification, and natural history of birds. Early morning field trips required. 3 lectures, 3 hrs. lab. (Offered in alternate years.)

102L. Human Physiology. (4) Fleck 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) Eversole
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 and Assistant
Physiological processes and their relation to exercise. Prerequisite: 12L. Open to P. E. majors only. 2 lectures, 3 hrs. lab.

130L. General Animal Physiology. (4) Eversole and Assistant
The 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) Eversole
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) Eversole
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) Eversole
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) Eversole
Continuation of 147 but deals with the hormones concerned in general metabolism. Prerequisite: 130L or 144L.

153L. Sanitary Bacteriology. (4) Rypka
Microörganisms 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 by microörganisms. 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) Potter
Structure of vascular plants. Prerequisites: 1L, 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years.)

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.)

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, 3 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, 3 hrs. lab. (Offered in alternate years.)

184L. Limnology. (4) Koster
Fresh-water habitats and aquatic invertebrates with special reference to problems of productivity. Field trips. Prerequisites: 1L, 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)

185L. General Vertebrate Zoology. (4) Findley, Koster
Principles of classification; study of ecology, behavior, and speciation of the vertebrates. 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) Eversole
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.)

201. Seminar: Current Topics in Biology. (2) Dittmer, Eversole, Findley, Fleck, Hoff, Martin, Koster, Potter, Rypka.

203. Research Techniques. (2) Koster
Intended to acquaint the student with 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) Eversole
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, Eversole, Findley, Fleck, Hoff, Koster, Martin, Potter, Rypka

252. Phylogeny of the Plant Kingdom. (2) Dittmer
Evolutionary trends with emphasis on the vascular plants.

254. Principles of Economic Vertebrate Zoology. (3) Findley, Koster
The biotic effect of human settlement upon the vertebrates; principles underlying management and control. (Offered in alternate years.)

300. Master's Thesis. (6) Graduate Staff

400. Dissertation. Graduate Staff

BUSINESS ADMINISTRATION

Professors Sorrell (Dean), Edgel, Parish, Smith; Associate Professors Finston, Huber, Mori, Welch; Assistant Professors Christman, Glaese, Goode (Part-time), Reva; Instructors DeDea, Huntington (Part-time), Stecker (Part-time).

CURRICULA AND CONCENTRATIONS

See pp. 118-124.
For Business Education, see p. 132.

5L-6L. Principles of Accounting. (3, 3) Christman, Mori, Smith
Introductory accounting; statements, accounts, journals, adjusting and closing entries, the worksheet; the voucher system, payroll accounting, departmentalization, accounting for proprietorship, partnership, and corporation capital; manufacturing accounts, budgets, valuation, statement analysis. Both semesters are required for a degree in Business Administration. The course is elective for Law, Engineering, Pharmacy, Home Economics, and other students. Credit in 5L can be obtained without continuing in 6L.

†**11. Beginning Typewriting.** (2) DeDea
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.

† No credit allowed toward degrees in Colleges of Arts and Sciences, and Pharmacy.

†12. **Intermediate Typewriting.** (3) DeDea
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) DeDea, Glaese, Reva
Gregg theory and essentials of writing; speed goal: 60 wpm. 14: Review of theory; introduction of transcription; speed goal: 80 wpm. Students who have had shorthand in high school or business school should enroll in 14 or a more advanced class, as they will not receive credit in 13. Prerequisites for 14: 11, 13, or equivalent. 4 one-hour classes per week.

17. [7] **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) DeDea, Glaese
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
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
An expansion of the fundamentals of accounting; accounting theory; problems relating to control of, and accounting for, current assets. Prerequisites: 5L, 6L, with minimum grade of C in 6L.

64. **Intermediate Accounting II.** (3) Christman, Mori, Smith
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. [89L] **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
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.

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† 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.

106. Business Law. (3) Huber
The structure of the legal system; the nature of law, its purpose, processes, and divisions, and a comprehensive treatment of the law of contracts. Prerequisite: upper division standing.

107. Business Law. (3) Huber
The law of principal-agent relationship, employer-employee relationship, and negotiable instruments. Prerequisites: 106 and upper division standing.

108. Principles of Marketing. (3) Welch
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) 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) 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
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
Branch accounting; preparing consolidated financial statements; effecting combinations and mergers. Prerequisite: 64.

125-126. C.P.A. Review. (3, 3) Smith
Analysis of problems of partnership, corporation, financial statements, auditing, cost accounting, insolvencies, receiverships, and governmental accounting. Prerequisites: 84, 102, 121, 122, 147, 149. Credit in 125 is not dependent upon completing 126.

127. Life Insurance. (3) 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) 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) Staff
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) 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 coöperation 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.

147. [119] **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. [120] **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. [117-118] **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) DeDea
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
(Same as Economics 162.)

163. Rise of Modern Industry. (3) Hamilton
(Same as Economics 163.)

180. Government Control of Business. (3) Staff
(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) 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
Coördination 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) Staff
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
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. (Required of all graduate students working toward the degree of Master of Business Administration.)

202. Advanced Accounting Theory. (3) Smith
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.

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) Graduate Staff
Special permission of the adviser and of the Dean of the College of Business Administration required.

300. Master's Thesis. (6) Graduate Staff

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) 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
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) 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)
Experimental study of the subjects discussed in 111-112. Pre- or corequisite: 111. 3 hrs. lab.

114L. Physical Chemistry Laboratory. (1)
Continuation of 113L. Pre- or corequisite: 112. 3 hrs. lab.

115. Structure of Matter. (3) Crosby, Smith
Molecular structure and the fine structure of solids; the nature of chemical bonding; chemical consequences of structure. Prerequisites: 53L, 102.

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: 104L, 112; for 205: 204.

206L. X-Ray Crystallography. (4) Rosenzweig
(Same as Geology 206L.) Theory and practical application of x-ray crystallography. Prerequisite: Geology 203L 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. [110] **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.

232. Advanced Topics in Inorganic Chemistry. (3)
Prerequisites: 111, 131.

234. Advanced Topics in Analytical Chemistry. (3) Martin
Prerequisite: 112.

300. Master's Thesis. (6) Graduate Staff

400. Dissertation. Graduate Staff

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 upper division work. Programs will be carefully planned in both the major and the minor.

MINOR STUDY

Not offered.

165. Tragedy. (3) Trowbridge, MacCurdy
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, see p. 163.

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.

51-52. Radio and Television Drama Production. (3, 3) Yell
Adapting, editing, and producing dramatic radio and television programs; directing and production techniques. Radio and television workshop.

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 for Stage and Television. (3, 3) Snapp
Methods of interpretation for both modern and historical productions.

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.

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 Professor 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.

1-2. Introduction to Social Science. (3, 3)
(Same as Government 1, 2 and Sociology 1, 2.)

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) 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. [Economics and Trade of Latin America] (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. [161] **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. 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. [Principles of Foreign Trade] (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)

251. Problems. (2-3 each semester) Graduate Staff

300. Master's Thesis. (6) Graduate Staff

EDUCATION, ART

Professor Masley (Chairman); Instructor Taylor.

CURRICULA

See pp. 130-132.

17-18. Creative Arts and Crafts in Childhood Education. (3, 3) Masley, Taylor
An experimental approach to the art needs and interests of the child from pre-school through the elementary grades.

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.

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.

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.

251-252. Problems in Art Education. (1-3 each semester) Graduate Staff

298-299. Seminar in Art Education. (2, 2) Graduate Staff

300. Master's Thesis. (6) Graduate Staff

EDUCATION, BUSINESS

See Business Administration.

EDUCATION, EDUCATIONAL AND ADMINISTRATIVE SERVICES

Professors Petty (Chairman), Travelstead (Dean); Associate Professor Keppers; Assistant Professors Angel, Loren, Ryan; Instructor Failing.

Three areas are included in this Department: Foundations of Education, Guidance, and Counseling, and Educational Administration. The master's degree

offered in this Department allows majors in (1) Educational Administration and (2) Guidance and Counseling. Courses in Educational Administration are listed in this section; those in Guidance and Counseling, under General Professional Education. Courses in Foundations of Education are listed under General Professional Education, and certain of these apply toward other programs at both the master's and the doctoral level. Course work in all three areas is for graduate credit. Program information is contained in the **Graduate Bulletin.**

COURSES IN EDUCATIONAL ADMINISTRATION

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, Petty, 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) Petty, Travelstead
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.

251-252. Problems. (1-3, 1-3) Angel, Petty, Travelstead

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, Petty
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.

300. Master's Thesis. (6) Angel, Petty, Keppers, Ryan, Travelstead

400. Dissertation. (0) Graduate Staff
(Same as General Professional Education 400.)

EDUCATION, ELEMENTARY

Professor Tireman (Chairman); Associate Professor Zintz; Assistant Professor Rauhof.

CURRICULUM

See p. 133.

119. Teaching of Physical Education in Elementary Grades. (2) Gugisberg, Milliken

121. Supervision of Pre-First and Primary Reading. (3) Rauhoff

122. Supervision of Social Studies. (2) Rauhof

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) Tireman

125. Teaching Kindergarten and Pre-First. (2) Rauhof

126. Teaching Oral and Written English. (2) Rauhof

129c. Elementary Education Workshop. (2)

135. Supervision of Arithmetic. (2) Tireman

136. Directed Teaching in Elementary Grades. (3-9)
Prerequisites: 121, 122, 123.

139. Remedial Reading Problems. (2) Zintz
Actual remedial cases. Prerequisite: 121.

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)
Prerequisite: General Professional Education 201.

222. Investigations in Intermediate Language Arts. (2)
Prerequisite: General Professional Education 201.

223. Investigations in Early Childhood Education. (3)
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: General Professional Education 201.

229. Elementary Education Workshop. (4-8) SS

232. Investigations in Social Studies. (2)
Prerequisite: General Professional Education 201.

233. Philosophy of the Activity Program. (2)

235. Investigations in Arithmetic. (2)
Prerequisite: General Professional Education 201.

237. Curriculum in the Elementary School. (2) Rauhof, 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)** Graduate Staff

253. Bilingual Education. (2) Tireman

300. Master's Thesis. (6) Graduate Staff

EDUCATION, GENERAL PROFESSIONAL

Listed below are those courses in professional education which are general in nature and which are not confined to the curriculum of any one department.

The instructors for these courses are members of the regular College of Education faculty and are, therefore, not relisted at the beginning of this section devoted to courses in general professional education.

64. **First Aid.** (2) Clements
Intended to aid the teacher in acquiring a knowledge of how to prevent, treat, and care for the common injuries and accidents occurring in and about the school. American Red Cross First Aid Certificate awarded.

72. **Health Education.** (3) Clements
Personal and community health for prospective teachers.

HA. Reading in Honors. **(1-3 each semester)**

HB. Research in Honors. **(1-3 each semester)**

101. **History of Education in Europe.** (3) Ivins, Loren

102. **History and Philosophy of American Education.** (3) Ivins, Loren

103. **Principles of Recreation.** [Community Recreation Through the School] (3) McGill
Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques.

105-106. **Adult Education.** (3, 3) Ried, Travelstead
Origin, development, philosophy, objectives, methods, and materials.

109. **Educational Sociology.** (3) Angel
Sociological aspects of school problems.

110. **The Use of Audio-Visual Aids in Teaching.** (3) Ivins, Runge, Timmerman
Chief attention will be given to the aims and techniques of audio-visual aids in the classroom; illustrative use of films; types of aids explored.

