

the university
of new mexico

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BULLETIN



1954-55
catalog
issue

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

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ADMISSIONS (other than Graduate School)	Director of Admissions
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STUDENT AFFAIRS	Director of Student Affairs
STUDENT EMPLOYMENT AND PLACEMENT	General Placement Bureau
PERSONAL WELFARE	Dean of Women or Men
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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
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FIELD SESSIONS:	
Anthropology	Head of the Department of Anthropology
Art	Head of the Department of Art
APPLICATIONS FOR FIELD SESSIONS	Director of Admissions
SCHOOL OF LAW (other than Admissions)	Dean of the School of Law
INTER-AMERICAN AFFAIRS	Director of the School of Inter-American Affairs
EVENING CREDIT COURSES	Director of The Community College
HOUSING—WOMEN	Dean of Women
HOUSING—MEN AND MARRIED STUDENTS	Housing Director

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bulletin

sixty-third
catalog issue

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1954-55

Published bi-monthly by the University of New Mexico, Albuquerque, New Mexico. Entered as Second Class Matter, May 1, 1906, at the post office at Albuquerque, New Mexico, under Act of Congress of July 16, 1894. The University of New Mexico Press, 1954.

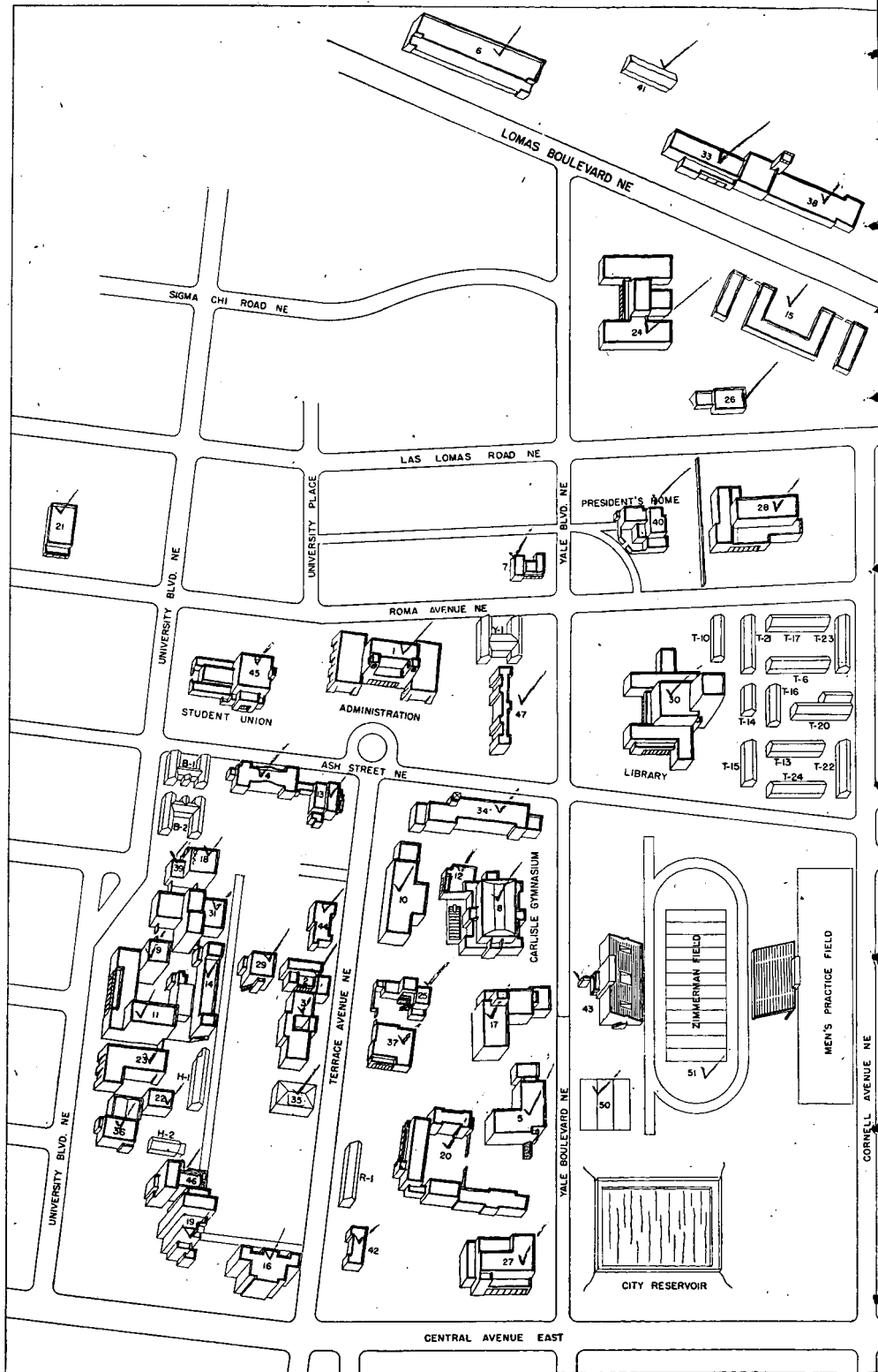


Whole Number 457
Catalog Series
Volume 67, No. 4
September, 1954

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

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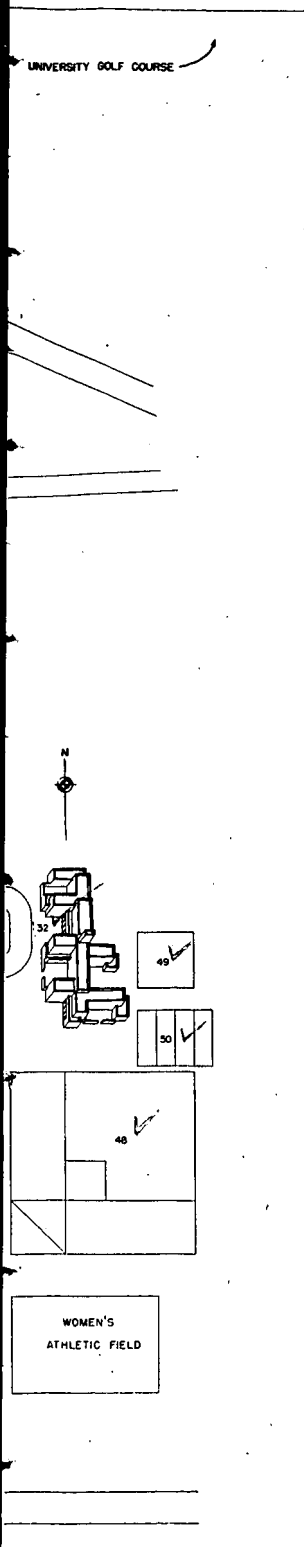
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THE UNIVERSITY OF NEW MEXICO CAMPUS

LEGEND OF PERMANENT BUILDINGS

1. Administration Building
2. Architectural Engineering Building: (Parsons Hall)
3. Art Department Crafts Annex
4. Bandelier Hall (Women's Dormitory)
5. Biology Building
6. Buildings and Grounds (Maintenance Department)
7. Business Research Building
8. Carlisle Gymnasium
9. Chemical Engineering Building
10. Chemistry Building (Clark Hall)
11. Civil Engineering Building
12. Counseling and Testing Building
13. Dining Hall
14. Electrical Engineering Building
15. Faculty Apartments
16. Fine Arts Building
17. Geology Building
18. Heating Plant
19. Hodgkin Hall
20. Hokona-Marron Hall (Women's Dormitory)
21. Home Management House (1621 Roma Avenue, N.E.)
22. Industrial Arts Foundry
23. Industrial Arts Shop
24. Infirmary
25. Inter-American Affairs Building
26. Jonson Art Gallery
27. Journalism Building
28. Law Building
29. Lecture Hall
30. Library
31. Mechanical Engineering Building
32. Mesa Vista Dormitory (Men's Dormitory)
33. Meteoritics Building
34. Mitchell Hall (Classrooms)
35. Music Building
36. Old B. & G.
37. Pharmacy Building
38. Physics Building
39. Police Department
40. President's Home
41. Rifle Range
42. Sara Reynolds Hall
43. Stadium Building
44. State Public Health Laboratory
45. Student Union Building
46. University Theatre (Rodey Hall)
47. Yetoka Hall
48. Baseball Diamond
49. Recreation Court
50. Tennis Courts
51. Zimmerman Field



1954

JANUARY	FEBRUARY	MARCH	APRIL
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17 18 19 20 21 22 23	21 22 23 24 25 26 27	21 22 23 24 25 26 27	18 19 20 21 22 23 24
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31			
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30 31			
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1955

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25 26 27 28 29 30	23 24 25 26 27 28 29	27 28 29 30	25 26 27 28 29 30 31
	30 31		

CALENDAR OF THE UNIVERSITY

1954 Summer Session

1954

New Student tests and instructions June 14, Mon.-June 15, Tues.
8 a.m.
Registration, all students June 16, Wed.
Instruction begins; late registration fee
applies June 17, Thurs.
Registration closes; last day for additions
to programs; change of program fee
applies June 23, Wed., 5 p.m.
End of second week; last day for with-
drawal from course without grade June 30, Wed., 5 p.m.
Independence Day, holiday July 5, Mon.
Session ends August 11, Wed., 10 p.m.

1954 Field Sessions

1954

Anthropology Field Session June 16, Wed.-July 26, Mon.
Taos Art Field Session June 21, Mon.-Aug. 14, Sat.

Semester I, 1954-55

1954

New Student tests—for students in the
Albuquerque area Sept. 7, Tues., 8 a.m.
Science Lecture Hall
Pre-registration processing (supplies and
records) for all AFROTC students, both
old and new, Building Y-1 Sept. 13, Mon.-Sept. 16, Thurs.
New Student assembly Sept. 13, Mon., 7:30 p.m.
Carlisle Gymnasium
New Student tests and instructions Sept. 14, Tues.-Sept. 15, Wed., 8 a.m.
Carlisle Gymnasium
New Student advisement Sept. 16, Thurs.
Registration Sept. 17, Fri.-Sept. 18, Sat.
Instruction begins; late registration fee
applies Sept. 20, Mon., 8 a.m.
Registration closes; last day for additions
to programs; change of program fee
applies Oct. 2, Sat. noon
End of fourth week; last day for withdrawal
from course without grade Oct. 15, Fri., 5 p.m.
Homecoming, holiday Nov. 6, Sat.
Mid-semester Nov. 13, Sat.
Thanksgiving recess begins Nov. 24, Wed., 10 p.m.
Classes resume Nov. 29, Mon., 8 a.m.
End of twelfth week; last day for removal
of Incomplete grades Dec. 17, Fri., 5 p.m.
Christmas recess begins Dec. 18, Sat., 10 p.m.

1955

Classes resume Jan. 3, Mon., 8 a.m.
Closed Week (pre-examination week) Jan. 17, Mon.-Jan. 24, Mon.
Semester Final Examinations Jan. 24, Mon.-Jan. 29, Sat.
Semester ends Jan. 29, Sat., 10 p.m.

CALENDAR OF THE UNIVERSITY

SEMESTER II, 1954-55

1955

Pre-registration processing (supplies and records) for all AFROTC students, both old and new, Building Y-1	Feb. 2, Wed.-Feb. 3, Thurs.
New Student Assembly	Jan. 31, Mon., 7:30 p.m. Carlisle Gymnasium
New Student tests and instructions	Feb. 1, Tues.-Feb. 2, Wed., 8 a.m. Science Lecture Hall
New Student advisement	Feb. 3, Thurs.
Registration	Feb. 4, Fri.-Feb. 5, Sat.
Instruction begins; late registration fee applies	Feb. 7, Mon., 8 a.m.
Registration closes; last day for additions to programs; change of program fee applies	Feb. 19, Sat. noon
End of fourth week; last day for withdrawal from course without grade	Mar. 4, Fri., 5 p.m.
Mid-semester	Apr. 2, Sat.
Easter recess begins	Apr. 6, Wed., 10 p.m.
Classes resume	Apr. 13, Wed., 8 a.m.
Honors Assembly	May 4, Wed., 11 a.m.
End of twelfth week; last day for removal of Incomplete grades	May 6, Fri., 5 p.m.
Fiesta Day, holiday	May 14, Sat.
Closed Week (pre-examination week)	May 25, Wed.-May 31, Tues.
Semester Final Examinations	June 1, Wed.-June 7, Tues.
Semester ends	June 7, Tues., 10 p.m.
Baccalaureate Service	June 8, Wed., 7:30 p.m.
Commencement Exercises	June 9, Thurs., 7:30 p.m.