112. **Current Educational Problems.** (3)

115. **Introduction to Guidance.** (3) Failing, Ivins, Keppers, Runge
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.

118. **Child Growth and Development.** (3) Rauhof
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.

120. **Children's Literature.** (2) Rauhof
Materials and techniques of teaching.

129. **Workshop.** (1-5)
All specific workshop courses are listed under the general number, General Professional Education 129, with the designating subscripts as indicated. A student may earn as many hours in workshop as he may wish but not more than five semester hours will be counted toward a degree.

a. Art Education
b. Music Education
c. Elementary Education
d. Secondary Education
e. Educational Administration
f. Health and Physical Education
g. Distributive Education
h. Home Economics
i. Adult Education
j. Industrial Arts Education

130. Speech Correction in the Schools. (3) Chreist, St. Onge
(Same as Speech 130.)

131. Principles and Practices of Camping. (3) Burley
The objectives of this course are to introduce students to camp experiences, to study needs for camping with emphasis on school-camp programs, and to study organizational and administrative aspects with emphasis on leadership functions. Prerequisite: permission of instructor.

138. Teaching of Health Education in the Schools. (3) Gugisberg
Responsibilities of the teacher in providing certain health services, desirable environmental conditions, and health instruction in elementary and secondary grades; basic health principles, unit planning, methods, and use of community resources. Prerequisite: 72.

151. Problems. (1-3)

164. General Safety Education. (3) Clements
Safety in the home, on the farm, in industry, in play, in the school will be discussed. Stress on community organization, school responsibility, and safety problems in New Mexico.

165. Traffic Safety Education in Secondary Schools. (3)
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.

170. Speech Activities in the Public School. (3) Eubank
(Same as Speech 170.)

179. Statistics in Education. (2) Petty, Keppers
Designed to give the student a familiarity with the use of basic statistics in the field of education. Frequency distribution, measure of central tendency, applications of the normal probability curve and linear correlation will be emphasized.

180. Measurement and Evaluation in the School Curriculum. (3) Crawford, Keppers, 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.

188. 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.

201. Research Methods in Education. (2) Crawford, Keppers, Petty
Required of all candidates for a graduate degree in the College of Education.

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. 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. 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.

213. Socio-Economic Information in Guidance. (3) 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.

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 recommended.

217. Group Techniques in Guidance. (3) Keppers
The place and functions of group methods in the guidance program, the values and limitations of each method and the techniques to be utilized. Prerequisite: 188 or Psychology 102.

218. Techniques of Counseling. (3) Keppers
Various techniques employed in counseling and in developing competence in applying the techniques consistent with the basic personality and philosophy of the individual counselor. Prerequisites: 213, 216; Psychology 102 or permission of instructor.

219. Practicum in Guidance. (1-4) Keppers
The objective is to provide the student experience in the practical application and integration of the principles and methods of guidance which he has studied. Pre- or corequisite: 218.

229. Workshop in Education. (4) SS
A maximum of 5 semester hours in workshop may be earned on the Master's degree in Education under Plan I. A maximum of 8 semester hours in workshop may be earned on the Master's degree in Education under Plan II.

243. Principles of Curriculum Development. (3) Ivins, Runge, Ryan, Timmerman
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. 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. Advanced Seminar in Education. (3) Ivins, Petty, Tireman, 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.

400. Dissertation. Graduate Staff

EDUCATION, HEALTH

See Health, Physical Education, and Recreation.

EDUCATION, HOME ECONOMICS

See Home Economics.

EDUCATION, INDUSTRIAL ARTS

Associate Professor Brown; Instructor McClary.

CURRICULUM IN INDUSTRIAL ARTS EDUCATION

See p. 138.

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) McClary
Bench work such as filing, tapping, and simple layouts, and the operation of engine lathes, drill presses, shapers, grinders, and milling machines.

25L. [25] **Design in Industrial Arts.** (1) Brown, McClary
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) McClary
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)
Basic process of printing including composition, proofing, and operation of the platen press.

75L. General Automechanics. (1)
The basic principles involved in the upkeep and repair of automobiles.

80L. General Electricity. (2) Brown, McClary
The basic fundamentals of electrical circuits; care and maintenance of school shop equipment.

102L. Forging and Ornamental Iron Work. (2) McClary
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, McClary
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.

145L. Pattern Making and Foundry. (4) Brown, McClary
Construction of the various patterns and core boxes. Molding procedures and the melting and casting of ferrous and non-ferrous metals. Prerequisite: junior standing.

159L. Arc and Acetylene Welding. (2) McClary
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) McClary
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)
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 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 General Professional 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. 139-141.

63. Conducting. (1) Batcheller
(Same as Music 63.)

64. Choral Conducting and Organization. (1) Batcheller
(Same as Music 64.)

93. Music in the Primary Grades. (2) Batcheller, Stephenson
The musical needs of children of pre-school age, in kindergarten and grades 1, 2, and 3. Includes the rote song, singing games, rhythm band, and music reading techniques. Children of this age will be observed in the public schools.

94. Music in the Intermediate Grades. (2) Batcheller, Stephenson
The musical needs of children in grades 4, 5 and 6, including harmonic activity, creative experience, and instrumental techniques. Children of this age level will be observed in the public schools. Prerequisite: 93.

113. Band Organization and Conducting. (1) Rhoads
(Same as Music 113.)

114. Orchestral Conducting and Organization. (1) Frederick
(Same as Music 114.)

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) 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) 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) 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 Health, Physical Education and Recreation.

EDUCATION, PSYCHOLOGY

See Psychology.

EDUCATION, SECONDARY

Professors Ivins (Chairman), Crawford, Ried; Associate Professor Runge; Assistant Professor Timmerman.

CURRICULUM

See pp. 141-144.

141. Foundations of Secondary Education. (3) Crawford, 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 54 or 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 coöperative part-time work plans for distributive occupations.

153. Materials and Methods of Teaching in Secondary Schools. (3) Crawford, Ivins, Runge, Timmerman
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)

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) Timmerman

m. **The Teaching of Spanish.** (2)
(Offered in alternate years.)

n. **The Teaching of Reading.** (2)

p. **The Teaching of Physical Education.** (3)

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.

241. Seminar in Secondary Education. (3) Crawford, Ivins, Runge, Timmerman

242. Curriculum in the Secondary School. (3) Crawford, Ivins, Runge, Timmerman
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, Ivins, Runge, Timmerman
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, Timmerman
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) Graduate Staff

260-261. Seminar in the Teaching of Science. (2, 2) Ivins
Discussion, lectures, practice sessions, critiques. Distinguished visiting professors and resident professors will lecture and conduct discussions centered on problems of effective presentation of science and mathematics.

300. Master's Thesis. (6) Crawford, Ivins, Runge, Timmerman

ELECTRICAL ENGINEERING

See Engineering, Electrical.

ELEMENTARY EDUCATION

See Education, Elementary.

ENGINEERING

Professor Farris.

197. Introduction to Nuclear Engineering. (3)
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.

211L-212L. Fundamentals of Nuclear Engineering. (3, 3)
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. [Nuclear Reactor Theory] (3, 3)
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. Prerequisites: 211L-212L or equivalent; pre- or corequisites: Mathematics 147-148 or equivalent.

215. Seminar in Nuclear Engineering. (1-2)
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)
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)
Properties of materials for reactor moderators, reflectors, coolants, shielding and structure. Effects of radiation on metals, plastics, etc.

218. Nuclear Reactor Theory. (3)
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; Assistant Professor Whan.

CURRICULUM

See p. 148.

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)
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)
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)
A continuation of Unit Operations; problems in drying, gas absorption, extraction, crystallization and related topics. Prerequisite: 114L.

114L. Unit Operations Laboratory I. (2)
Laboratory practice and experimental study of Unit Operations covered in 111 and 112. Corequisite: 112. 6 hrs. lab.

115L. Unit Operations Laboratory II. (2)
Experimental laboratory study of the Unit Operations covered by 112 and 113. Prerequisite: 114L; corequisite: 113. 6 hrs. lab.

117. Process Engineering Calculations. (3)
Problems in translating the findings of the laboratory, through pilot plant development into a basic commercial plant design. Prerequisite: 52.

151-152. Seminar. (1, 1)
Senior year. Reports on selected topics and surveys; presentation and discussion of papers from current technical journals, and topics of interest to the chemical engineer.

153. Advanced Chemical Engineering Calculations. (2)
Prerequisite: 112. (To be taught as a technical elective in the senior year.)

160. Natural Gas Production and Transmission. (3)
Prerequisite: 111 or ME 101.

162. Inorganic Unit Processes. (2)
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)
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)
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)
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)
Continuation of 191. Prerequisite: 191.

194L. Chemical Engineering Design. (2)
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)
Individual study on advanced phases of chemical engineering and industrial chemistry. Research, reports, and conferences. Offered each semester.

221. Advanced Chemical Engineering I. (3)
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)
Continuation of 221, but may be taken as an independent unit. Problems of distillation, absorption, and extraction.

231. Refinery Process Engineering. (3)
The design of equipment for processing petroleum, with emphasis on the unit operation and thermodynamics of chemical engineering as applied to these processes.

232. Gas Process Engineering. (3)
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)
Principles involved in the use of catalysis and high pressure in the chemical industry.

242. Advanced Chemical Engineering Thermodynamics. (3)
Advanced thermodynamics with reference to its application in chemical engineering.

251. Chemical Engineering Calculations and Kinetics. (3)
Applications of kinetics to industrial problems in Chemical Engineering.

300. Master's Thesis. (6)

ENGINEERING, CIVIL

Professors Wagner (Chairman), Foss, May; Associate Professors Clough, Gafford, Huzarski, Martinez, Zwoyer (Part-time); Assistant Professor Medearis; Instructors Clarke, Finley, Vaughan.

CURRICULUM

See p. 149.

1L. Engineering Drawing. (3)
The essentials of drafting, including the use of instruments, lettering, orthographic projections, dimensioning, auxiliary views, sections, pictorials, engineering symbols; and theory and science of engineering drawing. 1 lecture, 6 hrs. lab.

2L. Descriptive Geometry. (3)
Problems involving the point, line and plane; and practical problems involving the above principles with emphasis on developing the student's ability to visualize objects in space. Approved drawing equipment required. Prerequisite: 1L. 2 lectures, 4 hrs. lab.

3. Orientation. (1)
Orientation for beginning engineering students in the various phases of engineering and elementary use of the slide rule.

4L. Surveying. (2)
Lectures and field practice in plane surveying with emphasis on the use of plane table for topographic and geologic mapping.

12L. Machine Drawing. (3)
A continuation of 1L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 1L.

53L. Elementary Surveying. (3)
Lectures and field practice in the use of the level, transit, and plane table in basic surveying operations and the necessary computational procedures. Prerequisite: Mathematics 16. 1 lecture, 6 hrs. lab.

54L. Advanced Surveying. (4)
Lectures and field practice in precise leveling, triangulation, solar observations, highway curves and earthwork, and computations associated with such work. Prerequisite: 53L. 2 lectures, 6 hrs. lab.

60. Applied Mechanics (Statics). (3)
Principles of statics, friction, centroids and moment of inertia of areas. Corequisites: Physics 61, 63L, Mathematics 51.

62L. Construction Drawing. (3)
Small house plans, with emphasis on construction details. Prerequisite: 2L.