THE REGENTS OF THE UNIVERSITY

THE HONORABLE EDWIN L. MECHEM, *Governor of New Mexico*, ex officio Santa Fe

THOMAS M. WILEY, *State Superintendent of Public Instruction*, ex officio Santa Fe

PAUL F. LARRAZOLO, *President* Albuquerque

MRS. FRANKLIN BOND, *Vice-President* Albuquerque

JACK KORBER, *Secretary-Treasurer* Albuquerque

WESLEY QUINN Clovis

JACK WALTON Albuquerque

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✓ JOHN NICOLL DURRIE, B.A. *Secretary of the University*

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Inter-American Affairs*

College of Business Administration

- ✓ VERNON GUY SORRELL, PH.D. *Dean*

College of Education

- ✓ SIMON PETER NANNINGA, PH.D. *Dean*
7 LOYD SPENCER TIREMAN, PH.D. *Acting Dean*

College of Engineering

- ✓ MARSHALL ELMER FARRIS, M.S. IN M.E. *Dean*

Division of Extension, Summer Session, and Community Services

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- ✓ JOHN DONALD ROBB, M.A. *Dean*

General College

- ✓ DUDLEY WYNN, PH.D. *Dean*

Graduate School

- ✓ EDWARD FRANKLIN CASTETTER, PH.D. *Dean*

College of Law

- ✓ 5 ALFRED LEROY GAUSEWITZ, LL.M. *Dean*
7 VERLE RUE SEED, J.D. *Acting Dean*

5 On sabbatical leave second semester

7 Second semester only

College of Pharmacy

✓ ELMON LAMONT CATALINE, PH.D. *Dean*

Air Force R.O.T.C. Unit

WILLIAM MARCUES MASSENGALE, JR., COL., U.S.A.F., B.S. IN M.E. . . *Commanding Officer*

Navy R.O.T.C. Unit

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EVELYN PHILLIPS STURGES, M.D. *University Physician*

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HELEN HEFLING, B.S. IN L.S. *Associate Librarian*

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✓ SHERMAN EVERETT SMITH, PH.D. *Director*

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CAROL WILLIAMS, M.B.A. *Assistant to the Dean of Women*

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REAVES H. BAYSINGER, LL.B. *Assistant Dean of Men*

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Engineering Experiment Station

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Division of Government Research

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Institute of Meteoritics

LINCOLN LAPAZ, PH.D. *Director*

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FRANK DRIVER REEVE, PH.D. *Editor*

New Mexico Quarterly

KENNETH LASH, M.A. *Editor*

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Southwestern Journal of Anthropology

LESLIE SPIER, PH.D. *Editor*

University Press

E. B. MANN *Director*

FRED EDMUND HARVEY *Assistant Director*

University Publications Series

JOHN NICOLL DURRIE, B.A. *Editor*

FACULTY

FOR THE ACADEMIC YEAR, 1953-1954

TOM L. POPEJOY, B.A., M.A., University of New Mexico. President of the University.
FRANCE VINTON SCHOLDS, B.A., M.A., PH.D., Harvard University. Academic Vice-President of the University, Professor of History.

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.

JOHN DUSTIN CLARK, B.S., M.S., New Hampshire College of Agriculture and Mechanical Arts; PH.D., Stanford University. Professor Emeritus of Chemistry.

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

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

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.

¹¹ ROBERT ARTHUR MOYERS, B.S., M.A., University of Missouri; PH.D., George Peabody College. Professor Emeritus of Secondary Education.

JOAQUÍN ORTEGA, M.A., University of Wisconsin; LITT.D., University of New Mexico. Professor Emeritus of Modern Languages.

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

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

WILLIAM PRICE ALBRECHT, B.S., Carnegie Institute of Technology; M.A., University of Pittsburgh; PH.D., University of Chicago. Associate Professor of English.

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

⁸ ROBERT E. BARTON ALLEN, B.A., DePauw University; M.A., PH.D., University of Illinois. Associate Professor of Speech.

⁸ Resigned as of October 30, 1953

¹¹ Deceased December 15, 1953

14 FACULTY

- NINA MCGINNIES ANCONA, B.A., M.A., University of New Mexico. Associate Professor of Music, Acting Chairman⁷ of the Department of Music.
- ⁷ HAROLD VIRGIL ARGO, B.A., Whitman College; M.A., George Washington University; PH.D., University of Chicago. Lecturer in Physics (Part-time).
- GEORGE WARREN ARMS, B.A., Princeton University; PH.D., New York University. Professor of English, Chairman of the Department of English.
- LORENE WALKER AULD, B.S. ED., East Central State College. Instructor in Business Administration (Part-time).
- V. L. AULD, B.B.A., M.B.A., University of Oklahoma; C.P.A. Instructor in Business Administration.
- ARCHIE JOHN BAHM, B.A., Albion College; M.A., PH.D., University of Michigan. Professor of Philosophy.
- ⁸ ARTHUR PAUL BAILEY, B.S., James Millikin University; M.S., Iowa State College. Associate Professor of Industrial Arts.
- GEORGE LEROY BAKER, PH.C., B.S., University of Colorado; M.S., University of Florida; PH.D., Purdue University. Assistant Professor of Pharmacy.
- WILLIS LEE BARNES, Assistant Professor of Physical Education.
- GEORGENE VIOLETTE BARTE, B.S., University of New Mexico; M.S., Iowa State College. Assistant Professor of Home Economics.
- ERNEST WARREN BAUGHMAN, B.A., Ball State Teachers College; M.A., University of Chicago; PH.D., Indiana University. Assistant Professor of English.
- JOHN ANDREW BAUMAN, B.S.L., LL.B., University of Minnesota; LL.M., Columbia University. Associate Professor of Law.
- CARL WELLINGTON BECK, B.A., DePauw University; M.A., PH.D., Harvard University. Associate Professor of Geology.
- DAVID THEODORE BENEDETTI, B.A., M.A., University of New Mexico; PH.D., University of Colorado. Assistant Professor of Psychology.
- NADENE SIMON BLACKBURN, B.A., Eastern Washington College of Education; M.A., Northwestern University. Assistant Professor of Dramatic Art.
- ROY EARL BLANKLEY, Instructor in Industrial Arts.
- THOMAS MICHAEL BRAND, B.A., University of Washington; M.A., University of Colorado. Assistant Professor of Business Administration, Statistician in the Bureau of Business Research.
- JOHN G. BREILAND, B.A., Luther College; M.S., State University of Iowa. Assistant Professor of Physics.
- CHESTER RAYMOND BROWN, B.S., M.S., Stout Institute. Associate Professor of Industrial Arts.
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- ROBERT REGINALD BROWN, B.A., PH.D., University of California. Assistant Professor of Physics.
- FRANCIS NORBERT BUCK, B.S. IN ED., Missouri State College. Lecturer in Meteorology, Air Force Officer Training Program in Meteorology.
- CARLETON EUGENE BUELL, B.A., Oberlin College; M.A., Ohio State University; PH.D., Washington University. Associate Professor of Mathematics.
- ¹ BAINBRIDGE BUNTING, B.S., University of Illinois; PH.D., Harvard University. Assistant Professor of Art.
- LLOYD ROBERT BURLEY, B.ED., Duluth State Teachers College; M.A., PH.D., State University of Iowa. Associate Professor of Physical Education.
- ⁷ PRESTON WILLIAM BYINGTON, B.S. IN E.E., M.S. IN E.E., Stanford University. Lecturer in Electrical Engineering (Part-time).

¹ On leave for the year

² On leave January 15, 1953, to January 15, 1955

⁷ Second semester only

- EDWARD FRANKLIN CASTETTER, B.S., Lebanon Valley College; M.S., Pennsylvania State College; PH.D., Iowa State College. Dean of the Graduate School, Professor of Biology, Chairman of the Department of Biology.
- RAYMOND N. CASTLE, B.S., University of Idaho; M.A., PH.D., University of Colorado. Associate Professor of Pharmaceutical 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.
- FRANK CHAPMAN, B.A., University of Colorado; M.A., University of New Mexico. Instructor in Mathematics (Part-time).
- FREDERICK MARTIN CHEREST, B.A., DePauw University; M.A., PH.D., Northwestern University. Assistant Professor of Speech.
- ROBERT EMMET CLARK, B.A., University of New Mexico; LL.B., University of Arizona. Associate Professor of Law.
- LENA CECILE CLAUVE, B.A., University of New Mexico; M.A., Teachers College, Columbia University. Dean of Women, Professor of Music Education.
- * PRESTON RIVELY CLEMENT, B.S., M.S., University of Kansas; PH.D., Princeton University. Lecturer in Electrical Engineering (Part-time).
- WOODROW WILSON CLEMENTS, B.A., New Mexico Highlands University; M.A., University of New Mexico. Assistant Professor of Physical Education.
- DOROTHY IRENE CLINE, B.A., University of Michigan; M.A., University of Chicago. Assistant Professor of Government.
- ¹ 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.
- VINCENT J. CORTNEY, B.S., Nebraska State College; M.A., University of New Mexico. Instructor in Mathematics (Part-time).
- * MARION MARVIN COTTRELL, B.S.C.E., University of New Mexico. Instructor in Civil Engineering (Part-time).
- BONNER MILTON CRAWFORD, B.A., Central Michigan College of Education; M.A., PH.D., University of Michigan. Professor of Education, Chairman of the Department of Secondary Education.
- ⁵ MERVYN CROBAUGH, B.A., M.A., PH.D., Stanford University. Associate Professor of Economics.
- ¹ 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.
- WARREN DONALD CURTON, MAJOR, U.S.A.F. Assistant Professor of Air Science and Tactics.
- WILLIAM MINOR DABNEY, B.A., M.A., PH.D., University of Virginia. Assistant Professor of History.
- MARGARET KEIFER DAILEY, B.A., DePauw University; LL.B., University of New Mexico. Supervisor of Legal Aid.
- RICHARD H. DARBEE, B.A., Alma College; M.A., University of Michigan; PH.D., University of New Mexico. Instructor in English.

¹ On leave for the year

⁵ On sabbatical leave second semester

* First semester only

* Second semester only

- GUIDO HERMAN DAUB, B.S., M.S., PH.D., University of Wisconsin. Assistant Professor of Chemistry.
- RANDALL DAVEY, N.A. Professor of Art (Part-time).
- JOHN A. DEAR, B.S., Southwest Texas State Teachers College; M.S., University of New Mexico. Instructor in Physical Education.
- WILLIAM FREDERICK JEKEL DEJONGH, B.A., M.A., University of Michigan; M.A., PH.D., Harvard University. Professor of Modern Languages.
- WILLIAM CLARENCE DICKINSON, B.A., University of California; PH.D., Massachusetts Institute of Technology. Lecturer in Physics (Part-time).
- JOHN WILLIAM DIEFENDORF, B.S. IN ED., Central Missouri State College; M.A., PH.D., University of Missouri. Professor of Education.
- HOWARD J. DITTMER, B.A., M.A., University of New Mexico; PH.D., State University of Iowa. Professor of Biology.
- 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, Acting Chairman⁷ of the Department of Art.
- ¹ RICHARD CHARLES DOVE, B.S. IN M.E., M.S. IN M.E., Iowa State College. Assistant Professor of Mechanical Engineering.
- CHARLES PAUL DOWNER, MAJOR, U.S.A.F.R.; B.S., Mississippi State College. Assistant Professor of Air Science and Tactics.
- ² JOHN WILLIAM DUNBAR, B.S., Indiana State Teachers College; M.S., Detroit Institute of Technology; C.P.A. Associate Professor of Business Administration.
- CHARLES LEMUEL DUNCAN, LIEUTENANT COMMANDER, U.S.N.; B.S., University of Colorado. Assistant Professor of Naval Science.
- ³ 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.
- 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.
- RICHARD ALLEN DUTTON, B.S.M.E., New Mexico College of Agriculture and Mechanic Arts; M.S. IN M.E., Northwestern University. Instructor in Mechanical Engineering.
- RALPH LEMON EDGEL, B.A., University of Utah; M.B.A., Northwestern University. Director of the Bureau of Business Research, Associate Professor of Business Administration.
- FLORENCE HAWLEY ELLIS, B.A., M.A., University of Arizona; PH.D., University of Chicago. Associate Professor of Anthropology.
- ⁴ HELEN HEACOCK ELLIS, B.A., M.A., University of New Mexico; M.S.W., University of Chicago. Assistant Professor of Sociology.
- JAMES LAWTON ELLIS, B.S. IN E.E., M.S. IN E.E., Georgia School of Technology. Professor of Electrical Engineering.
- GRACE LONG ELSEY, 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.
- WAYNE C. EUBANK, B.S., West Texas State College; M.A., PH.D., Louisiana State University. Professor of Speech, Chairman of the Department of Speech.
- ROBERT KRICK EVANS, B.A., Allegheny College; M.A., University of New Mexico. Associate Professor of Business Administration.

¹ On leave for the year

² On sabbatical leave for the year

³ On sabbatical leave second semester

⁴ Second semester only

⁵ On leave December 7, 1953, to June 30, 1954

- WILBURN JOHN EVERSOLE, B.A., Berea College; M.SC., PH.D., New York University. Professor of Biology.
- MARSHALL ELMER FARRIS, B.S., Purdue University; M.S., University of Texas. Dean of the College of Engineering, Director of the Engineering Experiment Station, Professor of Mechanical Engineering.
- HUGH CARSON FERGUSON, B.S., Wayne University; M.S., PH.D., Purdue University. Assistant Professor of Pharmacology.
- RICHARD LEROY FERM, B.S., M.S., PH.D., University of Kansas. Assistant Professor of Chemical Engineering.
- HOWARD VIVIAN FINSTON, B.A., M.A., PH.D., Stanford University. Assistant Professor of Business Administration.
- J. PAUL FITZSIMMONS, B.S., PH.D., University of Washington. Assistant Professor of Geology.
- EVERETT HAYES FIXLEY, B.S. IN ED., University of Kansas; ED.M., ED.D., Harvard University. Professor of School Administration, High School Visitor, Director of the Teacher Placement Bureau.
- MARTIN WILLIAM FLECK, B.S., M.S., University of New Mexico. Assistant Professor of Biology.
- ETHEL ARNOLD FLEMING, B.A., University of Nebraska; M.A., Colorado State Teachers College. Instructor in English.
- ALBERT DUANE FORD, B.S. IN M.E., M.S. IN M.E., Montana State College. Professor of Mechanical Engineering.
- 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.M., University of Rochester. Professor of Music.
- DAROL KENNETH FROMAN, B.SC., M.SC., University of Alberta; PH.D., University of Chicago. Consulting Professor of Physics.
- WILLIAM ROGERS GAFFORD, B.S., University of New Mexico; M.S., University of Texas. Assistant Professor of Architectural Engineering.
- ⁵ ALFRED LEROY GAUSEWITZ, B.A., LL.B., University of Minnesota; LL.M., Stanford University. Dean of the College of Law, Professor of Law.
- DAVID STANLEY GEBHARD, B.A., M.A., University of Minnesota. Instructor in Art History.
- EZRA WOOLLEY GEDDES, B.S., M.S., Utah State Agricultural College; PH.D., Cornell University. Visiting Assistant Professor of Sociology.
- FRANK C. GENTRY, B.A., M.A., University of Oklahoma; PH.D., University of Illinois. Associate Professor of Mathematics.
- EVA ISRAEL GLAESE, B.A., University of New Mexico; M.A., Syracuse University. Assistant Professor of Business Administration.
- MARGARET EVELYN GLASEBROOK, B.S., University of New Mexico; M.A., Ohio State University. Instructor in Physical Education.
- CHARLES THERON GRACE, B.S.M.E., University of Colorado; M.S.M.E., University of Illinois. Professor of Mechanical Engineering, Chairman of the Department of Mechanical Engineering.
- JOHN ROOT GREEN, B.S., PH.D., University of California. Assistant Professor of Physics.
- MERCEDES GUGISBERG, B.S., M.S., University of Minnesota. Associate Professor of Physical Education, Chairman of the Department of Physical Education for Women.
- ⁵ LEZ LEWIS HAAS, B.A., M.A., University of California. Professor of Art, Chairman of the Department of Art.

⁵ On sabbatical leave second semester

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

EDWARD HAMMEL, JR., B.A., Dartmouth College; PH.D., Princeton University. Lecturer in Chemistry (Part-time).

WILLIAM JAMES HARMEYER, B.A., M.A., Ball State Teachers College; C.P.A. Assistant Professor of Business Administration (Part-time).

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

* ROLF HAYN, B.A., M.A., Indiana University; PH.D., University of Wisconsin. Visiting Lecturer in Economics.

PAUL WILLIAM HEALY, B.A., B.S., M.S., Ohio State University; PH.D., University of Kentucky. Assistant Professor of Mathematics.

JOHN JAMES HEIMERICH, B.S., M.S., Kansas State College. Professor of Architectural Engineering, Chairman of the Department of Architectural Engineering.

MORRIS S. HENDRICKSON, B.S., Birmingham-Southern College; M.A., PH.D., Ohio State University. Associate Professor of Mathematics, Acting Chairman of the Department of Mathematics.

ROBERT ANDREW HESSEMER, JR., B.S., University of Washington; M.S., PH.D., Stanford University. Assistant Professor of Electrical Engineering.

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.

WILLARD WILLIAMS HILL, B.A., University of California; PH.D., Yale University. Professor of Anthropology, Chairman of the Department of Anthropology.

YATES MICHEL HILL, B.S., United States Military Academy; M.S., PH.D., University of Illinois. Lecturer in Electrical Engineering (Part-time).

MILTON HERBERT HOEHN, B.A., M.A., University of California. Instructor in Mathematics.

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

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

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

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. Associate Professor of Education.

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

JOHN A. JACOBSON, B.S. IN E.E., University of New Mexico. Assistant Professor of Electrical Engineering.

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

ERIC RANDOLPH JETTE, B.S., Franklin and Marshall College; M.A., PH.D., Columbia University. Consulting Professor of Chemistry.

LEIGHTON HENRY JOHNSON, B.A., M.A., PH.D., University of California. Assistant Professor of Education.

* Second semester only

- RICHARD B. JOHNSON, B.S., North Central College; M.S., Utah State Agricultural College; PH.D., Cornell University. Associate Professor of Biology.
- ROY WILLIAM JOHNSON, B.A., University of Michigan; Certificat, Université de Poitiers, France. Professor of Physical Education, Chairman of the Department of Physical Education for Men.
- WILLIAM HARRY JONES-BURDICK, MAJOR, U.S.A.F.R.; B.A., University of Colorado; M.A., University of Michigan. Assistant Professor of Air Science and Tactics.
- RAYMOND JONSON, Chicago Academy of Fine Arts; Art Institute of Chicago; Portland, Oregon, Art School. Professor of Art.
- 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.
- CHARLES BURNET JUDAH, B.A., M.A., PH.D., University of Illinois. Professor of Government.
- PAT TANCRED JULIO, B.F.A., Wittenberg College; M.A., University of New Mexico. Instructor in Art.
- MILTON KAHN, B.S., University of California; PH.D., Washington University. Associate Professor of Chemistry.
- 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. Associate Professor of Music.
- DAVID OTIS KELLEY, B.A., M.A., University of Southern California. 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.
- WILFRID DUDLEY KELLEY, B.ED., Eastern Illinois State College; M.S., University of Michigan. Assistant Professor of Geography.
- FRANCIS MONROE KERCHEVILLE, B.A., Abilene Christian College; M.A., PH.D., University of Wisconsin; Certificat, Université de Paris (Sorbonne). Professor of Modern Languages.
- MORTON J. KESTON, B.S., M.A., M.S., University of Chicago; PH.D., University of Minnesota. Assistant Professor of Psychology.
- JANE KLUCKHOHN, B.A., University of Wisconsin; M.A., University of New Mexico. Assistant Professor of English.
- 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.
- *ROLF LANDSHOFF, DR.-ING., Technische Hochschule, Berlin; PH.D., University of Minnesota. Lecturer in Physics (Part-time).
- WRIGHT H. LANGHAM, B.S., Panhandle Agricultural and Mechanical College; M.S., Oklahoma Agricultural and Mechanical College; PH.D., University of Colorado. Consulting Professor of Biology.
- 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.
- JOSEPH LEHNER, B.S., New York University; M.A., PH.D., University of Pennsylvania. Lecturer in Mathematics (Part-time).
- JAMES VERNON LEWIS, B.A., M.A., PH.D., University of California. Associate Professor of Mathematics.
- LEONARD GUSTAF LIND, B.A., Iowa State Teachers College; M.A., University of Idaho. Instructor in Mathematics (Part-time).

* Second semester only

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

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

EDWARD GEORGE LUEDERS, B.A., Hanover College; M.A., Northwestern University; PH.D., University of New Mexico. Assistant Professor of English.

PETER JOHN LUNARDINI, JR., B.A., M.A., PH.D., University of New Mexico. Instructor in Modern Languages.

ROGER WILLIAM LUTHER, COMMANDER, U.S.N.; B.S., University of Washington. Associate Professor of Naval Science, Executive Officer of the Naval ROTC Unit.

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

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

JOSÉ ELEASAR MARTÍNEZ, B.S., University of New Mexico; M.S., Iowa State College. Assistant Professor of Civil Engineering.

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

WILLIAM MARQUES MASSENGALE, JR., COLONEL, U.S.A.F.; B.S. IN M.E., University of Oklahoma. Professor of Air Science and Tactics, Commanding Officer of the Air Force ROTC Unit.

MARVIN CLARK MAY, B.S., University of New Mexico; M.S., Oklahoma Agricultural and Mechanical College. Associate Professor of Civil Engineering.

⁷ HARRIS LOUIS MAYER, B.A., New York University; M.A., Columbia University; PH.D., University of Chicago. Lecturer in Physics (Part-time).

KATHLEEN McCANN, B.ED., Southern Illinois University; M.A., State University of Iowa; ED.D., Teachers College, Columbia University. Assistant Professor of Education.

WILLIAM WESLEY MCCLINTOCK, JR., LIEUTENANT, U.S.N.; B.S., Montana School of Mines. Assistant Professor of Naval Science.

JAMES ÉTHÉRIDGE McDAVID, B.S., M.S., PH.D., University of California. Assistant Professor of Pharmacy.

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

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

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

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

JOSEPH WALTER MEEK, LL.B., B.S., University of Arizona. Associate Professor of Law.

WILLIS JAMES MICHAEL, CAPTAIN, U.S.A.F.R. Assistant Professor of Air Science and Tactics.

* HUGH MILTON MILLER, B.A., University of Oregon; M.A., PH.D., Harvard University. Professor of Music, Chairman of the Department of Music.

JAMES HULL MILLER, B.A., Princeton University. Associate Professor of Dramatic Art.

GLADYS ELIZABETH MILLIKEN, B.A., Bates College; M.A., New York University. Assistant Professor of Physical Education.

* On sabbatical leave for the year

* On sabbatical leave second semester

⁷ Second semester only

MERLE MITCHELL, B.A., Southern Methodist University; M.A., University of New Mexico. Instructor in Mathematics.

RICHARD KERR MOORE, B.S.E.E., Washington University (St. Louis); PH.D., Cornell University. Lecturer in Electrical Engineering (Part-time).

PERRY T. MORI, B.S., B.A., M.B.A., Northwestern University. Assistant Professor of Business Administration.

SIMON PETER NANNINGA, B.S., Kansas State Teachers College; M.A., Stanford University; PH.D., University of California. Dean of the College of Education, Professor of Education, Chairman of the Department of School Administration.

MARSHALL RUTHERFORD NASON, B.A., M.A., Louisiana State University. Assistant Professor of Modern Languages.

STANLEY STEWART NEWMAN, PH.B., M.A., University of Chicago; PH.D., Yale University. Professor of Anthropology.

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

FRANK FULTON NORRIS, B.S., University of Nebraska. Instructor in Architectural Engineering.

STUART ALVORD NORTHROP, B.S., PH.D., Yale University. Professor of Geology, Chairman of the Department of Geology, Curator of the Geology Museum.

CULLEN BRYANT OWENS, B.A., Berea College; M.S., Northwestern University; PH.D., Cornell University. Associate Professor of Speech.

* WILLIAM JACKSON PARISH, PH.B., Brown University; M.B.A., D.C.S., Harvard University. Professor of Business Administration.

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

GEORGE MAXWELL PETERSON, PH.B., M.A., PH.D., University of Chicago. Professor of Psychology, Chairman of the Department of Psychology.

GEORGE THOMAS PETROL, B.S., Albright College; M.A., University of New Mexico. Assistant Professor of Physical Education.

† WILLIAM JOSEPH PLUMMER, B.S. IN E.E., University of Wisconsin. Lecturer in Mechanical Engineering (Part-time).

ARIE WILLIAM POLDERVAART, B.A., Coe College; M.A., J.D., State University of Iowa. Law Librarian, Associate Professor of Law.

JOHN WESLEY POORE, B.S., M.S., University of Tennessee. Assistant Professor of Art.

FRED E. PREVOST, JR., B.S., University of New Mexico. Instructor in Industrial Arts.