102. Strength of Materials. (3)
Stresses and strains in elastic materials. Topics considered include axial stress, riveted joints, thin-walled cylinders, torsion of circular bars, beams, columns, and simple combined stresses. Prerequisite: 60.

103L. Strength of Materials Laboratory. (1)
A series of laboratory experiments in which the student examines and verifies the fundamental principles of theories as taught in 102. 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.

109L. Soils Engineering [Engineering Properties of Soils]. **(4)**
Physical and mechanical properties of soils as they affect engineering problems; application of the laws of permeability; capillarity and flow nets; soil classifications; consolidation, shear strength and bearing capacity of foundation soils; slopes, embankments, and retaining walls; piles. Laboratory practice in the testing of soils for engineering purposes. Prerequisite: junior standing. 3 lectures, 3 hrs. lab.

110. Fluid Mechanics. (3)
The principles of mechanics applied to the statics and to the flow of fluids with particular emphasis on application to practical hydraulic engineering problems. Prerequisite: 60; corequisite: ME 106.

111L. Fluid Mechanics Laboratory. (1)
Laboratory and field experiments illustrating the elementary principles of fluid motion. Corequisite: 110. 3 hrs. lab.

115L. Materials of Construction. (3)
Engineering properties and testing of concrete aggregates, cement, clay products, concrete block, and adobe. Design and control of plain concrete mixes. Prerequisite: junior standing. 2 lectures, 3 hrs. lab.

120. Engineering Hydrology. (2)
Occurrence, movement, and distribution of water by natural processes; analysis of climatological and stream flow data; studies of storm frequency, intensity and duration, unit hydrograph, peak discharge and flood runoff. Prerequisite: junior standing.

122. Structural Analysis—Statically Determinate. (3)
Analytical and graphical methods of stress analysis of statically determinate framed buildings, roof trusses, girders, and bridges. Prerequisite: 60.

124. Structural Design I. (2)
The methods of design of tension, compression and flexure members of metals and wood; riveted and welded connections; current design specifications. Prerequisite: 102.

126. [153] **Highway Engineering. (2)**
Highway planning, design, economy, finance, and administration. Prerequisite: junior standing.

152. Engineering Contracts and Professional Relations. (2)
Ethical and professional considerations of the engineer's relationship to other engineers and to society; contractual agreements common to engineering. Prerequisite: senior standing.

154L. Bituminous Materials. (3)
Road oils, asphalts, tars, and the design of bituminous paving mixtures for highways and airports; interpretation and application of test results. Prerequisite: senior standing. 2 lectures, 3 hrs. lab.

158. Reinforced Concrete Design I. (3)
The theory of reinforced concrete; the design of elementary members, including the study of current design specifications. Prerequisite: 102.

160. Structural Analysis—Statically Indeterminate. (3)
An introduction to statically indeterminate structures; a thorough training of slope-deflection and moment distribution methods for the analysis of continuous beams and rigid frames; a study of the deformation of trussed structures by angle changes and virtual work. Prerequisite: 122.

161L. Water Supply. (3)
Works for collection, storage, purification, and distribution of municipal water supplies; sources of supply—streams, reservoirs, wells; physical and chemical tests used in water analysis. Prerequisite: 110. 2 lectures, 3 hrs. lab.

162L. Sewerage and Sewage Treatment. (3)
The principles of sewage and industrial waste treatment; design of sewage treatment works; procedure for estimating sewage quantities in storm water runoff; physical and chemical tests used in sewage analysis. Prerequisite: 110. 2 lectures, 3 hrs. lab.

163L. Structural Design II. (4)
The analysis and design of complete structures of reinforced concrete, steel, and wood consistent with the current modern practice. Prerequisites: 158, 160. 2 lectures, 6 hrs. lab.

167. Earthwork and Foundation Engineering. (3)
Application of modern soil mechanics to engineering structures; interpretation of soil test results; computation of practical soil problems; analysis and design of foundations. Prerequisites: 109L, 158.

170. Advanced Strength of Materials. (3)
Analysis of stress and strain, state of stress at a point, Mohr's circle; deflections of beams of variable cross sections; unsymmetrical bending; stress concentrations; and deformations beyond elastic limit. Prerequisite: 102.

171L. Building Construction. (3)
A resumé of various types of buildings and appurtenances; construction methods and details; preparation of quantity surveys and estimates of cost; planning of cost control during construction. Prerequisite: senior standing. 2 lectures, 3 hrs. lab.

172. Environmental Sanitation. (3)
Health aspects of water supply, of sewage and refuse disposal, of heating and ventilation, of housing and food supplies; air pollution; industrial hygiene; radiological health aspects of sanitary engineering. Prerequisite: 161L.

183. Applied Fluid Mechanics. (3)
Advanced study of theory of viscous and turbulent flow with related phenomena; similarity criteria and model laws; hydraulic machinery; open channel flow. Prerequisite: 110, ME 106.

184. Water Power. (3)
Hydraulics problems of water power development, dams, spillways, crest controls and power plants. Economics of water power developments. Prerequisites: 110, 120.

186. Flood Control. (3)
Flood runoff, retarding basin, reservoir, levee and floodway design; channel improvement; flood forecasting; damage surveys; and flood routing problems. Prerequisites: 110, 120.

187L. Irrigation Engineering. (3)
Review of the field of irrigation from the engineering viewpoint, with frequent field trips to major irrigation structures and projects. Prerequisites: 110, 120.

190. Municipal Engineering. (3)
Municipal problems of concern to the civil engineer; city planning; land use; subdivision design; zoning. Prerequisite: senior standing.

191. Transportation and Traffic Engineering. (3)
Study and research in the field of transportation and traffic engineering. Prerequisites: 126 and senior standing.

192. Water and Sewage Treatment Processes. (3)
Critical review of recent researches in the field of water and sewage treatment. Prerequisite: 161L.

195L. Advanced Plain Concrete Design. (3)
Design of concrete mixes with special cements and admixtures and critical review in the field of concrete mixes. Prerequisite: 115L.

205. Soil Mechanics I. [Soil Mechanics] (3)
Soil exploration; laws of permeability, capillarity and seepage; compressibility and consolidation theory; stress-strain relationships and shearing strengths in cohesionless and cohesive soils. Prerequisite: 109L.

206. Open Channel Flow. (3)
The hydraulic jump and backwater curves; slowly varied flow involving storage; special topics of unsteady flow. Prerequisite: 110.

208L. Hydraulic Structures. (3)
Analysis and design of structures representative of hydraulic and sanitary engineering construction, such as dams, locks, gates, reservoirs, and conduits, with particular emphasis on the functions and hazards involved. Prerequisite: 110.

209. Advanced Indeterminate Structures. (3)
A continuation of 160. Prerequisite: 163L.

210. Structural Design III. (3)
A continuation of 163L.

211L. Research and Testing of Building Materials. (3)
Special research studies of non-metallic construction materials for strength, effect of moisture and comparative costs. Prerequisite: 115L.

213L. Research and Testing of Highway Materials. (3)
Special research studies of highway materials; design of rigid and non-rigid pavements; bituminous mixes; and load distribution on subgrades. Prerequisites: 126, 154L.

215. Reinforced Concrete Design II. (3)
A continuation of 163L. Prerequisite: 163L.

216. Soil Mechanics II. [Foundations and Retaining Walls] (3)
Stability of slopes; lateral pressures and stability of retaining walls; analyses of earth dams; bearing capacity and settlement of foundations; piles and pile groups. Prerequisites: 109L, 205.

218. Elastic Stability. (3)
A formal treatment of the theory of elastic stability; stability of prismatic bars, curved beams, rings, thin shells, and plates; application to engineering problems. Prerequisites: 102, 170, Mathematics 143.

220L. Prestressed Concrete. (3)
Design principles; comparison of European methods with American methods; comparison of prestressed with conventional reinforced concrete with a particular view to the savings of materials and construction costs. Prerequisite: 158.

251-252. Problems. (3, 3)
Advanced reading, design, or research.

300. Master's Thesis. (6)

ENGINEERING, ELECTRICAL

Professors Moore (Chairman), Ellis, Melloh, Tapy; Associate Professors Erteza, Grannemann, Koschmann; Assistant Professor Thorn; Lecturers (Part-time) Eckersley, Saunders, Williams; Instructors El-Kareh, Wait, White (Part-time).

CURRICULUM

See p. 151.

61L. Principles of Electric Circuits I. (3)
Ohm's and Kirchhoff's laws, complex algebra, power in electric circuits, resonance, network equations, polyphase circuits. Corequisites: Mathematics 51, Physics 61. 2 lectures, 3 hrs. lab.

62L. Principles of Circuits II. (4)
Network theorems, coupled circuits, non-linear elements, Fourier series, four-terminal networks. Prerequisite: 61L. 3 lectures, 3 hrs. lab.

64L. Principles of Electronics. (3)
Properties of electron tubes and semiconductor devices. Rectification, amplification, oscillation. Sensing elements. For students not majoring in Electrical Engineering. Prerequisites: 61L, Physics 61. 2 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: Physics 61; corequisite: Mathematics 147.

112L. Traveling Waves. (3)
Concept of traveling waves, transmission lines and wave guides from field and circuit points of view, power and communication lines. Resonance on lines and in cavities. Radiation. 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: 62L; corequisite: Mathematics 147.

117L. Fields and Circuits Laboratory. (1)
Corequisites: 111, 113. 3 hrs. lab.

131. Electronics I. (3)
Electron tubes and semiconductor devices as circuit elements; graphical and linear analysis of untuned amplifiers; compensation; rectifiers, rectifier filters and regulators; phototube circuits. Prerequisite: 62L or permission of instructor.

131L. Electronics Laboratory I. (1)
Corequisite: 131. 3 hrs. lab.

132. Electronics II. (3)
Tuned amplifiers; push-pull; feedback; oscillators; AM and FM modulation and demodulation. Prerequisites: 113, 131.

132L. Electronics Laboratory II. (1)
3 hrs. lab.

151L-152L. Electrical Machinery I, II. [Electrical Machinery II, III] **(3, 3)**
Principles of electromechanical power devices and power systems; related electronic and solid-state devices. Prerequisites: for 151L, 61L; for 152L, 111, 113. 2 lectures, 3 hrs. lab.

171-172. Seminar. (1-3 each semester)
Prerequisite: permission of instructor.

174. Industrial Applications. (3)
Application and control of direct and alternating current machines. Prerequisite: 62L; corequisite: 151L.

174L. Industrial Applications Laboratory. (1)
Corequisite: 174.

182. Microwave Generation and Transmission. (3)
Principles governing the generation, transmission, and reception of electromagnetic waves. Prerequisite: 112L.

182L. Microwave Generation and Transmission Laboratory. (1)
Corequisite: 182.

183. Instrumentation and Transducers. (3)
Coupling between electrical and nonelectrical systems, with emphasis on instrumentation. Measurement of thermal, mechanical, optical, and other physical quantities. Prerequisite: 64L or 131.

183L. Instrumentation and Transducers Laboratory. (1)
Corequisite: 183.

186. Economics of System Engineering. (3)

188. Servomechanisms. (3)
Theory and applications of servomechanisms to control problems. Prerequisite: 114.

188L. Servomechanisms Laboratory. (1)
Corequisite: 188.

190. Solid State Engineering. (3)
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)
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)
Corequisites: 191 and permission of instructor.