† HAROLD J. PRICE, B.S.E.E., Massachusetts Institute of Technology. Instructor in Electrical Engineering (Part-time).

ANTHONY JOSEPH RADOSEVICH, B.S. IN M.E., B.S. IN C.E., M.S., University of New Mexico. Instructor in Civil Engineering.

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

* OTTIS WILLIAM RECHARD, B.A., University of Wyoming; M.A., PH.D., University of Wisconsin. Lecturer in Mathematics (Part-time).

FRANK DRIVER REEVE, B.A., M.A., University of New Mexico; PH.D., University of Texas. Professor of History, Editor of the *New Mexico Historical Review*.

VICTOR H. REGENER, DR.-ING., Technische Hochschule, Stuttgart. Professor of Physics, Chairman of the Department of Physics.

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

* On sabbatical leave second semester

* First semester only

† Second semester only

- VIRGINIA REVA, B.A., St. Mary's College, Notre Dame; M.A., University of Michigan. Assistant Professor of Business Administration.
- WILLIAM EARL RHOADS, B.M., M.M., University of Michigan. Assistant Professor of Music.
- ALLAN RENE RICHARDS, B.A., M.A., University of Colorado; PH.D., University of North Carolina. Assistant Professor of Government.
- JESSE LEROY RIEBSOMER, B.A., DePauw University; PH.D., Cornell University. Professor of Chemistry, Chairman of the Department of Chemistry.
- HAROLD ORVILLE RIED, B.A., Nebraska Wesleyan University; M.A., PH.D., University of Nebraska. Director of Extension, Summer Session, and Community Services; Professor of Education.
- EDWARD GRIDLEY RIGGS, B.A., Princeton University; LL.B., Yale University; LL.M., Columbia University. Assistant Professor of Law.
- EDWARD CLARENCE RIGHTLEY, B.S., University of New Mexico; M.S., University of Colorado. Assistant Professor of Mechanical Engineering.
- JOHN DONALD ROBB, B.A., Yale University; Juilliard School of Music; American Conservatory at Fontainebleau; M.A., Mills College. Dean of the College of Fine Arts, Professor of Music.
- GEORGE ROBERT, Student of Edward Steuermann and Anton von Webern. Associate Professor of Music.
- GERALD LEE ROWLAND, B.A., University of California at Los Angeles. Instructor in Mathematics (Part-time).
- WILLIAM BARTON RUNGE, B.S., M.ED., Colorado Agricultural and Mechanical College; ED.D., University of Southern California. Assistant Professor of Education.
- JOSIAH COX RUSSELL, B.A., Earlham College; M.A., PH.D., Harvard University. Professor of History.
- DONALD FRED RYDER, LIEUTENANT, U.S.N.; B.A., University of North Carolina. Assistant Professor of Naval Science.
- BENJAMIN SACKS, B.A., University of New Mexico; M.A., McGill University; PH.D., Stanford University. Professor of History, Chairman of the Department of History.
- KEITH RICHARD ST. ONGE, B.A., M.A., PH.D., University of Wisconsin. Assistant Professor of Speech.
- * MORTON GERALD SCHOENFELD, Juilliard Graduate School; B.MUS., Rollins College; M.MUS., University of Wisconsin. Assistant Professor of Music.
- FLORENCE MARGARET SCHROEDER, B.S., Iowa State College; M.A., Teachers College, Columbia University. Associate Professor of Home Economics.
- EDWARD SCHWARTZ, B.A., Roosevelt College of Chicago; M.A., Columbia University; PH.D., Syracuse University. Instructor in English.
- BETSY LOUISE SCONE, B.A., M.A., University of New Mexico. Instructor in Modern Languages (Part-time).
- ELLIS LAVERNE SCOTT, B.S., PH.D., Ohio State University. Assistant Professor of Sociology.
- VICTOR VIO SEARCY, B.S., M.S., Oklahoma Agricultural and Mechanical College. Instructor in Chemistry.
- VERLE RUE SEED, B.A., B.S., J.D., University of Illinois; LL.M., Columbia University. Professor of Law, Acting Dean of the College of Law.
- FLORENCE HALL SENDER, B.A., Franklin College; M.A., Northwestern University. Assistant Professor of Modern Languages (Part-time).
- RAMÓN JOSÉ SENDER, B.A., Instituto de Zaragoza; Lic. en Filosofía y Letras, Universidad Central de Madrid. Professor of Modern Languages (Part-time).

* On sabbatical leave for the year

- * HERMAN J. SHAPRIN, MAJOR, U.S.A.F.R.; B.A., University of Wisconsin; LL.B., John Marshall Law School. Lecturer in Law (Part-time).
- KATHERINE GAUSS SIMONS, B.A., Grinnell College; M.A., Columbia University. Associate Professor of English, Administrative Assistant in the Graduate School.
- FRANCIS HENRY SKIPPER, MAJOR, U.S.A.F.R.; B.S.A., M.S.A., University of Florida. Assistant Professor of Air Science and Tactics.
- VICTOR J. SKOGLUND, B.S., M.S., University of California; D.ENG., Yale University. Assistant Professor of Mechanical Engineering.
- DANE FARNSWORTH SMITH, B.A., Vanderbilt University; M.A., PH.D., Harvard University. Professor of English.
- DANIEL MURRAY SMITH, JR., B.S., M.S., Louisiana State University; C.P.A. Associate Professor of Business Administration.
- GEORGE WINSTON SMITH, B.A., M.A., University of Illinois; PH.D., University of Wisconsin. Associate Professor of History.
- RALPH CARLISLE SMITH, CH.E., Rensselaer Polytechnic Institute; J.D., George Washington University. Lecturer in Law (Part-time).
- SHERMAN EVERETT SMITH, B.S., South Dakota School of Mines and Technology; PH.D., Ohio State University. Director of Student Affairs, Professor of Chemistry.
- * Lisle WILBUR SMOCK, B.S., Thiel College. Instructor in Mathematics (Part-time).
- ROBERT JAROSLAV SMUTNY, B.A., College of the City of New York; M.A., Columbia University; PH.D., University of California. Assistant Professor of Classical Languages.
- ROBERT EDWIN SNAPP, B.A., M.A., University of New Mexico; M.F.A., Yale University. Professor of Dramatic Art, Chairman of the Department of Dramatic Art.
- JANE SNOW, B.MUS., M.MUS., Cincinnati College of Music. Assistant Professor of Music.
- VERNON GUY SORRELL, B.A., State University of Iowa; M.A., University of Illinois; PH.D., University of California. Dean of the College of Business Administration, Professor of Business Administration.
- RODERICK SPENCE, B.A., Huron College; PH.D., University of Illinois. Consulting Professor of Chemistry.
- LESLIE SPIER, B.S., College of the City of New York; PH.D., Columbia University. Professor of Anthropology, Editor of the *Southwestern Journal of Anthropology*.
- RAYMOND HENDERSON SPUHLER, MAJOR, U.S.M.C.; B.A., Duke University. Assistant Professor of Naval Science.
- ARTHUR STEGER, B.A., University of Pennsylvania; M.A., University of California. Instructor in Mathematics.
- JACK RAMSEY STEPHENSON, B.M.E., B.M., M.M.E., University of Kansas. Assistant Professor of Music Education.
- * THOMAS E. STONE, B.S. IN E.E., University of New Mexico. Instructor in Electrical Engineering (Part-time).
- CHARLES E. STONEKING, B.A., Denison University; M.ED., University of Cincinnati; B.E., University of Toledo. Associate Professor of Architectural Engineering.
- JOHN FRANCIS SUTTLE, B.A., University of Colorado; PH.D., Western Reserve University. Associate Professor of Chemistry.
- RALPH WILVER TAPY, B.S. IN E.E., E.E., Rose Polytechnic Institute; M.S. IN E.E., University of Michigan. Professor of Electrical Engineering, Chairman of the Department of Electrical Engineering.

* First semester only

* Second semester only

JOHN TATSCHL, Diploma, Austrian State Teachers College; Diploma, Vienna Academy of Applied Arts; Diploma, Master School of Sculpture, Vienna Academy of Fine Arts. Associate Professor of Art.

⁵ ERNEST WARNOCK TEDLOCK, JR., B.A., M.A., University of Missouri; PH.D., University of Southern California. Associate Professor of English.

MARK JACK TEMMER, B.A., Colby College; M.A., PH.D., Yale University. Assistant Professor of Modern Languages.

ROY THOMAS, B.S.C., University of Alberta; PH.D., University of California. Professor of Physics.

LOYD SPENCER TIREMAN, B.A., Upper Iowa University; M.A., PH.D., State University of Iowa. Professor of Education, Chairman of the Department of Elementary Education, Acting Dean⁷ of the College of Education.

ROBERT ALDEN TITCHENAL, B.A., San Jose State College; M.A., University of New Mexico. Professor of Physical Education.

ROBERT FELLOWS UTTER, B.A., PH.D., University of California at Los Angeles. Assistant Professor of Psychology.

WILLIAM CHAUNCEY WAGNER, B.S. IN C.E., C.E., South Dakota School of Mines; M.S. IN C.E., Iowa State College. Professor of Civil Engineering, Chairman of the Department of Civil Engineering.

PAUL A. F. WALTER, JR., B.A., PH.D., Stanford University; M.A., University of New Mexico. Professor of Sociology, Chairman of the Department of Sociology.

CHARLOTTE ANDERSON WARREN, Diploma, Augustana Conservatory; American Conservatory. Instructor in Music (Part-time).

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⁴ On sabbatical leave first semester

⁶ On sabbatical leave second semester

⁷ Second semester only

¹⁰ December 7, 1953, to June 30, 1954

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* First semester only

* Second semester only

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* JOAN ELIZABETH BOLSTERLI, B.A., Grinnell College. Department of Biology.

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ROBERT DEL MAR, B.A., University of New Mexico. Department of Geology.

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*¹² ROBERT DEAN FELTHAM. Department of Chemistry.

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KENNETH RANDOLPH GREIDER, B.S.E., University of Michigan. Department of Physics.

* FREEMAN FRANKLIN HALL, JR., B.A., Occidental College. Department of Physics.

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CLINTON F. HURLEY, JR., B.S., Abilene Christian College. Department of English.

HERBERT JOHN IZZO, B.A., M.A., University of Michigan. Department of Modern Languages.

* First semester only

* Second semester only

¹² Has met all requirements for bachelor's degree

- JOHN MULFORD JOSEPH, B.S., Allegheny College; M.A., Bowling Green State University. Department of Biology.
- MARY THURMOND KEITH, B.S., University of New Mexico. Department of Elementary Education.
- GEORGE PHILLIP KISTLER, B.S., Bradley University. Department of Physics.
- ⁷ GEORGE ERNST KOENIG, B.S., Carnegie Institute of Technology. Department of Chemistry.
- RICHARD GOODWIN KURMAN, B.A. IN ED., University of New Mexico. Department of Art Education.
- RONALD JOSEPH KURTZ, B.A., Carleton College. Department of Anthropology.
- EDWARD JOSEPH LAHART, B.A., University of New Mexico. Department of Government.
- ROBERT GENE LALICKER, B.A., University of New Mexico. Department of Secondary Education.
- WALDOW DOYLE LAMB, B.A., Brigham Young University. Department of Modern Languages.
- LEON VERDIN LANGAN, JR., B.A., University of New Mexico. Department of Geology.
- WALDEMAR CONRAD JOHN LEIDING, B.A., State University of Iowa. Department of Psychology.
- ARNOLD JEROME LEONARD, B.S., Columbia University. Department of Art.
- DOROTHY JEAN LINDSEY, B.A., Rockford College. Department of Anthropology.
- BILL PERTH LOVEJOY, B.S., Muskingum College. Department of Geology.
- ⁷ ALAN BERNARD MADANS, B.A., New York University. Department of Psychology.
- JOHN DEWITT MCKEE, B.A., Kansas Wesleyan University; M.A., University of New Mexico. Department of English.
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- ^{7, 12} JEROME PAT RHODES. College of Business Administration.
- ⁶ CLIFFORD GLEN SHULTZ, B.A., McPherson College. Department of Chemistry.
- JOSEPH ARTHUR SOULTS, B.A., University of New Mexico. Department of School Administration.
- ⁶ FREDERICK JOSEPH STAMPFER, JR., B.A., Dartmouth College. Department of Chemistry.
- MARVIN JOHN STEPUTIS, B.S., Colorado Agricultural and Mechanical College. Department of Psychology.
- SAMUEL THOMPSON III, B.S., Southern Methodist University. Department of Geology.
- DONALD L. TORGERSON, B.S., Wisconsin State College at River Falls. Department of Biology.
- ⁷ BETTE ANN WHITE, B.A., Indiana University. Department of English.

⁶ First semester only

⁷ Second semester only

¹² Has met all requirements for bachelor's degree

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.

ACCREDITING

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. In 1937 the College of Engineering was approved 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 Teachers.

SITUATION

The University is situated in Albuquerque, a metropolitan area of 150,000 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.

The city is on the main line of 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 sixty miles to the north, and the picturesque Indian pueblos of Taos, Jemez, Isleta, 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 sixty-five 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 51 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 University has 40 instructional departments; work leading to the master's degree is offered in 28 departments, and toward the doctor's degree in eight.

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 maintenance of the Chaco Canyon site for anthropological research, the presence on the faculty of outstanding Latin-American artists and scholars, the awarding of honorary degrees to a group of distinguished Mexican educators, 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 contacting William E. Hall, 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 48 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-colored 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 excellent 27-hole golf course, swimming pool, tennis courts, campus theatre, faculty residences, and sorority and fraternity houses.

The permanent campus buildings include: Administration Building, Architectural Engineering Building (Parsons Hall), Art Department Crafts Annex, Bandelier Hall (Women's Dormitory), Biology Building, Bureau of Business Research Building, Carlisle Gymnasium, Chemical Engineering Building, Chemistry Building (Clark Hall), Civil Engineering Building, Counseling and Testing Building, ~~Dining Hall~~, Electrical Engineering Building (under construction), Faculty Apartments, Fine Arts Building, Geology Building, Golf Clubhouse, Heating Plant, Hodgkin Hall, Hokona-Marron Hall (Women's Dormitory—two units), Home Management House, Industrial Arts Foundry, Industrial Arts Shop, Infirmary, Inter-American Affairs Building, Jonson Art Gallery, Journalism Building, Law Building, Library, Mechanical Engineering Building, Mesa Vista Dormitory (Men), Meteoritics Building, Mitchell Hall (Classrooms), Music Hall, Old Buildings and Grounds Building, Pharmacy Building, Physics Building, President's Home, Rifle Range, Sara Raynolds Hall (Home Economics), Science Lecture Hall, Stadium

Building, State Public Health Laboratory, Student Union Building, University Theatre (Rodey Hall), Warehouse, Yatoka Hall (Business Administration).

Women's Dining Hall

THE LIBRARY

BUILDING. The University Library offers excellent facilities for students. It is housed in a pueblo-style building, completed in 1938, which has an ultimate book capacity of 250,000 volumes, and can provide reading and study facilities for 700 persons in five large reading rooms, smaller special rooms, and individual study units. Also included in the building are seminar rooms, faculty offices, special collection rooms, and a vault for rare materials.

RESOURCES. Library collections include 231,697 cataloged and accessioned volumes, several thousand other cataloged serials and pamphlets, 3,000 filing boxes of manuscripts, documents and other archival material, 2,059 reels of microfilm, 43,000 maps, several thousand pamphlets and pictures, and 472 sound recordings. These resources provide adequate study and research facilities for undergraduate work and for the special fields in which graduate work is offered.

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 32,986 volumes and is being augmented by approximately 275 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.

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 the 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 fifty 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 his 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 sixteenth to nineteenth 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 6:00 p.m. and 7:00 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.

MUSEUMS, COLLECTIONS, AND EXHIBITIONS

ANTHROPOLOGY MUSEUM

Pending the erection of a 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 pertaining to Early Man resulting from recent University excavations.

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; in the Administration Building a large fresco by Jesus Guerrero Galván, at one time Latin-American artist in residence; 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, 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 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 is open to the public on Wednesday, Friday, and Saturday afternoons. Here nine exhibitions are presented during the year in a gallery ideal for contemporary painting, shown either as group or one man exhibits.

MUSIC RECORD COLLECTION

The Department of Music houses a fine collection of phonograph recordings: over 300 albums in addition to 1,658 twelve-inch discs in the Carnegie and Columbia collections, and 285 long-playing records. Listening to records at specially designated times by faculty and students is encouraged. Handling of records is necessarily limited to music faculty and authorized attendants. At no time are records permitted to leave the building.

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.

RESEARCH ACTIVITIES

THE BUREAU OF BUSINESS RESEARCH

Ralph L. Edgel, Associate Professor of Business Administration, Director; Michael Brand, Assistant Professor of Business Administration, Statistician; Vicente T. Ximenes, Research Associate; Paul M. Sears, Editor of Publications; Shirley Driggs, Research Assistant.

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 which subsequently are issued separately as reprints.

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 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 AND DEVELOPMENT

Members of the Board of the Division of Research and Development:

Ralph L. Edgel, Director of the Bureau of Business Research, Chairman; Raymond N. Castle, Associate Professor of Pharmaceutical Chemistry; Lincoln LaPaz, Professor of Mathematics and Astronomy; John Perovich, Acting Comptroller; Robert F. Utter, Assistant Professor of Psychology; W. C. Wagner, Professor of Civil Engineering.

Technical Director of the Division of Research and Development:

Ralph L. Edgel, Director of the Bureau of Business Research.

The Division of Research and Development was chartered by the Regents of the University in April of 1946. The purpose of the Division, as set forth in its charter, is "to promote scientific, social, humanistic, and industrial research, to make available the results of such research and to acquaint the public with the facilities of the University, in the interest of a fuller development of the human and natural resources of the State."

Control of the Division is vested in a Board composed by five faculty members appointed annually by the President, to serve from October 1 to the following September 30. Activities of the Division are supervised by the Technical Director. The Division is the University's agent in the negotiation of contracts for research or development with non-University agencies or individuals. It seeks

also to provide financial support for worthy projects arising within the University and to coördinate research activities involving more than one department when such coördination is necessary.

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 forty 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, the providing of speakers to state and local organizations, advisory and consultant work, and the sponsoring of conferences on governmental problems.

ENGINEERING EXPERIMENT 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 INSTITUTE OF METEORITICS
OF THE UNIVERSITY OF NEW MEXICO

Resident Staff:

Lincoln LaPaz, Professor of Mathematics and Astronomy, Director;
Morris S. Hendrickson, Associate Professor of Mathematics and
Astronomy, Mathematician; Paul W. Healy, Assistant Professor
of Mathematics and Astronomy, Photographer.

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, Research and Development Board, Penta-
gon Building, Washington, D. C.

Dr. C. C. Wylie, Professor of Astronomy, State University of Iowa,
Iowa City.

Dr. Charles E. Fenner, Director of Education, University of Ade-
laide, Adelaide, Australia.

Dr. Henry Dunlap, Research Division, Atlantic Refining Company,
Dallas, Texas.

Professor Mohd. A. R. Khan, President, Hyderabad Academy of
Science, Begumpet, India.

Dr. Fred L. Whipple, Professor of Astronomy, Harvard University,
Cambridge, Massachusetts.

Dr. Carl Wellington Beck, Associate Professor of Geology, University
of New Mexico.

John Davis Buddhue, Jet Propulsion Laboratory, California Insti-
tute of Technology, Pasadena, California.

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 effects 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 sys-

tematic 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 meteorological 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 new 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 seventy-foot long hypervelocity laboratory and several smaller research laboratories; and a large machine shop with concrete floor on which are mounted Tinius Olsen and Rockwell hardness testing machines, Knapp and Stewart high temperature furnaces, meteorite sectioning and polishing machinery including an 800-pound Excello lapping machine, a Sheffield Precisionaire instrument, and motor-generators with auxiliary equipment used in testing meteorite detectors and in other experimental work.

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

astro-compasses, stadimeters and sextants, radar and radio units, and a considerable amount of auxiliary electronic and optical equipment.

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

In addition to conducting research in meteoritics and 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, has recently received the first Fulbright Fellowship to be awarded for research in meteoritics, and is currently engaged in investigations of australites at the University of Adelaide, in South Australia.

As regards publications, the Institute sponsors a series of meteoritical monographs, the *University of New Mexico Publications in Meteoritics*; coöperates in publishing a mimeographed circular carrying meteoritical news of current interest which is mailed out monthly to a large and ever-growing circle of voluntary observers; and, in conjunction with the Meteoritical Society, publishes the new journal, *Meteoritics*.

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. The number of commissions granted at graduation is determined by the needs of the Air Force at the time. Cadets not commissioned are given "Certificates of Completion" which entitle them to Reserve commissions upon fulfillment of their Selective Service obligations. 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 the 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 six weeks' duration between their junior and senior years. Cadets receive \$75 per month and room and board while 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 and Tactics.)

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 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. A limited number of 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.

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. 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 27-hole golf course, a swimming pool, rifle range, tennis courts, and numerous playing fields.

ADMISSION

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, or did not complete, 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. *In order to be assured of admission, the student must have his credentials on file in the Admissions Office at least one month in advance of the beginning date for the session in which he plans to enroll. No student is assured of entrance until he has received an official notice of admission from the Director of Admissions.*

FRESHMEN

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.

Each freshman is also required to take a series of aptitude and placement tests which are administered just prior to registration (see the Calendar). These tests are used for advisement purposes and sometimes reveal information which is used in recommending the college which the freshman should enter, the courses which he should undertake, and the amount of work which it appears advisable for him to attempt. If the tests reveal a marked weakness in preparation, the University authorities may recommend that the student take up a special program of work in the General College before he may enter upon a degree course in one of the four-year colleges, or he may be required to take specified courses designed to correct such weaknesses.

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

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 four-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 five 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.

In determining admission status, it is the primary concern of the University that the applicant have adequate preparation for successful college work. As evidence of adequate preparation, it is required that the 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).

Students expecting to enter the College of Engineering must offer 3 units of Mathematics including second year Algebra and Plane Geometry. Solid Geometry and Trigonometry are recommended. Students expecting to enter the College of Pharmacy or expecting to major in Mathematics, Physics, Chemistry, Geology, Premedic or Predental courses, must present $2\frac{1}{2}$ units of Mathematics which must include $1\frac{1}{2}$ units of Algebra and 1 unit of Plane Geometry.

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. The application of a student whose record does not meet this requirement may be subject to review by the Committee on Entrance and Credits.

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.

ADMISSION WITH ENTRANCE DEFICIENCIES

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 twelve months from the date of his first enrollment.

REMOVAL OF ENTRANCE DEFICIENCIES

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

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 three 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.

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 basic seven units. 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 Educational 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.)

TRANSFERRING STUDENTS

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 or readmission to one of the undergraduate colleges or to the College of Law of this Univer-

sity 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.

(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*.)

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 24 semester hours in an accredited institution at the college level, a complete official transcript of the high school work will also be required.

An evaluation fee of \$5.00 is payable when the application is submitted. The fee is not charged to veterans; in the case of civilians, the fee is not refundable.

It is not possible to give any information in regard to standing until the required credentials are on file. After the application, transcripts, and evaluation fee have been received, a notice of acceptance or rejection will be sent to the student. An evaluation of the transferred credit will be made as soon thereafter as possible. 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 examination prior to registration (see the Calendar). The Sophomore English Proficiency examination is a prerequisite to upper division standing in most of the colleges of the University and students transferring with upper division standing will be required to take this test if it has not been successfully completed prior to admission.

A transferring student is required to meet the freshman entrance requirements (see p. 45) except that if he has completed 2 semesters (24 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.

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 a 1.5 index in order 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. In most cases credit from unaccredited institutions must be validated by a minimum of 30 semester hours satisfactorily completed in residence at this University. 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 must be established by examination at this institution.

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

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, by a student enrolled for residence credit in this University except upon specific written approval of the dean 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.

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, or by a withdrawal from the preceding regular semester, 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. No evaluation fee is required of students who have formerly attended the University in degree status.

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

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 short application 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. 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 thirty 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 thirty-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."

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 served on active duty for a minimum of 90 days after June 25, 1950. 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. Total semester hours of military credit to be allowed will be determined by the dean of the college concerned. A maximum of 8 semester hours elective credit is allowed for basic or recruit training apportioned as follows: First Aid, two semester hours; Hygiene, two semester hours; Physical Education Activity, four 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 accredited university extension divisions. 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. Military credits (other than those earned in accredited colleges or universities under military auspices) will not be entered on the student's record here until he has made formal application for such credit and has completed in residence one semester of a minimum of 12 hours' work.

REGISTRATION**TIME OF REGISTRATION**

Students are urged to register on the days set aside for registration (see University Calendar). The late registration fee is charged to each student who does not complete his registration on the specified days. Registration contemplates completing 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 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.

Note: Student Residency Status slip *must* accompany payment.

MEDICAL EXAMINATIONS

A physical examination, including a Wasserman test and a tuberculin skin 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 registration 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.

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.