192. Computer and Waveforming Circuits. (3)
Theory and design of generators and shapers of nonsinusoidal waves. Includes clampers, 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)
Corequisites: 192 and permission of instructor.

194. Introduction to Digital Computers. (2)
Computer logic; coding; binary and decimal arithmetic units; computer organization; basic programming. Prerequisite: Mathematics 52, and permission of instructor.

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)
Electrical and mechanical characteristics; economics of transmission and distribution systems. Prerequisite: 113.

196L. Power Transmission and Distribution Laboratory. (1)
Corequisite: 196.

203. Transients in Linear Systems. (3)
The methods for treating transient phenomena in linear electrical, mechanical, and electromechanical systems. Development and use of Laplace transforms and superposition integrals are stressed. Prerequisite: Mathematics 141, 143, or 147.

204. Communication Theory. (3)
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)
The derivation and application of the basic ideas and laws relating to electromagnetic waves; plane wave refraction and reflection; wave interpretation of circuit concepts. Prerequisites: 112L, Mathematics 141, 143, or 147.

214. Advanced Network Analysis. (3)
Four-terminal networks, matrix methods, image impedance, propagation function; general properties of lumped networks, generalized reactance function, complex plots of response functions, complex frequency, analysis through poles and zeros in frequency plane; filter design considering dissipation, Butterworth and Tchebyscheff responses; complex Fourier series, Fourier integral, frequency domain vs. time domain, response of ideal filter to unit step. Prerequisite: 203.

216. Network Synthesis. (3)
General properties of the physically realizable impedance functions of linear, lumped-constant parameter networks; synthesis of two-terminal networks; the approximation problem in both the frequency and time domains; synthesis of four terminal networks; selected topics from the current literature. Prerequisites: 114, 214; Mathematics 142, or equivalent.

223. Principles of Communication Systems. (3)
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)
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)
Corequisite: 226.

234. Antennas and Propagation. (3)
Elements of antenna theory, including dipole radiation, arrays, reflectors, horns, and lenses; a brief introduction to propagation through the troposphere and ionosphere. Prerequisite: 205 or equivalent.

235. Radio Wave Propagation. (3)
Presentation of 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)
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.

245. Digital Computers. (3)
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)
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)
Corequisite: 246.

248. Advanced Digital Computers. (3)
Numerical procedures for digital computers, advanced programming, computer systems, operation of computer, design principles. Prerequisite: 245.

251-252. Problems. (1-3 each semester)

253. Theory of Solid State Electronic and Magnetic Devices. (3)
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)
Case history approach to choice from alternative systems. Cases may be chosen from communications, computer, automation, or power systems.

261. Advanced Control Systems. (3)
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)
Solution of reactor kinetic equations for various inputs; reactor control systems including special problems related to nuclear and thermodynamic effects; use of simulators. Prerequisites: 188, ME 101, Mathematics 141, 143, or 147.

263L. Laboratory in Control of Nuclear Reactors. (1)
Corequisite: 263.

271. Power System Analysis. (3)
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)
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)
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)
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)
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)

400. Dissertation.

ENGINEERING, MECHANICAL

Professors Grace (Chairman), Bailey, Farris, Ford, Stoever; Associate Professors Dove, Skoglund; Assistant Professor Ju; Instructors Baker, Johnson, Lutz.

CURRICULUM

See p. 152.

53. Engineering Materials. (3)
Characteristics of metals, alloys, wood, and concrete, and of the manufacture and heat treatment of iron and steel. Pre- or corequisite: Chemistry 2L.

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.

101-102. Thermodynamics. (3, 4)
Principles of heat engines and thermodynamics. Prerequisites: Chemistry 2L, Physics 61, 63L; corequisites: *Mathematics 52, and junior standing.*

103L. Mechanical Engineering Laboratory I. (1)
Corequisite: 101. 3 hrs. lab.

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.

113L. Kinematics. (3)
Displacement and velocity study of machine elements such as linkages, cams, gears, belts and chains. Special emphasis on kinematic study of gearing of all kinds. Prerequisites: CE 1L, 2L, and junior standing. 2 lectures, 4 hrs. lab.

114L. *Dynamics of Machinery.* (3)
Velocity, acceleration, and force analysis of machines with special emphasis on high-speed machinery, balancing of rotating and reciprocating machine elements. Prerequisites: 106, 113L. 2 lectures, 4 hrs. lab.

117. Fluid Mechanics. (3)
Kinematics of fluid motion; elements of hydrodynamics; effects of viscosity, compressibility, and drag. Prerequisites: 106, 101; corequisite: 102.

118L. Mechanical Engineering Laboratory II. (2)
Corequisites: 102, 117. 6 hrs. lab.

120. Heat Transfer. (3)
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 III. (2)
Tests of steam boilers, engines, turbines, pumps, axial flow fans and compressors; metallography and heat treatment of metals. Prerequisite: 102; corequisite: 175. 6 hrs. lab.

152L. Mechanical Engineering Laboratory IV. (2)
Tests of internal combustion engines, their fuels and lubricants, air-conditioning and heating equipment. Prerequisite: 102. 6 hrs. lab.

155. Power Plants. (3)
Types and equipment. Prerequisite: 102.

156. Industrial Engineering. (3)
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)
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)
Corequisite: 157. 3 hrs. lab.

159L. Mechanical Engineering Design. (3)
Analysis and design of some piece of equipment selected from the field of mechanical, aeronautical, or petroleum engineering. Prerequisites: 157, 158L.

160. Internal Combustion Engines. (3)
Theories of Otto and Diesel type engines. Prerequisite: 102.

165. Refrigeration and Air Conditioning. (3)
Analysis of refrigeration, heating, and air conditioning processes. Prerequisite: 102.

167-168. Aerodynamics. (3, 3)
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.

175. Engineering Metallurgy. (2)
The properties of the common metals and alloys as affected by mechanical working, heat treatment and composition. Prerequisites: 53 and senior standing.

177. Physical Metallurgy. (3)
The physical properties of metals, and how alloying, mechanical treatment, surface treatment, and heat treatment affect the physical properties of both high- and low-melting-point alloys. This course is more general in its coverage than 175, which is primarily concerned with the ferrous alloys. Prerequisite: 53, or permission of the Chairman of the Department. (Offered at the Los Alamos Scientific Laboratory only.)

181-182. Petroleum Production. (3, 3)
Oil field development, methods of drilling and oil recovery; preliminary refining, storage, and transportation. Prerequisite: senior standing.

187. Principles of Guided Missiles. (3)
An introduction to the engineering problems of guided missile development and testing. Guidance and control, missiles aerodynamics, dynamics and ballistics, mathematics of trajectories, test instrumentation and computers, power plants, fuels, and component reliability. Prerequisites: Mathematics 143 or equivalent, and some knowledge of Laplace transforms. (Offered at Air Force Missile Development Center only.)

192. Design Analysis II. (3)
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. [204] **Mechanical Vibration.** (3)
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.

201. Advanced Heat Transfer. (3)
Advanced principles and applications of heat transfer by conduction, convection, and radiation. Prerequisite: 120 or equivalent; pre- or corequisite: Mathematics 147.

203. Fluid Dynamics. (3)
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)
Precise development of thermodynamic definitions, principles, and analytical methods. Prerequisites: 101, 102, or equivalents; pre- or corequisite: Mathematics 147.

207. Similitude in Engineering. (3)
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)
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)

215L. Experimental Stress Analysis. (3)
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. (3)
Fundamental principles of the mechanics of elastic bodies; analyses of stress and strain; basic equations of elasticity; plane problems of elasticity and fundamental boundary value problems; torsion of a prismatic bar and analogy methods. Prerequisites: CE 102 or equivalent, Mathematics 147; corequisite: Mathematics 148.

218. Advanced Applied Dynamics. (3)
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.

231L. Reactor Analysis. (3)
The basic theory of reactors is developed. 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)
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: ME 231L; pre- or corequisites: Physics 111L and Mathematics 148 or equivalents.

251-252. Problems. (3, 3)
Advanced reading, design or research.

300. Master's Thesis. (6)

ENGLISH

Professors Trowbridge (Chairman), Arms, Jacobs, Pearce, Dane F. Smith, Wicker, Wynn; Associate Professors Baughman, Crowell, Freedman, Keleher, Simons, Tedlock; Assistant Professors Buchanan, Dickey, Kluckhohn, Kuntz; Visiting Lecturers (Part-time) Carstens, Fife, Long; Instructors Ahern, Chillag, Davis, Pennell, 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, 91 or 191; 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 or 191; 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.

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.

College of Engineering: English 64.

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: *57, 58, 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. 212.

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.

Referrals in English Proficiency. (0) Staff
A non-credit tutoring course for referral students including those who failed the Proficiency Examination in English. (See graduation requirements in the several Colleges.)

61. **Creative Writing: The Essay.** (3) Freedman, Keleher
An intermediate course with emphasis on the types, structure and style of expository writing.

62. **Creative Writing: Description and Narration.** (3) Freedman, Keleher
The types, materials, and techniques of descriptive and narrative writing.

64. **Informative Writing.** (3) Wicker, Staff
Professional expository composition and the preparation of elementary reports.

121. **Advanced Creative Writing.** (3) Freedman, Keleher
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

I. British

53. Survey of Early English Literature. (3) Keleher, Staff
From the Old English writings through Neo-classicism.

54. Survey of Later English Literature. (3) Keleher, Staff
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) D. Smith
The best plays from D'Avenant to Sheridan. Prerequisite: 3 hrs. in literature.

146. Age of Milton. (3) D. Smith
The major works of John Milton, and other masterpieces of prose and poetry from 1600-1660. Prerequisite: 3 hours 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, D. Smith
The chief writers in England from the Restoration to Johnson. Prerequisite: 3 hrs. in literature.

178. The Romantic Period. (3) Wicker
The eighteenth-century background of Romanticism and the major poets, Blake to Keats. Prerequisite: 3 hrs. in literature.

181. Victorian Poets. (3) Crowell, Jacobs, Wicker
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) Wicker
From the beginnings through Jane Austen.

186. Later English Novel. (3) Crowell, Wicker
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) Pearce, Trowbridge
Marlowe, Spenser, Shakespeare, Jonson, or others.

225. Studies in the 17th Century (1600-1660). (3) Crowell, D. Smith
Prose writers, metaphysical poets, or Milton.

230. Studies in the Restoration and 18th Century (1660-1780). (3) D. Smith, Trowbridge
Dryden, Pope, or Johnson.

233. Studies in the Restoration and 18th Century (1660-1780). (3) Crowell, D. Smith, Trowbridge
Fielding and other novelists or the playwrights.

240. Studies in the Romantic Period: Poetry (1780-1832). (3) Wicker
Shelley, Keats, Wordsworth, or other poets.

243. Studies in the Romantic Period: Prose (1780-1832). (3) Wicker
The novel, Coleridge, Hazlitt, or other prose writers.

253. **Studies in the Victorian Period: Poetry (1832-1900).** (3) Crowell, Jacobs, Wicker
Tennyson, Browning, or other poets.

255. **Studies in the Victorian Period: Prose (1832-1900).** (3) Wicker
Dickens, Pater, Ruskin, Carlyle, Arnold, or other prose writers.

2. American

77. **Southwestern Literature.** (3) Keleher, 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, D. Smith, Tedlock
A general survey to 1900, with more extensive study of the great writers of the 19th century.

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, Tedlock, Walter
Religious backgrounds in the United States during the 19th century; travelers' accounts of America, 1744-1844; the influence of radical politics on art and literature, 1918-1939; American society in transition.

203. **Studies in the Literature of Colonial and Revolutionary America (1600-1800).** (3) Tedlock
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

57. **Masterworks of the Modern Novel and Drama.** (3) Simons, Staff
American and European writers of the 19th and 20th centuries.

58. **Masterworks of Modern Short Fiction and Poetry.** (3) Simons, Staff
American and European writers of the 19th and 20th centuries.

75. **World Literature from Homer to Dante.** (3) Jacobs, Kuntz, D. Smith
Masterpieces of European and Asiatic literature, including the Bible.

76. **World Literature from Rabelais to Mann.** (3) Jacobs, D. Smith
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) Jacobs, D. Smith
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) Trowbridge, MacCurdy
(Same as Comparative Literature 165.) Selected tragedies from world literature in translation and theories of the tragic form. Prerequisite: 6 hours in literature.

166. Literary Criticism. (3) Arms, Trowbridge
(Same as Comparative Literature 166.) A history of major critical attitudes toward literature. Prerequisite: 6 hours in literature.

180. Philosophy and Literature. (3) Tedlock, Alexander
(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

55. Vocabulary Building. (3) Kluckhohn, Staff
Latin and Greek word roots; introduction to etymology and semantics.

91. History of the English Language. (3) Pearce
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.

101. Phonetics. (3)
(Same as Speech 101.)

191. Studies in English Philology. (3) Pearce
Advanced English linguistics. Credit may be earned for either 91 or 191, but not both.

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) Graduate Staff
Studies in literature and philology.

300. Master's Thesis. (6) Graduate Staff

351. Problems for the Doctor's Degree. (1-2 each semester) Graduate Staff

400. Dissertation. Graduate Staff

American Studies 400. Dissertation. Graduate Staff

ENGLISH-PHILOSOPHY

The combined major in English and Philosophy is an interdepartmental major administered jointly by the two Departments. Students interested in this program should consult one of the Chairmen.

The purpose of the interdepartmental major is to develop an understanding of the history of ideas, ideals, and values; their expression in literature and philosophy; and the relation of these fields. The major will serve the interests of general education, and will also be useful to many preprofessional students.

MAJOR STUDY

Students completing the English-Philosophy major are not required to have a minor. It is recommended that courses in literature and philosophy in related periods be taken concurrently where possible.

The minimum requirement is 45 hours, including: English 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 experimental honors program. This program, in which students in any class (freshman, sophomore, etc.) may be enrolled by invitation, is not to be confused with the Honors Program described on p. 98 of this Catalog.

Specific information about General Studies and the experimental honors program can be obtained from the office of the Dean of the College of Arts and Sciences.

Courses in General Studies, except 1-2, with the approval of the Dean of the College, will be given credit towards appropriate Lower Division requirements of the College of Arts and Sciences.

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 Professor Gordon.

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 IV) requirement of the College of Arts and Sciences; all other Geography courses are accepted toward fulfillment of the Social Science (Group III) 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.

63. Economic Resources. (3)
Survey of the basic economic resources of the world; industrial regions; trade routes.

101. South America. (3)
Regional geography of South America.

102. Middle America. (3)
Regional geography of Mexico, Central America, Colombia, Venezuela, and the West Indies.

103. North America. (3)
Regional geography of Alaska, Canada, and the United States.

111. Land Utilization. (3)
Analysis of land use in selected areas; problems of land planning; field mapping in the middle Rio Grande area.

130. Cultural Geography: Old World. (3)
Settlement and cultural landscapes of Europe, Africa, and Asia.

151-152. Problems. (1-3 each semester)
Supervised individual study and field work.

179. Conservation. (3) Dittmer
(Same as Biology 179.)

251-252. Problems. (2-3 each semester) Gordon
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, and 16 additional upper division hours. Chemistry 1L and 2L 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 minor in biology, chemistry, engineering, mathematics, or physics.

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, 54L, 60, 102, 105, 109L, 110, 111L, 115L, 120, 187L; Mechanical Engineering 53, 101, 106, 156, 175, 181, 182. Observe prerequisites.

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. [203L] **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) Graduate Staff

251-252. Problems. (2-3 each semester) Graduate Staff

300. Master's Thesis. (6) Graduate Staff

400. Dissertation. Elston, Fitzsimmons, Kelley, Northrop, Rosenzweig, Wengerd

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors McMurray (Chairman), Jorrín, Judah; Associate Professors Irion, Richards; Assistant Professor Cline; Visiting Lecturer Wolcott (Part-time).

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 College of Law.

The Department requires a qualifying examination to be administered during the first semester of graduate work in order to discover those fields in which the candidate needs additional study and to ascertain his ability to continue graduate work.

1-2. Introduction to Social Science. (3, 3)
(Same as Economics 1, 2, and Sociology 1, 2.)

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
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, Wolcott
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

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) Graduate Staff

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) Graduate Staff

GREEK

See Modern and Classical Languages.

HEALTH, PHYSICAL EDUCATION, AND RECREATION

(A Division of the College of Education.)

CURRICULA

See pp. 134-137.

Professor Seidler (Acting Director)

Department of Health and Physical Education for Men: Professors Seidler (Chairman), Burley; Assistant Professors Barnes, Clements, Cullen, Levy, Miller, Neumann, Petrol, Sweeney, Weeks, Williams; Instructors Chelf, Diehm, McGuire (Part-time).

Department of Health and Physical Education for Women: Associate Professor Gugisberg (Chairman); Assistant Professors McGill, Milliken; Instructors Piper, Waters (Part-time).

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.

W1. Orientation. (1) McGill, Milliken

W2. Orientation. (1) McGill, Milliken

M5. Beginning Swimming. (1) Williams

M6. Advanced Swimming and Life Saving. (1) Williams

M7. Springboard Diving and Water Polo. (1) Williams

M10. Personal Defense Activities. (1) Seidler

M11. Wrestling. (1) Barnes, Cullen

M14. Apparatus Stunts. (1) Petrol, Williams

M15. Individual Tumbling Stunts. (1) Barnes, Petrol

M16. Track and Field Athletics. (1)

M17. Weight Lifting. (1) Neumann

M21. Archery. (1)

M22. Badminton. (1) Miller

M23. Handball. (1)

M26. Basketball. (1) Clements

M27. Flicker Ball. (1) Weeks

M28. Soccer. (1) Chelf

M29. Softball. (1) Barnes

M30. Volleyball. (1) Miller

W51. Beginning Tennis. (1) Milliken

W52. Intermediate Tennis. (1) Milliken

W53. Advanced Tennis. (1) McGill

M&W55 Beginning Riding. (1)

W56. Intermediate Riding. (1)

M&W61. Beginning Golf. (1) McGill, Petrol

W62. Intermediate Golf. (1) Gugisberg, Petrol

W63. Advanced Golf. (1)

W66. Beginning Swimming. (1)

W67. Intermediate Swimming. (1)

W68. Advanced Swimming. (1) McGill

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. [Beginning Swimming, Individual and Team Sports.] (1)

W79. *Fencing.* (1)

W80-81. Individual and Team Sports. (1, 1)

M&W91. Ballroom Dancing. (1)

M&W92. Mexican and New Mexican Dancing. (1)

M&W93. American Country Dance. (1)

M&W94. Contemporary Dance. (1) Waters
Modern dance, beginning level.

M&W95. *Contemporary Dance.* (1) Waters
Modern dance, intermediate level.

M&W96. Contemporary Dance. (1) Waters
Modern dance, advanced level.

PROFESSIONAL COURSES

40. Gymnastics. (Men) (2) Williams
The professional course in gymnastics.

41. *Recreational Sports.* (Men) (2) Petrol
The professional course in recreational sports.

44. Swimming. (2) Williams
The professional course in swimming.

45. Physical Fitness Programs. (2) Burley, Seidler
The professional course in physical fitness programs.

46. Combatives. (2) Seidler
The professional course in combatives.

***49. Professional Activities.** (1)

64. First Aid. (2) Clements
(Same as General Professional Education 64.)

72. Health Education. (3) Clements, Gugisberg
(Same as General Professional Education 72.)

74. Theory and Practice of Football. (2) Levy
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.

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.

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* These experiences are assigned to students according to their needs in achieving a knowledge of, and proficiency in, a range of activities which are utilized in school and recreation programs and in acquiring certain professional experiences through assisting in team, individual and dual sports, swimming, and dance classes.

76. Theory and Practice of Track and Field. (2)
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.

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.

90. [W90] **Social Recreation.** [Recreational Games] (2)
Experience in selection of materials, and leadership techniques in group work in social and recreational games, mixers, and dances for use in recreation programs.

***97-98-99. Professional Activities.** (1, 1, 1)

103. Principles of Recreation. [Community Recreation Through the School] (3) McGill
(Same as General Professional Education 103.)

104. Nutrition. (2) Elser
(Same as Home Economics 104.)

104L. Kinesiology. (4) Burley
Prerequisites: Biology 12L, 36, 39L.

107. Materials and Methods for the Teaching of Physical Education. (Women) (3) Milliken
Professional aspects of team sports, stunts and tumbling; European, Mexican and New Mexican folk dancing. Prerequisite: permission of instructor.

108. Materials and Methods for the Teaching of Physical Education. (Women) (3) McGill
Professional aspects of swimming, individual sports, social and American Country dance. Prerequisite: permission of instructor.

119. Teaching of Physical Education in Elementary Grades. (2) Gugisberg, Milliken
(Same as Elementary Education 119.)

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.

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

131. Principles and Practices of Camping. (3) Burley
(Same as General Professional Education 131.)

138. Teaching of Health Education in the Schools. (3) Gugisberg
(Same as General Professional Education 138.)

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.

164. General Safety Education. (3) Clements
(Same as General Professional Education 164.)

165. Traffic Safety Education in Secondary Schools. (3)
(Same as General Professional Education 165.)

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* These experiences are assigned to students according to their needs in achieving a knowledge of, and proficiency in, a range of activities which are utilized in school and recreation programs and in acquiring certain professional experiences through assisting in team, individual and dual sports, swimming, and dance classes.

167. Tests and Measurements in Physical Education. (3) Burley
Techniques to determine abilities, needs, and placement in the physical education program.

169. Adaptive and Corrective Physical Education. (3) Diehm
Acquaints the student with 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)
The organization, administration, and conduct of recreation programs on the community level. Prerequisite: 103.

175-176. Field Work in Recreation. (3, 3) McGill
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 coöperative 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.

251. Problems in Physical Education. (1-3 each sem.) Burley, Gugisberg, Seidler

300. Master's Thesis. (6) Burley, Seidler

HISTORY

Professors Reeve, Russell, Sacks, Scholes; Associate Professors Lieuwen (Chairman), Dabney, Longhurst, Smith.

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: A minimum of 5 lower division semester courses in History, which should include 1 and 2, 11 and 12 or 51 and 52, and 83; a minimum of eight 100-level semester courses, including History 198 and a minimum of 2 semes-

ter courses each in European History, American History, and Hispanic-American History. History majors are expected to acquire a reading knowledge of at least one foreign language.

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: (a) History 1 and 2; (b) History 11 and 12; (c) History 51 and 52. The upper division requirement includes a minimum of 6 semester courses, to be distributed among at least 2 of the 3 fields prescribed for the major study in History.