ADVANCE DEPOSIT

An advance deposit (made only once a year) is required of all students who desire University housing. This deposit is held so long as the student retains such housing and it will be reduced for (1) damage done by the student to his quarters or furnishings and for (2) a pro rata share of damage done by fellow-residents when it is impossible to fix individual responsibility therefor. No charge is made for ordinary wear and tear.

REGULAR SESSION FEES

REGISTRATION FEES (Undergraduate and graduate):

Resident students carrying 8 or more hours:

	<i>Per Semester</i>
Tuition*	\$ 91.00
Activities fee ¹	9.00

Total <i>resident</i> registration fees	\$100.00
<i>Non-resident students</i> , add tuition differential	100.00

Total <i>non-resident</i> registration fees	\$200.00
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All students carrying 7 hours or less:

Tuition, per semester hour	\$ 12.00
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Graduate students will signify formal registration for *doctoral dissertation* only once. At this registration, they will be required to pay, in addition to tuition and other fees, the special fee for the doctoral dissertation (\$65.00—see special fees). Graduate students enrolling in any one semester for dissertation only will pay the proper special fee (unless previously paid) and \$5.00 tuition.

Graduate students who enroll for thesis only will pay regular tuition rates of \$12.00 per credit hour.

* Tuition, in the case of all new students, includes a \$5.00 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).

OTHER FEES FOR SPECIAL SERVICES

Change in program after end of second week	\$ 1.00
Late registration fee	5.00
Removal of Incomplete grade	2.00
Examination for validation of credit, per course	2.00
Other special examinations	2.00
Examination for advanced standing, per credit hour	2.50
Transcript of credits (extra copies 25c each)	1.00
Deferred payment fee	2.00
Penalty for dishonored checks	1.00
Graduate record examination fee (Graduates only)	4.00
Evaluation of transcript (for advanced standing)	5.00
Handling fee, Air Force ROTC, per semester	10.00
Speech clinic initial examination fee	5.00
Speech clinic lesson fee	2.00
Diploma fee, bachelor's or master's	10.00
Master's thesis binding fee	6.00
Doctor's dissertation fee	65.00
Riding, per semester	20.00
Organ rental, per semester	12.00
Use of practice rooms (other than pipe organ):	
1 hour per day, per semester	4.00
Each additional hour per day, per semester	2.00

RESIDENCY FOR TUITION PURPOSES. Residency is considered synonymous in meaning with domicile. Bona fide domicile in New Mexico requires (1) physical presence in the State and (2) a concurrent intention to make a home in the State.

The following rules govern:

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

Married Students maintaining a bona fide marital domicile in New Mexico for the one year next preceding the student's registration or re-registration will be regarded as entitled to resident student status. The residency of a wife is that of her husband.

Changes in Residency 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 residency requirements have been met.

Persons who have special problems concerning residency should arrange for a conference with the Director of Admissions.

HEALTH SERVICE. The University maintains a full-time physician with offices in the Infirmary. All students enrolled for eight or more semester hours are eligible to consult him in case of illness or injury. The Infirmary is well equipped, and services which can be performed there are covered by the tuition. Major and minor surgery and critical illness will be referred to local physicians at the student's expense.

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.

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

Registration fees will be refunded to the end of the fifth week of any semester as follows, where the student withdraws voluntarily:

100%	refund during the 1st week
80%	refund during the 2nd week
60%	refund during the 3rd 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	\$100.00
Books and supplies	50.00
Board and room	300.00
Clothing, laundry, misc.	100.00
Total, per semester	\$550.00

Non-resident students must add \$100.00 per semester to the foregoing tuition.

Students in residential halls are charged a recreational and social fee of \$1.50 per semester.

All charges are subject to change without notice.

DINING AND RESIDENTIAL HALLS

For regulations governing residence in University halls, see p. 64.

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 \$10.00 check or money order as an advance deposit, if he desires University housing. This remittance should be made to the Cashier, Business Office, 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 Office of the Dean of Women will advise the woman student of the residential hall to which 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 the Mesa Vista dormitory. The receipt for his advance deposit should be presented at this time. The woman should report directly to the residential hall to which she has been assigned and should be prepared to present her advance payment receipt to the Head Resident and to the Manager of Women's Housing. 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 Office of the Dean of Women or to the Housing Director for Men, living space may be assigned to another student. Specific information regarding exact dates and amount of advance deposits 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 an advance reservation, he should notify the Director of Admissions not later than two weeks before the first day of registration. One-half of the advance deposit is automatically forfeited if notice of cancellation is received later than two weeks previous to the first day of registration in the period for which the deposit has been made. If no notice of cancellation is received prior to the first day of registration and the student fails to matriculate, the whole deposit will be forfeited.

MEALS FOR STUDENTS LIVING IN RESIDENTIAL HALLS

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 residential assignment for each student. Room and board charges are payable in advance in three installments as described later.

RATES—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 \$1.50 social fee.)

WOMEN'S RESIDENTIAL HALLS. Charges for room and board per semester (payable in 3 installments):

Hokona Hall (North and South Halls)

Single rooms	\$328.50
Double rooms, per person	316.50
3 or 4 to a 3-room suite, per person	310.50

Marron Hall

Single rooms	\$328.50
Double rooms, per person	316.50

Bandelier Hall

Double rooms, per person	316.50
3 or 4 to a room, per person	307.50

MEN'S RESIDENCE HALL. Rates per semester for room and board in Mesa Vista Hall will be:

Double rooms, per person	\$322.50
3 or 4 to a room, per person	316.50

All of the foregoing rates for University Housing (men or women) will provide for University-supplied bed linens and towels. All other personal linen must be provided by each student.

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.

UNIVERSITY APARTMENTS. A small number of family dwelling units are maintained for married students. Rates for these units per month are (completely furnished except for linens):

1 bedroom, furnished	\$65.00
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RATES—DINING HALL

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

Per semester, per person	\$204.00
Single meals (cash):	
Breakfast60
Luncheon80
Dinner	1.10
Dinner (noon Sundays and holidays)	1.35

GUESTS

With the consent of the Director or Chaperon, students may have overnight guests at the residence halls (for a maximum of seven nights). The guest will be charged \$1.00 a night. When a guest is to have meals in the dormitory or dining hall, there must be advance notification and payment for the meals.

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 \$2.00 deferred payment fee will be charged.)

The first installment of at least 1/3 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 sixth and eleventh 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 four months per semester for board. (Rates for board do not provide for meals during the Thanksgiving, Christmas, and Spring Vacation periods. Students who remain on the campus at these times must pay cash for their meals.)

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

The \$10.00 advance deposit paid by all students who engage University housing will be refunded after the close of each school year (or when the student is obliged to withdraw from the University) after deduction for any damage caused by the student to his quarters, if the student does not expect to resume residence in University housing the following semester.

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

STUDENT PERSONNEL SERVICES

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

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. Deans and 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 enrolled in English 1W.

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 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.

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 cooperate with the English Department by providing remedial reading assistance to the students enrolled in the workshop course. This cooperation 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, free lectures on study skills are offered at night to all students who wish to attend.

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 sophomore proficiency tests, some departmental examinations, the Graduate Record Examination for graduate students and seniors, the state-wide testing of high school seniors 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.

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.

GENERAL PLACEMENT BUREAU

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

The Bureau acts as a general clearing house for registrants seeking employment and for employers 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, room 116, Counseling and Testing Building.

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

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

No fee is charged for services rendered students seeking part-time employment. For graduate placement a charge of \$1.00 is made to cover the cost of photographs when data sheets are made for the applicant. The actual registration with the bureau is without cost to the student. Graduates are invited to use the services of the bureau in the years following their graduation.

HEALTH SERVICE

The University Health Service, with a staff of three physicians and eight graduate nurses, operates a Dispensary and Infirmary. Each new student on admission receives a routine physical examination, including a blood test and a skin test for tuberculosis. 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. Reexaminations of students are made when the staff feels that such reexaminations are indicated. Former students returning after an absence of one year or more are also required to report for reexamination. 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 twenty-four 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 consultant 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.

RESIDENTIAL HALLS—REGULATIONS

Living quarters in residential halls are available to undergraduate men and women students (see pp. 57-59). 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 twenty-one years of age, 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, and notify that office of any change immediately.

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 occupants of residential halls must vacate their rooms by 5:00 p.m. on the last day of the semester unless they expect to return for the following semester.

The University reserves the privilege of closing its residential halls during the holidays. 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. Ex-

ceptions 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.

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, Chi Epsilon, Delta Sigma Pi, Kappa Alpha Mu, Kappa Mu Epsilon, Kappa Omicron Phi, Kappa Psi, Khatali, 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, Phi Kappa Tau, Pi Kappa Alpha, Sigma Chi, Sigma Phi Epsilon, Sigma Alpha 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: Independent Men, Townsmen, 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*.

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 the Student Union Building. 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

It is the policy of the University to conduct an intercollegiate athletic program on an amateur basis. This 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 with the same privileges and responsibilities accorded all students. The faculty of the University, within its powers, assumes responsibility for keeping the environment conducive to these objectives.

All intercollegiate policies are the responsibility of the Faculty Athletic Council. The University also sponsors an intramural pro-

gram designed to supplement the prescribed courses in physical education.

Intercollegiate athletics are governed by regulations of the Mountain States Athletic Conference, of which the University is a member, to the extent that such regulations are in harmony with the objectives of the general athletic policy of the University and the North Central Association of Colleges and Secondary Schools.

Varsity sports include football, basketball, track and field, baseball, tennis, golf, and swimming. The intramural program includes swimming, tennis, handball, golf, cross-country, track and field, volleyball, touch football, bowling, baseball, lacross, softball and basketball.

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 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.

ALUMNI ASSOCIATION

The Association is maintained through the coöperative efforts of the University and the alumni and is governed primarily by an executive committee elected annually by 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. The magazine is distributed to 5,000 alumni monthly.

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, 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, membership and military files are maintained.

The Association's offices are located in the Journalism Building, rooms 213 and 215.

STUDENT AID

EMPLOYMENT

The assignment of all students to part-time campus employment is made by the General Placement Bureau, Room 116, Counseling and Testing Building.

The following principles are used in the assignment of part-time jobs:

- (1) actual need of the student
- (2) scholarship

Continued employment is based on satisfactory service and scholarship. All applications for part-time campus employment must be renewed each semester.

In addition to campus employment, the General Placement Bureau also maintains a list of prospective employers in the city of Albuquerque who desire students to work part-time.

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 \$100.00. 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 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.

Four 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 and the Phikeia Loan Fund. These four 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; and The Pharmacy Scholarship Loan Fund.

VOCATIONAL REHABILITATION

(For the Physically Handicapped Civilian)

Through the New Mexico Vocational Rehabilitation Service which operates under the supervision of the State Board for Vocational Education, the State and Federal Government offers financial assistance for payment of tuition to those civilian 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 since 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 200 10th Street N.W. in Albuquerque, New Mexico, or Room 36, Sena Plaza, P.O. Box 881, in Santa Fe, 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.

AWARDS

Announcement 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 Committee on Awards.

SCHOLARSHIPS

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

Those students who rank sufficiently high on these tests, who have maintained a superior academic average during their high school courses, and who are able to demonstrate financial need will be eligible to request tuition scholarships. These scholarships are equal to the amount normally charged for tuition to resident students of New Mexico.

The number of full-tuition 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.

In addition to the full-tuition scholarships, the Regents of the University have made available a number of partial-tuition scholarships for both residents of New Mexico and non-residents who show promise of high academic achievement, who possess good character, and whose need for financial aid can be demonstrated. Tuition 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 providing the student maintains a satisfactory academic average.

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.

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.

Information as to all scholarships and awards available may be received either at the Personnel Office, room 103, Administration Building, or from the chairman of the faculty Prizes and Awards Committee.

The University provides a limited number of scholarships in applied music. Applications for these scholarships should be made to the Chairman of the Music Department.

For information on scholarships in Inter-American Affairs and in 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 paid in two installments: one at the beginning of the first semester, and the other at the beginning of the second semester.

THE ALBUQUERQUE CLASSROOM TEACHERS ASSOCIATION SCHOLARSHIP. A scholarship of \$50 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 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 college training for women. It is given to a student who has earned at least 90 semester hours in this institution and who will enroll for a regular course the following year as a senior or as a graduate student. Selection is made on the basis of scholarship, of financial need, and of general ability as indicated by recommendations from professors.

ANONYMOUS LAW SCHOLARSHIPS. Three scholarships of \$50 each are awarded annually to students selected by the Dean of the College of Law.

THE LAURA BARCLAY MEMORIAL SCHOLARSHIP. A special scholarship of \$125, a memorial to Miss Laura Barclay, was awarded for 1952-53 only, on the same basis as that of The American Association of University Women Scholarship. ✓

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 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 BURKHART-PARSONS MEMORIAL SCHOLARSHIPS. The income from a trust fund established by the late Mrs. Miriam P. Burkhardt provides approximately \$800 for scholarships to be awarded annually to men and women freshmen students who are graduates of Albuquerque High School or Highland High School.

THE EDWARD C. CABOT AWARD IN COMMUNITY JOURNALISM. An annual scholarship of \$100 is awarded to an able junior or senior student in journalism chosen by the faculty of the Journalism Department.

THE CHI OMEGA ALUMNAE SCHOLARSHIP. A scholarship of \$100 is 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 EL CREPUSCULO JOURNALISM SCHOLARSHIP. An annual scholarship of \$100 awarded to a capable junior or senior student majoring in journalism.

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.

THE JAMES M. DOOLITTLE MEMORIAL SCHOLARSHIP. The interest from a trust fund of \$1000 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 FACULTY WOMEN'S CLUB SCHOLARSHIP. One hundred dollars is awarded to a senior or junior woman on the basis of need and scholarship. This award is given the second semester of each academic year.

THE FACULTY WOMEN'S CLUB SPECIAL SCHOLARSHIP. For 1952-53 the Faculty Women's Club provided \$100 for a special scholarship awarded in addition to and on the same terms as its regular annual scholarship.

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 CLARISSA FULLER GRADUATE FELLOWSHIP IN HISTORY OR ANTHROPOLOGY. An annual fellowship of \$400 is awarded to a beginning graduate student in either history or anthropology. The appointment is made by the Graduate Office through a committee appointed by the Graduate Dean.

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.

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 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.

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.

FREDERICK HERBERT KENT AND CHRISTINA KENT SCHOLARSHIPS. Three scholarships are awarded annually to the high school students, residents of the state, who are deemed most worthy.

KHATALI SCHOLARSHIP. Khatali, Senior Men's Honor Society, provides a scholarship of \$150-\$200 to a male student above freshman rank on the basis of need, campus leadership, and scholastic achievement.

ROBERT W. KORBER MEMORIAL SCHOLARSHIP. The Robert W. Korber Memorial Scholarship, an award of \$270 (\$30 per month for nine months) to be given to a worthy freshman who is a graduate of a New Mexico high school and who plans to specialize in physical education at the University. 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 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 NEW MEXICO GEOLOGICAL SOCIETY SCHOLARSHIPS. Three scholarships of \$333 each have been established by the New Mexico Geological Society for University of New Mexico graduate students or seniors majoring in geology. The awards are made upon recommendation of the faculty of the Department of Geology. ✓

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.

NEWMAN CLUB SCHOLARSHIP. An annual scholarship of \$50 established in memory of Mrs. Eva Boegen is awarded to a regularly enrolled student who renders outstanding service to the Newman Club of the University of New Mexico during the academic year.

THE S. W. PAPERT JOURNALISM SCHOLARSHIP. An annual scholarship of \$150 established by Mrs. Thelma Papert and family of Texas is awarded to a journalism major of ability and need, who has completed the sophomore year.

THE CRITCHELL PARSONS SCHOLARSHIPS IN GEOLOGY. Two scholarships of \$400 each have been established by Mr. Critchell Parsons, one for an undergraduate majoring in geology and one for a graduate student in that department. The awards are made upon recommendation of the faculty of the Department of Geology. ✓

THE HARRY ROBERT PARSONS SCHOLARSHIP IN LAW. A scholarship of \$400 established by Mr. Critchell Parsons is awarded annually to a student in the College of Law upon recommendation of the Dean and faculty of that College. ✓

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. ✓

THE RATON RANGE JOURNALISM AWARD FOR WOMEN. An award of \$100 established by the gift of Mr. Frank Pfeiffer, publisher of the *Raton Daily Range*, is made to a woman journalism major of exceptional ability who has completed her sophomore year.

THE RHODES SCHOLARSHIPS. The trustees of the will of Cecil Rhodes provide for a maximum of thirty-two scholars each year, each scholar to receive an honorarium of \$2,000 per year and to study two or three years in Oxford University, England.

Early in the fall semester, a committee of the faculty of the University nominates candidates to the state committee for selection. This committee selects two men to represent the state of New Mexico before the district committee,

which, in turn, selects no more than four scholars to represent the six states which compose a district.

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.

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 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.

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 UNIVERSITY THEATER 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 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 ALPHA DELTA PI PRIZE. Twenty-five dollars is given by the Albuquerque Alumnae Club of Alpha Delta Pi to a sophomore woman, majoring in art, on the basis of need and ability.

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

THE CHI OMEGA PRIZE IN ECONOMICS. Fifteen dollars is awarded each year to the regularly enrolled woman student (Chi Omega members excepted) who has done the best work in economics during the academic year. Selection is made on the basis of scholarship.

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

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

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

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

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

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

THE H. E. HENRY AWARD IN PHARMACY. A pocket watch appropriately engraved is presented annually to a male student in the graduating class of the College of Pharmacy on the basis of scholarship, ability, and promise in the field of pharmacy.

THE KAPPA KAPPA GAMMA ALUMNAE MEMORIAL PRIZE FOR POETRY. An annual prize of \$25 to be awarded as a 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.

THE COLLEGE OF LAW BOOK PRIZES. The following prizes have been established in the College of Law on an annual basis:

- The Allen Smith Company Book Prize.
- The Bancroft-Whitney Publishing Company Award.
- The Bobbs-Merrill Company Book Prizes.
- The Bureau of National Affairs Prize.
- The Callaghan and Company Prize.
- The Commerce Clearing House Book Prize.
- The Dennis and Company Book Prize.
- The Lawyers Co-operative Publishing Company Prizes.
- The Matthew Bender and Company Book Prize.
- The Michie Casebook Corporation Award.
- The West Publishing Company Awards.

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 PHI KAPPA PHI PRIZES. Two cash prizes of \$10 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. Twenty dollars is given each year by the local chapter of Phi Kappa Phi to the graduating senior of any of the six colleges of the University who makes the highest scholastic record of his class.

THE DEPARTMENT OF PHILOSOPHY PRIZE ESSAY CONTEST. Two prizes of \$25 each are offered by the Department of Philosophy for essays on subjects announced by the Department in the spring.

THE PUBLIC SERVICE COMPETITION IN ARCHITECTURAL AND ELECTRICAL ENGINEERING. First prizes of \$60, second prizes of \$40, and third prizes of \$25 are awarded annually in each of these fields.

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 SIGMA ALPHA IOTA ALUMNAE PRIZES IN MUSIC. Two annual prizes 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 cooperation in the various activities of that department.

THE KATHERINE MATHER SIMMS MEMORIAL PRIZE. A cash 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.

SUMMER CREATIVE WRITING CONTEST. In 1948, a \$25 prize for creative writing was established in the Summer Session by an anonymous donor. The award is given for the best manuscript in either poetry or prose submitted by a regularly enrolled undergraduate.

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 Engineering student in Engineering Drawing upon recommendation of the faculty of the Department of Architectural Engineering.

THE WALL STREET JOURNAL AWARD. A prize consisting of a one year's subscription to the *Wall Street Journal* and a suitably engraved medallion is made annually to the graduating senior in the Finance Concentration who has the highest scholastic average.

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.

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 NEW MEXICO SECTION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS AWARD. A certificate of merit with entrance dues paid for junior membership in the American Society of Civil Engineers, 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 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.

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 fifty 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. One half-hour individual lesson a week in applied music, throughout a semester, earns two credit hours.

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 twelve weeks of the next semester of residence, (2) within the next four 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 a permit to remove the I, pays the \$2.00 fee, and takes the card to the instructor, who completes it and returns it to the office of the dean. The dean 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 complete, a regular grade is reported. When the thesis or dissertation is complete, CR or NC is reported.

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

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

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 of the College having jurisdiction over his program of studies. The fee for audited courses is the same as for credit courses. A course may not be changed from credit to audit basis, or from audit to credit basis, after the first two weeks of the semester.

REPETITION OF COURSE

A student who repeats a course will receive the last grade earned in the course. Permission to repeat a course in which the student has already made a *passing* grade must be obtained from the dean of the college in which the student is enrolled and from the chairman of the department in which the course is offered.

When a student has repeated a course in which he has previously obtained a passing grade, and if approval for repetition has been granted, credit for the earlier grade on his record will be placed in parentheses, and hours attempted and grade points earned by the earlier grade will not be counted in computation of the scholastic index. All hours of F, however, will be counted. If a course is repeated without the required approval, both the original and the repetition credit and grade-points will be included in the scholastic index.

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.

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.

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, when requested singly, are charged for at the rate of \$1.00 each. When more than one transcript for which charge is to be made are requested at the same time, a charge of \$1.00 will be made for the first copy and 25¢ for each additional copy. 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 \$1.00 will be charged for such service.

SCHOLASTIC STATUS. An undergraduate student has the status: "in good standing," "on probation," "General College," or "under suspension." The student "under suspension" may, with the approval of the college dean, re-enroll on probation at the expiration of the suspension period. Students under suspension from the General College may re-enter the University only through the General College. The status "General College" means that the student is not eligible for enrollment in a regular college without release from the General College by the dean.

HONORABLE DISMISSAL. The status "in good standing," "on probation," or "General College," entitles the student to honorable dismissal, and on transcripts no separate statement of honorable dis-

* Exclusive of hours in non-theoretical physical education and ensemble music.

missal 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.

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. Grades of W or F are shown on the student's record if he withdraws from the University after the first four weeks of the semester or first two 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.

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 dean a petition for change of program of studies. The student obtains signatures called for on this form and returns it to the office of his dean. The dean 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 four weeks of the semester or the second week of the summer session, he will receive a grade of W or F according to his standing in the course at the time of withdrawal.

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 \$1.00 is charged for any change made in the student's program of studies after the end of the second week of the semester or after the end of the first week of the summer session.

CHANGE IN COLLEGE. A student who desires to change his registration from one college to another shall petition the dean of his college. This petition requires approval of the deans of both colleges and is then filed in the Office of Admissions and Records.

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

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

SCHOLARSHIP 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. A student is placed on probation at the end of any semester or summer session when his scholarship index falls below 1.0 (in General College, 0.66).

SUSPENSION. A student 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 re-admission of a suspended student to the University after the expiration of the suspension period is contingent upon the approval of the dean of the college to which he is seeking admission or readmission. A student suspended from a four-year college may (upon petition approved by both college deans) enter the General College only in case his scholarship index is at least 0.66 and provided he has not received credit for more than 60 semester hours, exclusive of physical education.

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.

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 attendance regulations, p. 85.

ADDITIONAL COLLEGE REGULATIONS. College of Education: It is the opinion of the faculty of the College of Education that candidates for the teaching profession should maintain at least an average scholarship record. Therefore, beginning with the junior year, a student will be recommended for suspension from the College of Education at the end of any semester or summer session when his scholarship index falls below 1.0.

General College: A student with no more than 60 credit hours of academic work, suspended from one of the four-year colleges on the basis of scholarship, is permitted to enter the General College provided he has earned a scholarship index of at least 0.66.

A student in the General College is placed on probation at the end of any semester or summer session when his scholarship index falls below 0.66.

A student whose name has appeared on the General College 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. Students suspended from the General College may re-enter the University only through the General College.

College of Business Administration: See Catalog section "College of Business Administration."

College of Pharmacy: See Catalog section "College of Pharmacy."

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. 87.

NATIONAL TEACHERS EXAMINATION. See p. 87.

SPECIAL EXAMINATIONS. A special examination is one taken at a time other than regularly with the class. Classified as special examinations are: examinations given to make up missed regular course examinations, examinations to validate or to establish credit, 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; 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 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 two 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 of the college, the chairman of the department, and the instructor concerned.

4. The applicant shall obtain from the dean 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, including the instructor and the chairman of the department concerned.

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

DISHONESTY IN EXAMINATIONS. A student found guilty of dishonest practices in a quiz, test, examination, or other work will be subjected to disciplinary measures. Dismissal from the University will result in cases where the offense is flagrant.

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 of the college concerned. A student with excessive absences may be dropped from a course with the grade of F, by the dean of the college, upon recommendation of the instructor. The dean 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.

DEGREE REQUIREMENTS

The student may graduate under the catalog requirements for the year in which he registered in the University of New Mexico for the first time, provided he completes graduation requirements within a continuous six-year period. If a student interrupts his attendance, or transfers from one 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 five 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.

SPECIFIC COURSES REQUIRED. Four semester hours of required physical education shall be completed by all students in the University. Veterans, NROTC and AFROTC students, and students over thirty years of age 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 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 of Students") 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 18 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 departmental adviser may modify this ruling, not, however, below one-fourth of the total minimum hours required for the major.