1-2. Western Civilization. (3, 3) Longhurst, Russell, Sacks
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) Russell
Political experiments and intellectual advances of Greece; development of the Roman Empire, especially in political, legal, social, and economic institutions.

85. History of Modern Russia. (2) Sacks
Political, economic, religious, and social development of Russia from the days of Peter I to the present.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

115. Greek Political Institutions. (3) Russell
Urban, federal, and imperial institutions of Classical and Hellenistic Greece; emphasis upon the Athenian Constitutions.

116. Rome in Periods of Transition. (3) Russell
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) Russell
Later Roman Empire; the Germanic Kingdoms; Mohammedan Caliphate; feudalism on the political side; and agricultural, commercial, and gild 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) Russell
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) Russell
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. [71] **History of England to 1603.** (3) Russell
Settlement of peoples; rise and development of Christianity; increase of population and economic activity; and formation of the medieval English constitution.

134. [72] **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) Lieuwen, Longhurst
From Roman times to the present.

141. **International Politics.** (3)
(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.

151. **American Diplomacy.** (3) Smith
American diplomatic personalities, problems, and policies from independence to the present day.

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) Lieuwen
Relations among the American Republics from 1810, with emphasis upon the Pan-American movement and the recent period.

166. **History of Brazil.** (3) Lieuwen, 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.** [Mexico and the Caribbean] (3) 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) 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) Longhurst
Extensive reading and discussion of the great histories and historians.

American Studies 201. Interdepartmental Seminar in the Culture of the United States. (3) Walter
Religious backgrounds in the United States during the 19th century; travelers' accounts of America, 1744-1844; the influence of radical politics on art and literature, 1918-1939; American society in transition.

251-252. Problems. (1-3 each semester) Graduate Staff

255. Seminar in Early Modern European History. (3) Longhurst
Studies in Renaissance, Reformation, and Enlightenment history.

256. Seminar in Medieval History. (3) Russell
Emphasis upon phases of medieval English or Spanish history.

258. Seminar in Modern British History. (3) Sacks
Emphasis upon the opening decade of the 20th century; primary materials utilized include parliamentary debates, diplomatic correspondence, memoirs, and public opinion.

261. Seminar in Southwest History. (3) Scholes
Southwestern colonial history.

262. Seminar in Southwest History. (3) Reeve
Southwestern history since 1821.

265. Seminar in Colonial Latin-American History. (3) Scholes
Emphasis upon the constitutional and cultural history of the Spanish colonies in America.

266. Seminar in Recent Latin-American History. (3) Lieuwen
Seminar on 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) Graduate Staff

400. Dissertation. Graduate Staff

American Studies 400. Dissertation. Graduate Staff

HOME ECONOMICS

Associate Professors Elser (Chairman), Schroeder; Assistant Professor McMurray; Instructor Harris.

CURRICULUM IN EDUCATION

See p. 137.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS

See p. 137.

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 EDUCATION

See p. 137.

MINOR STUDY IN 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.

GROUP REQUIREMENTS

Only 53L and 54L are accepted toward fulfillment of the Science (Group IV) requirement of the College of Arts and Sciences.

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: 1. 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. Prerequisites: 1, 12L, or equivalent. 1 lecture, 4 hrs. lab.

64L. Advanced Clothing Construction. (3) McMurray
Flat pattern designing adapted to a fitted basic pattern and a commercial pattern. Prerequisites: 1, 12L, 63L. 1 lecture, 4 hrs. lab.

104. Nutrition. (2) Elser
The relation of nutrition to the health program; normal nutrition.

* 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.

107L. Experimental Foods. (3) Elser
Experimental methods applied to food preparation and preservation; food marketing and food laws. Prerequisites: 54L, Chemistry 41L, 42L. 2 lectures, 3 hrs. lab.

109. The House and Its Furnishings. (3) McMurray
Guides in the selection of a house and furnishings with emphasis upon the use of space for function, economy, and beauty.

127L. Nutrition and Dietetics. (4) Harris
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.

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.

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.

The following courses are primarily for students who wish to become dietitians.

150L. Large Quantity Cookery. (3) Harris
Standard methods of food production in quantity; cost accounting; standardization of formulas; menu planning and table service. Prerequisite: 107L. 1 lecture, 4 hrs. lab.

151. Diet in Disease. (3) Harris
The adaptation of diet in the treatment of impaired digestive and metabolic conditions. Prerequisites: 107L, 127L.

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.

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 1959-60.)

Journalism 1 and Journalism 2 count toward the major but are not required. Journalism 1 is a prerequisite to Journalism 2. They are strongly recommended for all who plan on Journalism majors.

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.** (1) Jermain
Freshmen only. Lecture one hour a week on the meaning, history, and practices of American journalism, together with some practice in news writing.

2. **Introduction to Journalism.** (1)
Same as above, but including an introduction to copy-editing. Prerequisite: 1.

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 dummying of newspaper pages, in headline writing, and in page makeup. Prerequisites: 51, 52. 2 lectures, 2 hrs. lab.

112. **Copy-Editing and Makeup.** (3) Rafferty
Continuation of 111, with emphasis on wire copy and problems of typography. Prerequisite: 111. 2 lectures, 2 hrs. lab.

122. **Law of the Press.** (3) Jermain
Lectures, discussions, and case histories in the law of libel and the Constitutional guarantees, and in laws relating to contempt and injunction proceedings and other checks of law upon the press.

132. **Writing the Magazine Article.** (3) Jermain, Rafferty
Writing the longer factual article for professional publication.

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.

190. Problems in Local and National Advertising. (2)
Lectures in, and discussions of, local retail and national-agency advertising problems and programs.

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.)

LATIN

See Modern and Classical Languages.

LAW

Professors Poldervaart (Librarian), Seed, Weihofen; Associate Professors Clark (Acting Dean), Vernon; Assistant Professors Swihart, Walden; Supervisor of Legal Aid Dailey. (A vacancy in the faculty will be filled in 1959-60.)

Note: Some courses may not be offered in certain years. For such information, and for information as to the year in which courses are to be taken, which courses must be taken, etc., see Curriculum and Offerings at pages 176, 177.

100. The Legal Profession and Ethics. (0, 0)
Cheatham, **Cases and Materials on the Legal Profession.** Lectures and discussion of problems one hour per week Semesters I and II. Attendance and participation of all first-year students required. No subject credit. "CR" recorded on satisfactory attendance.

101. Criminal Law. (–, 3) Weihofen
Michael and Wechsler, **Criminal Law and Its Administration, Cases, Statutes and Commentaries** (1940) and 1956 Supplement. Criminal law viewed as a means for the prevention of criminal behavior and a general study of criminal procedure and administration.

103-104. Contracts. (3, 3) Vernon
Casebook to be selected. 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.

105. Property I: Personal Property. (3, –) Seed
Fraser, **Cases and Readings on Property,** 3d ed. (1954). Concepts of possession and acquisition of ownership of chattels, finding, gifts of chattels, accession, confusion, bailments, and liens; third semester hour spent on the law of estates in real property: general legal terms, feudal tenure, and interests in land classified according to their potential duration.

107-108. Torts. (3, 2) Swihart
Smith and Prosser, **Cases on Torts,** 2d ed. (1957). The development of different bases of tort liability, including liability without fault, negligence, and intentional wrongs. The course 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, –) Walden
Cribbet, **Judicial Remedies,** 1st ed., and mimeographed materials. An introduction to the procedural law; including the historical development of common law pleading, reception of the common law in New Mexico, and the liberalization achieved by state and federal codes.

111. **Law and Society.** (2, –) Weihofen
Simpson and Stone, **Law and Society**, Vol. 1. The evolution of legal institutions.

112. **Legal Research.** (–, 2)
Pollack, **Fundamentals of Legal Research** (1956); Poldervaart, **Manual for Effective New Mexico Legal Research** (1955). Introduction to the use of law books and techniques of legal research, including the preparation of briefs on appeal, and oral argument.

113. **Brief and Argument.** (–, 1)
An introduction to appellate practice, preparation of briefs on appeal and oral argument. (Required of all students who have not taken an equivalent course.)

115. **Agency and Partnership.** (–, 2)
Casebook to be selected. Principal and agent, master and servant, and some of the agency and entity aspects of partnerships.

117. **Property II: Land Titles.** (–, 3) Seed
Fraser, **Cases and Readings on Property**, 3d ed. (1954). A continuation of the law of estates in real property; common law conveyancing; considerable emphasis upon the law of future interests.

119. **Property III: The Use and Development of Land.** (3, –) Seed
Casebook to be selected. 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.

122. **Remedies.** (2, –)
Casebook to be selected. Remedies (both legal and equitable) available because of duress, fraud, innocent misrepresentation, mistake, illegality, and economic compulsion in the formation and discharge of contracts and other transactions. Specific performance will also be covered.

123. **Constitutional Law.** (–, 4) Weihofen
Frank, **Cases on Constitutional Law**, 1952 Revision with Supplement. Historical development; protection of the commercial interest; civil rights; contemporary problems including the regulation of business, state taxation, Negro problems and freedom of communication. (Required)

125. **Corporations.** (4, –) Walden
Casebook to be selected. The law relating to business corporations; corporations as compared with partnerships, joint stock companies, business trusts.

127. **Family Law and Community Property.** (3, –) Clark
Jacobs and Goebels, **Cases and Materials on Domestic Relations** (3d ed. 1952); Clark, **Community of Property and the Family in New Mexico**; Harper, **Problems of the Family**. Marriage, separation and divorce; solidarity and economic relations as between husband and wife; parent and child.

128. **Local Government Law.** (–, 2) Clark
Fordham, **Local Government Law**. 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. **Trusts.** (–, 3) Swihart
Bogert, **Cases on Trusts**, 2d ed. The nature and creation of express trusts for private persons, charitable trusts and resulting and constructive trusts; the relationship between trustee and beneficiary, the relationship between trustee and third persons, and problems of trust administration.

133. **Wills.** (2, –) Poldervaart
Mechem & Atkinson, **Cases and Other Materials on Wills and Administration**, 4th ed. (1954). The law of descent and distribution and of making, interpretation and revocation of wills.

134. **Probate Practice.** (–, 1) Poldervaart
Poldervaart, **New Mexico Probate Practice and Forms** (1954). A practical study of the methods and problems of the probate of wills and administration of estates in New Mexico.

135. **Administrative Law.** (3, –) Clark
Gellhorn and Byse, **Administrative Law: Cases and Comments** (1954). 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
Matthews, **Labor Relations and the Law.** 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.

141. Legal Writing. (3, –) Weihofen
Cooper, **Effective Legal Writing.** Exercises and drills in legal writing and methods to be done independently by each student. (Required)

147. [148-149] **Commercial Transactions.** [Sales; Negotiable Instruments] (–, 4) Vernon
Casebook to be selected. 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, 0)
No casebook. 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.

151. Civil Procedure II. (–, 3) Walden
Hays, **Cases on Civil Procedure** (1947); Moore's **Federal Rules and Official Forms.** A study of 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.

153. Security. (–, 4) Seed
Osborne, **Property Security,** 2d ed.; Osborne, **Cases on Suretyship (Pamphlet form).** Suretyship, guaranty, chattel and real estate mortgages, trust receipts, problems of agricultural finance.

154. Civil Procedure III. (–, 3) Walden
Hart and Wechsler, **The Federal Courts and the Federal System.** 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.

155. Unsecured Creditors' Rights. (–, 3) Clark
Moore, **Debtors' and Creditors' Rights** (1955). Principal remedies of unsecured creditors including enforcement of judgments, attachment and garnishment, fraudulent conveyances, assignments for benefit of creditors, creditors' agreements and bankruptcy. The last half of the course is bankruptcy.

157. Legislation. (–, 1)
Problems in legislative drafting, with practical exercises in drafting state and federal bills and resolutions.

159-160. [162] **Evidence.** (2, 2)
Morgan, Maguire & Weinstein: **Cases and Materials on Evidence,** 4th ed. (1957). 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.

161. Practice Court. (–, 1) Clark
Preparation of pleadings and motions; oral argument of a motion in a civil proceeding; jury trial. Assistance to lawyer in defense of indigent accused. (Required)

163. Water Law. (2, –) Clark
Martz, **Cases on Natural Resources** (1951). Examination of legal problems of surface and ground water uses; legal means of protection from detrimental effects of water; water law concepts with special attention to their scientific basis and physical conditions. Clarification of individual and community objectives in use and development of water resources emphasized.

167-168. Taxation I and II. (3, 2) Swihart
Bruton and Bradley, **Cases on Federal Taxation** (1955). Our system of taxation, its historical and functional growth and its impact upon our economy. Major attention will be paid to the tax system presently in operation, with emphasis on federal income taxation and death and gift taxes.

171. Law of Oil and Gas. (2, –) Seed
Casebook to be selected. Nature of the property interests in oil and gas; legal interests created by oil and gas leases; validity of oil and gas leases; assignments; express and implied covenants; rent and royalties, conservation.

173. Conflict of Laws. (3, –) Vernon
Cheatham, Goodrich, Griswold & Reese, **Cases and Materials on Conflict of Laws**, 4th ed. (1957). The concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and status.

175. Patent Law. (2, –)*
Casebook to be selected. The substantive law of patents; history, constitutional basis, congressional authority, invention, prerequisites of application, interferences, reissues, disclaimers, and patent as property. To be given in one two-hour session once a week.

179. Seminar. (1)
Subject and semester to be arranged.

181. International Law. (–, 2) Swihart
Bishop, **International Law: Cases and Materials** (1953). Designed to provide lawyers a basis for understanding the nature and sources of international law, its role in international organization, and principles of international law governing interstate relations and affecting private rights. Among the legal topics considered are recognition, state succession, territory and jurisdiction of states, the rights and immunities of states in foreign courts, nationality, aliens, international claims, international agreements and treaties.

198. Legal Aid. (0, 0) Dailey
No casebook. Service in the office of the Legal Aid Society of Albuquerque every afternoon for 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, Petersen, Wing; Assistant Professors Dubois, Mayer-Kalkschmidt, Mitchell, Steger, Wyler; Instructors Carr, Chapman, Entringer, Hankins, Hermes, 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.

* Offered for law credit, but the approval of the dean to count the credit toward the requirements for the degree in this college must be obtained in advance in the manner prescribed for electives in other colleges. Grades of C or better will not be included in the computation to determine the student's standing in the College of Law.

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 61L, 62L, 113, 114, 131, 132, plus 1 course selected from EE 111, 112L, 188, 191, 192. Observe prerequisites.

Minor in Mechanical Engineering, Mechanisms Option: CE 1L, 60, 102, 103L; ME 106, 113L, 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
A 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
A development of the mathematical foundations and applications of spherical astronomy and celestial navigation and mechanics. Prerequisites: Mathematics 16 and the Calculus, or permission of the 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.)

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.

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) Hendrickson, Lewis; Martin
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, 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
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 coördinates; 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, Tchebysheff, 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) Martin
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, Lewis, Martin, 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, Martin, 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.

147-148. Applied Advanced Calculus. (3, 3) Dubois, Gentry, Kolodner, Lewis, Martin, Mayer-Kalkschmidt, Wyler
Linear differential equations; boundary value problems. Equations of mathematical physics. Special functions. Introduction to operational methods, Fourier series, vector analysis, and complex variable.

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) Martin, Mayer-Kalkschmidt
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) Martin
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, Petersen, Wing
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, Wing
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. Pro-Seminar. (2-3 hrs. each semester) Graduate Staff
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, Martin

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

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; assymptotic 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, 243-244.

261-262. Topology. (3, 3) Martin, Kolodner, 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, Martin, 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) Martin, Mayer-Kalkschmidt, Petersen, 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, Petersen
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, Petersen, Wing

292. Seminar in Algebra. (2-3) Dubois, Steger, Wyler

293. Seminar in Geometry and Topology. (2-3) Gentry, Wyler, Mayer-Kalkschmidt

294. Seminar in Applied Mathematics. (2-3) Kolodner, Lewis, Wing

300. Master's Thesis. (6) Graduate Staff

MECHANICAL ENGINEERING

See Engineering, Mechanical.

MODERN AND CLASSICAL LANGUAGES

Professors Duncan (Chairman), DeJongh, Jorrín, Kercheville, Lopes, MacCurdy, McKenzie, R. Sender; Assistant Professors Cobos, Graham, Nason, F. Sender (Part-time), Ulibarrí; Instructors Evans, Luft (Part-time), Welsh (Part-time); Teaching Assistant Dixon.

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. 212.

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 the 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, Gourier
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 10th 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) McKenzie
Readings in psychology, chemistry, mathematics, biology, and anthropology. Prerequisite: 51 or equivalent.

HA. Reading in Honors. (1-3 each semester)

HB. Research in Honors. (1-3 each semester)

105-106. Modern German Literature. [Contemporary 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). [Elementary Italian] (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.

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

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. [Camões] (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

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. Lopes, 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)
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) Ulibarrí, 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) Graduate Staff
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, Ulibarrí
Required of candidates for a graduate degree.

163. Mexican Literature. (2) Ulibarrí

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.

205. Introduction to Research Methods. (1) Duncan, MacCurdy
Required of all candidates for a graduate degree.

206. Spanish Bibliography. (1) Duncan
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) Graduate Staff
For M.A. candidates.

263-264. Seminar: Spanish-American Literature. (2, 2) Nason, Ulibarrí
Prerequisites: 157, 158 or the equivalent.

266. Seminar: Golden Age Drama. (2) MacCurdy

267-268. Seminar: Spanish Literature. (2, 2) Graduate Staff
Studies of 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) Graduate Staff

351-352. Problems. (1-3 each semester) Graduate Staff
For Ph.D. candidates.

400. Dissertation. Graduate Staff

MUSIC

Professors Frederick, Keller, Miller, Stein; Associate Professors Ancona (Acting Chairman), Batcheller, Rhoads, Robert, Snow, Stephenson; Assistant Professors McRae, Schoenfeld; Instructors Thornton, Whitlow, Wilcox.

Applied music faculty:

Piano	Ancona, Keller, Robert, Schoenfeld
Organ	Ancona
Violin and Viola	Frederick
Cello	Stephenson
Wind Instruments	Rhoads, Thornton, Whitlow
Voice	McRae, Snow, Wilcox

MAJOR STUDY

For curricula leading to the B.F.A. in Music, see pp. 165-167.

For purposes of Combined Curriculum in Fine Arts (see p. 158): 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 in piano 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 (graduate course), 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 arpegii and octaves in rapid tempo. He should have studied compositions of at least the following grades of difficulty:

Bach, at least one complete French Suite; Beethoven, sonatas or movements from sonatas such as Op. 2, No. 1, Op. 10, No. 1, Op. 10, No. 2, Op. 14, No. 2; Haydn, **Sonata E Flat**, No. 3; Mozart, **Sonata F. Major** (K.332), **Fantasia in D Minor**; Mendelssohn, **Song Without Words**; Chopin, **Polonaise C Sharp Minor, Valse in A Minor**; Schumann, **Novelette, Op. 21 No. 1**; and some compositions by standard modern composers. The student should demonstrate his ability to read at sight accompaniments and compositions of moderate difficulty.

During his junior year the piano major is required to present a junior recital. During his fourth year the piano major is required to present a senior recital.

Violin. Entrance requirements for Violin students: an ability to play etudes of the difficulty of the Kreutzer Etudes, up to 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 I, 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, 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)
Fundamentals of music; notation, scales, key signatures, intervals, triads, sight-singing, elementary dictation, keyboard harmony.

6. Harmony. (3)
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) Ancona
Open to all beginners in piano exclusive of music majors. Normally no class larger than four.

11-12. Group Instruction in Voice. (1, 1)
Open to all beginners in voice exclusive of music majors. Normally no class larger than four.

19-20. Applied Music. Freshman Course. (1 or 2 hours each semester)

39-40. Music Appreciation. [Introduction to Music Literature] (3, 3) McRae, Stein
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)

51-52. Applied Music. Sophomore Course. (2 or 4 hours each semester)

63. Conducting. (1) Batcheller
Basic technique and theory of conducting.

64. Choral Conducting and Organization. (1) Batcheller
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; corequisite: Chorus.

* 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.

65. Harmony. (3)
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)
Chromatic harmony: extended alterations, remote modulation. Modern trends.

69-70. Applied Music. Sophomore Course. (1 or 2 hours each semester)

71. The Classical Period. (2) McRae, Miller
A survey of music from 1750 to 1820.

72. The Romantic Period. (2)
Form, style and principal composers in the period 1800-1900.

73. Opera. (2)
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)

HB. Research in Honors. (1-3 each semester)
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)

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)
Analysis of the structural elements of music from Gregorian Chant to the present, and the application of standard formal procedures to the creative process of music composition. Prerequisite: 66.

111. The Contemporary Period. (2) 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 1700.

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)
Prerequisite: 4 hrs. credit in the instrument to be studied, or equivalent.

***127. Symphonic Wind Ensemble. (1)**
Large ensembles of wind instruments. Admission by audition.

***129o. Opera Workshop. (2)**
Designed to give singers the fundamentals in practical operatic experience.

***131. Chamber Music. (1)** Frederick, Thornton, Whitlow
The practice, performance, and study of chamber music in various ensemble groups.

***133. Symphony Orchestra. (1)**
Study and public performance of symphonic literature.

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* 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.

***137. Piano Ensemble. (1)**
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)**
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)**
Auditions required.

147. Vocal Repertory. (2)
A survey of important and representative literature for solo voice.

149. Piano Repertory. (2)
A survey of important and representative literature for piano.

151-152. Applied Music. Senior Course. (2 or 4 hours each semester)

153. Instrumentation. (2)
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. Prerequisites: 5, 6, 65, 66.

†155. Orchestral Instruments. (1)
Group instruction in the playing of woodwind, brass, percussion, and string instruments.

157. Advanced Choral Conducting. (2) Batcheller, 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 Intrumental Conducting. (2) Frederick, Rhoads
Historical background and advanced techniques for conducting band and orchestra and studying scores. Admission by permission of instructor.

163. Advanced Instrumentation. (2) Rhoads
The scoring of larger works for the major ensembles carrying through to actual performance. Prerequisite: 153.

165. Modern Arranging. (2) Rhoads
Dance band instruments and special effects obtainable on each. Projects consisting of scoring for the modern dance orchestra. Prerequisite: 66

167. Choral Arranging. (2) 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)
Prerequisite: 4 hrs. credit in the instrument to be studied, 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)
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)

193. Composers of the United States. (2) Keller
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.

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* 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.

***195. Accompanying. (1)**
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)

205-206. Advanced Composition. (2, 2)
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.

219-220. Applied Music. (1 or 2 hours each semester) Graduate Staff

251-252. Problems. (1-3 each semester) Frederick, Keller, Miller, Stein

269-270. Applied Music. (1 or 2 hours each semester) Graduate Staff

291-292. Graduate Recital. (2, 2) Frederick, Keller, Robert, Schoenfeld, Snow
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

MUSIC EDUCATION

See Education, Music.

NAVAL SCIENCE

Captain P. L. deVos, USN (Chairman), Professor; Commander Smith, USN, Associate Professor; Lieutenant Commander Eppes, USN, Assistant Professor; Lieutenant Commander Cislo, USN, Assistant Professor; Captain Cumming, USMC, Assistant Professor; Lieutenant Harnden, USN, Assistant Professor.

CURRICULUM

See p. 191.

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.

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* 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.

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)
Divided in three phases: Phase I, an understanding of the structure and procedures of shipboard administration; Phase II, a working knowledge of the Uniform Code of Military Justice. Phase III deals with the principles of human relationship and problems involving leadership.

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 Aufhauser, Dean, Jensen, Noble, Pederson; Instructors Evans, Lacour.

CURRICULUM

See p. 181.

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) Aufhauser
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) Jensen
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.

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) Pederson
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) Aufhauser, Jensen
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. 186.

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)
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 5L, 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)
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. [191-192.] **Pharmacognosy Problems.** **(1-3 hours each semester)**
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 microöganisms 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 bioassays (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; Visiting Lecturer Evans.

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 particluar 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
What makes acts right? What are the basic reasons for our choices? How far do these determine our decisions in business, politics, religion, and marriage?

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.

129s. 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 15-19, 1959.

132. American Thought. (3) Bahm, Evans
The development of philosophical and religious concepts inherent in the American way of life.

141-142. History of Western Philosophy. [History of Ideas] (3, 3) Alexander, 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: Philosophy 56, or permission of instructor.

161. Political Theory from Plato to Locke. (3) Jorrín
(Same as Government 161.)

162. Political Theory from the Enlightenment to Today. (3) Jorrín
(Same as Government 162.)

171. Plato. (3) Alexander, Evans
Selected readings in the philosophy of Plato.

174. British Empiricism. (3) Alexander, Evans
British philosophy with special emphasis on the works of Locke, Berkeley, and Hume.

176. Contemporary Philosophy. (3) 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. (2) Alexander
Introduction to the study of linguistic morphology and to theories of semantics and symbolism.

241-242. Periods of Special Philosophical Significance. (2, 2) Alexander, Bahm
Plato, Aristotle; Descartes, Spinoza, Leibniz; Locke, Berkeley, Hume; or others to be chosen by the group. Prerequisites: 141-142.

251-252. Problems. (1-3 hours each semester) Graduate Staff

300. Master's Thesis. (6) Graduate Staff

PHYSICAL EDUCATION

See Health, Physical Education and Recreation.

PHYSICS

Professors Regener, Thomas; Consulting Professor Froman; Visiting Professor Escobar; Associate Professors Breiland, Green, Katzenstein; Assistant Professors Leavitt (Acting Chairman), Skabelund; Visiting Lecturer Linsley (Part-time); Instructor Barcus.

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 111L 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 circuits. Prerequisites: Mathematics 15, 16. (Offered in the summer session.)

11L. General Physics. (4) Breiland, Green
Mechanics, heat, sound. Required of premedical, predental 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, predental, 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. (Offered 1959-60 (I) 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. (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. (Offered 1958-59 (I) and alternate years.)

102L. Optics Laboratory and Geometrical Optics. (2) Green, Katzenstein, Leavitt
Interference and diffraction phenomena; spectroscopic and spectrographic methods with visible and ultra-violet light. Pre- or corequisite: Mathematics 141. 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 corequisite: Mathematics 141, 142. (Offered 1958-59 and alternate years.)

105-106. Electricity and Magnetism. (3, 3) Green, Katzenstein, Regener, Skabelund, Thomas
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 141, 142. (Offered 1959-60 and alternate years.)

106L. Electricity Laboratory. (2) Green, Katzenstein, Leavitt, Linsley
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. Pre- or corequisite: Mathematics 141. 1 lecture, 3 hrs. lab. (Offered in Semester I every year.)

107L. Electronics Laboratory and Electron Physics. (3) Green, Katzenstein, Leavitt, Linsley
Charactristics of vacuum tubes; amplifiers; oscillators; oscilloscopes; rectifiers, photoelectric cells; pulsing and scaling circuits. Pre- or corequisite: Mathematics 141. 2 lectures, 3 hrs. lab. (Offered in Semester II every year.)

110. Atomic and Nuclear Physics. (3) Jarmie, 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.)

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. (Offered occasionally.)

153-154-155. Physics for Secondary School Teachers. (4, 4, 4)
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.)

193L-194L. Contemporary Physics Laboratory. (2, 2) 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, Jarmie, Katzenstein, Leavitt, Shreffler, Skabelund, Regener, Thomas

201. Statistical Mechanics and Thermodynamics. (3) Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Offered 1959-60 (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 1959-60 (II) and alternate years.)

211-212. Electrodynamics. (3, 3) Green, Thomas
Maxwell's equations applied to radiation, scattering, microwaves; Lorentz invariance. 211 is prerequisite for 212. (Offered 1958-59 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) Ford, Green, Thomas
Binding energies; scattering; photo-disintegration; compound nuclei; beta-decay, alpha-decay; nuclear forces. Prerequisite: 221. (Offered 1959-60 (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, Kmetko, Leavitt, Nagle, Regener, Thomas, Skabelund

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 2 laboratory courses, of which one must be upper division.

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, 132L, 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.

54. Educational Psychology. (3) Morgan
An introductory course, primarily for sophomores. Prerequisite: 2L or 51.

58. Industrial Psychology. (3) Morgan
Applications of psychology to industry and business. 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
Advanced course. Not open to those who have credit for 54. 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.

132L. Individual Mental Testing. (3) Nolan, Norman
Practical laboratory study and discussion of Binet and Wechsler tests. Prerequisites: 80, 131.

151. Engineering Psychology. (3) Morgan
Problems arising from man-machine relationships. Prerequisite: 2L or 51.

170. History of Psychology. (3) Peterson
Prerequisite: 2L or 51.

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.

221. Experimental Design. (3) Peterson

230. Introduction to Projective Techniques. (3) Norman
Theory and problems in clinical psychology. Prerequisite: 103.

251-252. Problems. (2-3 each semester) Graduate Staff

270. Psychology of Thinking. (3) Benedetti

272. Theories of Learning and Psychological Systems. (3) Ellis

275. Psychoanalytic Theory. (3) Norman
Prerequisite: 103.

296. Advanced Physiological Psychology. (3) Peterson
Prerequisite: 196.

300. Master's Thesis. (6) Graduate Staff

RECREATION

See Health, Physical Education and Recreation.

RUSSIAN

See Modern and Classical Languages.

SECONDARY EDUCATION

See Education, Secondary.

SOCIOLOGY

Professor Walter (Chairman); Associate Professor Ellis; Assistant Professor Sasaki.

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. 112.

MINOR STUDY

18 hours in Sociology courses, of which 12 must be above 100.

1-2. Introduction to Social Science. (3, 3)
(Same as Economics 1, 2 and Government 1, 2.) Elementary concepts of social science common to government, sociology, and economics.

55. Principles of Sociology. (3)
Prerequisite to most advanced courses in the Department.

56. Social Problems. (3)

61. Courtship and Marriage. (3) Ellis

65. The Fields of Social Work. (3) Ellis
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)
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) Ellis, 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)
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)

160. Sociology of Industrial Relations. (3)
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) Ellis
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) Ellis
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) Walter

195. Population Problems. (3) Walter
Prerequisite: 82 or equivalent.

197. Field Observation and Participation. (3) Ellis

241. Seminar: Social Organization. (3) Graduate Staff

242. Seminar: Social Processes. (3) Graduate Staff

300. Master's Thesis. (6) Graduate Staff

SPANISH

See Modern and Classical Languages.

SPEECH

Professor Eubank (Chairman); Associate Professors Chreist, Owens; Assistant Professors Cooper, 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.

MINOR STUDY

21 hours completed in the Department of Speech, including 1, 2, 57, 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, Argumentation 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) Chreist, St. Onge
Articulation, voice and language problems in formal and informal speech situations. 2 lectures, 2 hrs. lab.

5. Speech for Foreign Language Students. (3) Chreist, St. Onge
Designed for the student who speaks English with a foreign accent or who lacks English speech patterns and rhythms. Considerable work will be given in International Phonetics. 2 lectures, 2 hrs. lab.

50. Parliamentary Procedure. (1) Eubank, Owens
Study and practice of the rules governing the proceedings of groups and deliberating assemblies.

51. Introduction to Radio and Television. (3) Cooper
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. Speech for Business and Professions. (3)
Speech for public occasions, the business conference, and the professions. 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 2, although 57 is recommended as a follow-up course.

57. Techniques of Public Discussion. (3) Eubank, Owens
Methods and practice in organizing and directing socially integrated speech programs in the community. Book reports, symposiums, forums and panels will be considered. Prerequisites: 1, 2.

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.

77. Argumentation and Debate. (3) Owens
For students interested in debate and intercollegiate forensics. Prerequisite: permission of instructor.

78. Argumentation and Debate. (3) Owens
A continuation of 77. Stresses the practical problems of debate. Prerequisite: 77.

80. Scientific Bases of Speech. (3) Chreist, St. Onge
The bases of the speech process as presented in the scientific materials of such related fields as physics, physiology, psychology, and linguistics.

90. Production Procedures in Radio and Television. (3) Cooper
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.

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.

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. Prerequisites: 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*.)

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.

185. Utilization of Educational Television and Radio. (3) Cooper
Prerequisite: permission of instructor.

190. Advanced Television and Radio Production. [Advanced Radio Production] (3) Cooper
Potentials of television-radio applied to informational, educational, and cultural programming. Prerequisites: 90 and permission of instructor.

192. Television and Radio Writing. (3) Cooper
Semi-documentary and documentary techniques emphasizing educational objectives. Prerequisites: Speech 90 (or equivalent) and permission of instructor.

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 57, 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 57, 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) Cooper

230. Advanced Speech Pathology. (3) Chreist, St. Onge
The less common types of speech and hearing problems which require clinical treatment. Aphasia, esophageal speech problems, speech for the hard of hearing and deaf, and lip reading are discussed. The work of the speech pathologist in the clinic is emphasized.

240. Classical Rhetoric. (3) Eubank, Owens
Emphasis on rhetorical criticism; a study of the works of the ancients that have influenced rhetorical thought, criticism and speaking (Attic and Roman orators and rhetoricians).

251-252. Problems. (2-3 each semester) Chreist, Cooper, Eubank, Owens, St. Onge

300. Master's Thesis. (6) Chreist, Cooper, Eubank, Owens, St. Onge

STATISTICS

*ENROLLMENT FOR 1958-59

	Men	Women	Total
Semester I, 1958-59	4998	1916	6914
Semester II, 1958-59	4384	1748	6132
Summer Session, 1958 (including workshops)	1279	1055	2334

SUMMARY OF DEGREES CONFERRED 1901-1958

Earned Degrees				Total Earned Degrees	Honorary Degrees
Bachelor's	Master's	Law	Doctor's		
9687	1903	175	101	11,866	72

* Exclusive of correspondence, extension, and non-credit courses.

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