GRADUATE RECORD EXAMINATION. All seniors (except those enrolled in the College of Education) are required to take the Graduate Record Examination during the last term of residence.

NATIONAL TEACHERS EXAMINATION. All seniors enrolled in the College of Education are required to take this examination during the last term of residence. The examination is given three times each year, once each semester and once during the summer session.

EXTENSION AND CORRESPONDENCE HOURS ALLOWED TOWARD DEGREE

- A. 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.
- B. 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.
- C. Credit for extension and correspondence courses completed in institutions not on the approved list of the National University Extension Association must be validated by examination here.
- D. Courses taken from other institutions must correspond to those offered at the University of New Mexico.
- E. Any graduating senior not in residence who expects to offer credits earned by correspondence toward fulfillment of degree requirements must have prior approval of the dean of his college.

For regulations governing the addition of correspondence or extension courses to the student's program while he is in residence, refer to p. 82.

- F. 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.

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.

GRADUATION WITH HONORS

THE DEGREE WITH DISTINCTION. Senior students having scholarship indexes which rank them in the upper 5 per cent 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 Prizes and Awards 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)."

DIVISION OF HONORS WORK

The purpose of the Division of Honors is to afford abler and more ambitious students opportunity to pursue with a certain degree of independence a program of studies which will extend and intensify their knowledge of the field of their major or minor studies, develop their initiative and self-guidance, and further their critical and creative ability. This program may lead to the baccalaureate degree with honors.

ELIGIBILITY. Juniors and seniors in all undergraduate colleges will be permitted to undertake and to continue Honors work, when, upon the basis of their previous records, entrance tests, and university records, they show, in the judgment of the Committee on Honors Work, promise of fine scholarly achievement. There must be other promise than that indicated by an average of B or better.

TYPES OF HONORS PROJECTS. (HA), Reading for Honors: projects which will extend Honors students' knowledge of their major, or minor or related fields, especially by filling up the interstices between their regular courses. Each semester's work should be terminated with an examination covering such work.

(HB), Research for Honors: projects of the nature of intensive study designed to develop critical and creative ability, or in other words, an undergraduate grade of research, extending through one semester or a whole academic year and terminating in a thesis.

PROCEDURE. Juniors should preferably undertake honors work projects of type HA, and seniors should preferably undertake honors projects of the type HB. Projects should be organized to earn, normally, 1 to 3 credit hours per semester.

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

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

(3) Students carrying Honors work are eligible for stack privileges at the Library.

For further information on regulations and requirements for Degrees with Honors, consult the Chairman of the Committee on Honors Work.

COLLEGE OF ARTS AND SCIENCES

THE COLLEGE of Arts and Sciences attempts to supply the cultural training which should underlie the more specialized work of the graduate, professional, or vocational school. The materials for this training are provided by the interests and achievements of man as they appear in his cultural records, his social institutions, and his investigation of natural laws.

DEGREES

Upon the recommendation of the faculty and the President of the University, the degree of Bachelor of Arts is conferred by the Regents upon those candidates who have completed all specified requirements. Candidates who complete the requirements with majors in dietetics, mathematics, or the sciences will receive the degree of Bachelor of Science, unless special request is made for the Bachelor of Arts degree.

RELATION TO PROFESSIONAL AND VOCATIONAL COURSES

The Bachelor of Arts and the Bachelor of Science degrees of the College of Arts and Sciences are based upon cultural, rather than professional or vocational courses. The 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.

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. In the first two years, or Lower Division, the student 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 one-point index for the total number of hours which the student has attempted.*

* Exclusive of hours of non-theoretical physical education and ensemble music.

3. The completion of group requirements as described below.
4. Successful conclusion of a proficiency examination in English. (Failure to 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 one 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 one-point 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 one-point average in all such hours carried.
2. Completion of at least one major and one minor, or two 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 two years among the four 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 sophomore English proficiency test at first trial will result in the student's being required to report to the English Workshop for English remedial help.

* Exclusive of hours of non-theoretical physical education and ensemble music.

II. FOREIGN LANGUAGE. A student who has been admitted with no credit in a foreign language, or who begins a language in which he has done no work in high school is required to complete four semesters or twelve credit hours in one foreign language.

Students presenting high school language credits and wishing to enter courses above the elementary level should consult the chairman of the department.

III. SOCIAL SCIENCES. Nine semester hours (not more than 6 from one department) must be completed in approved† 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 approved† courses in the Departments of Biology, Chemistry, Geology, Home Economics, Mathematics, Physics, Psychology, or Geography.

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 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 following restrictions:

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

- (1) All theory and method courses in physical education.
- (2) All courses in education in methods, supervision, and practice teaching, exclusive of high school methods (3 hours) and high school practice teaching.
- (3) In excess of 4 hours in ensemble music.
- (4) In excess of 3 hours of shop work.

† For approved courses, see Courses of Instruction.

* 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 four 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.

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 Education	1	Physical Education	1
Additional group requirements	4	Additional group requirements	4
*Naval Science or Air Science	2-3	*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 Inter-American Affairs along with engineering.

SENIOR YEAR IN MEDICINE OR LAW

A candidate for the bachelor's degree may offer, in lieu of the last thirty 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 three years for entrance,

† If the student fails to pass the placement test, English 1W is required.

* Naval Science or Air Science may be substituted for one subject as prescribed by the dean.

provided: (1) that the first three 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 attends 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 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, due to the large number of applications for admission to dental schools in recent years, it is difficult for a student to be admitted 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 INTER-AMERICAN AFFAIRS

See p. 100.

FOR STUDENTS WHO PLAN TO STUDY LAW

See "College of Law."

CURRICULUM IN MEDICAL TECHNOLOGY

Certification as Medical Technologist

For certification as a Medical Technologist the Registry of Medical Technologists of the American Society of Clinical Pathologists has set the following requirements:

- (1) Graduation from an accredited high school or equivalent.
- (2) Two years (sixty semester hours) of college work in any accredited college or university.

During these two years the following courses must be taken as a minimum:

12 semester hours of biology

8 semester hours of general chemistry and 4 semester hours of quantitative analysis

Sufficient electives to make a total of 60 semester hours.

The following courses are highly recommended but they are not required: physics, organic chemistry, biochemistry, advanced bacteriology.

(3) After the 60 hours of college credit have been acquired; the applicant must have specialized instruction in Medical Technology for at least 12 consecutive months in a School of Medical Technology approved by the Council on Medical Education and Hospitals of the American Medical Association.

At present the University of New Mexico does not operate a School of Medical Technology. However, the student may take the two years (sixty hours) of academic work at the University and then transfer to a School of Medical Technology to complete the requirements.

Degree in Medical Technology

Following are the requirements for the degree of Bachelor of Science in Medical Technology.

- (1) Three years (six semesters) of academic work in an accredited college or university followed by:
- (2) Specialized instruction in Medical Technology for at least 12 consecutive months in a School of Medical Technology approved by the Council on Medical Education and Hospitals of the American Medical Association.

At present the University of New Mexico does not operate a School of Medical Technology. However, the student may take the required three years of academic work at the University, then transfer to an approved School of Medical Technology for the required twelve months of specialized training in Medical Technology. Upon the completion of all these requirements the School of Medical Technology will grant the degree of Bachelor of Science in Medical Technology.

CURRICULUM PREPARATORY TO MEDICINE

The *minimum* 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 60 semester hours in a college of arts and sciences. However, due to 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 two years. For admission, most 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 one year of physics with laboratory. Normally, one year of general chemistry, a year of organic chemistry, and one semester of physical chemistry are required. Most medical schools require one 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 Education	1-1	Physical Education	1-1

CURRICULA PREPARATORY TO MILITARY SCIENCE

A.F.R.O.T.C CURRICULUM

English	3-3	English	3
Foreign Language	3-3	Foreign Language	3-3
Social Science	3-3	Air Science *	2-2
Air Science *	2-2	Social Science	3
Science Lab.	4-3	Science or Mathematics	3
Electives	2-2	Electives	2-11

* Laboratory periods at 11 o'clock Tuesday and Thursday must also be reserved on student's schedule.

N.R.O.T.C. CURRICULUM

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

CURRICULUM PREPARATORY TO OPTOMETRY

Because of the variable admission requirements of different schools of optometry, the student is advised to seek admission information from the Department of Biology.

CURRICULUM IN PRENURSING

Students in nursing may be certified in either of two ways:

- (1) By completing a three-year course of training in an approved hospital or School of Nursing. This program requires one year of academic work and terminates in a certificate of "Registered Nurse" (R.N.)
- (2) By completing a four-year curriculum in an approved School of Nursing. This program requires two years of academic work and terminates in the degree of Bachelor of Science in Nursing.

At present the University of New Mexico does not offer either of the above complete programs. However, the student who is pursuing the R.N. program may take the required year of academic work at the University, then transfer to a certificate-granting institution in order to complete requirements. The student who wishes to take the degree of Bachelor of Science in Nursing may take the required two years of academic work at the University, then transfer to an approved degree-granting School of Nursing to complete the last two years of the program. The certificate or the degree will be granted by the institution in which requirements are completed.

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.

* Laboratory periods at 11 o'clock Tuesday and Thursday must also be reserved on student's schedule.

† Contract students see NROTC adviser.

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 the natural sciences, biology has a special contribution to make to the field.

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

I. SOCIAL WORK:

Government 170	Social Welfare: Org. and Adm.	(3)
Sociology 151, 152	Introduction to Social Service	(3, 3)
Sociology 197	Field Observation and Participation	(3)

II. 24 HOURS ELECTED from the following courses in Sociology and one or more additional fields:

Government 51, 52	American Government	(3, 3)
Government 121	Public Administration	(3)
Economics 52	Introduction to Economics	(3)
Economics 103	Consumer Economics	(3)
Economics 140	Economic Security	(3)
Economics 141	Labor Problems	(3)
Psychology 51	General Psychology	(3)
Psychology 60	The Psychology of Adjustment	(3)
Psychology 101	Social Psychology	(3)
Psychology 103	Abnormal Psychology	(3)
Psychology 111	Child Psychology	(3)
Psychology 131	Psychological and Educational Tests	(3)
Sociology 51	The Family	(3)
Sociology 72	Social Pathology	(3)
Sociology 82	Urban and Rural Sociology	(3)
Sociology 110	Juvenile Delinquency	(2)
Sociology 154	Race and Culture Relations	(3)
Sociology 195	Population Problems	(3)

III. ELECTIVES: Electives may be chosen to round out a student's interest.

Courses in English, history, anthropology, biology, child development or food courses in home economics, statistics or accounting are recommended.

SCHOOL OF INTER-AMERICAN AFFAIRS

The University of New Mexico enjoys an exceptionally favorable position for the study of inter-American and regional economic and cultural problems. Nowhere else does one find the three chief ethnic elements of the Americas—Indian, Hispanic, and Anglo-Saxon—living together in large numbers with a common national allegiance, and maintaining their traditional cultures. About half the population of the state speak Spanish as a native language, and a good many of the problems presented by our Southwestern region are closely integrated with those of inter-American relations. Because of geographic proximity and common human and scientific

interests, New Mexico has maintained close bonds with our good neighbor, Mexico, who has provided us with a solid introduction to Latin America.

For these reasons, the University of New Mexico has, for a number of years, devoted particular attention to Latin-American and Southwestern studies. A special appropriation of the State Legislature made possible the expansion of this work and the establishment of the School of Inter-American Affairs in the fall of 1941.*

The School is a coordinating administrative unit operating under the College of Arts and Sciences and the Graduate School.

The offerings in the field of Inter-American Affairs have been coordinated and developed into the degree of B.A. in Inter-American Affairs, with emphasis on three aspects: Historical and Cultural; Business Administration; and Social, Economic, and Political. The choice of one of these directions should be made in the sophomore year, so that in consultation with the Director of the School the electives may be applied according to the plans of the student. (For Master of Arts in Inter-American Affairs, *see* p. 101.)

Though Portuguese is not made a required study in the various curricula in Inter-American Affairs, the School urges its students to elect it and to equip themselves with at least a reading knowledge of the language. The School also strongly recommends that students aiming at a preparation for a business career intensify their studies in Economics and Business Administration.

SCHOLARSHIPS

ALL UNIVERSITY LATIN-AMERICAN SCHOLARSHIPS. In the academic year 1954-55, the University of New Mexico is offering two scholarships covering tuition and room and board, and four 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 School of Inter-American Affairs. *All applications must be received not later than June first.*

SCHOLARSHIPS IN INTER-AMERICAN AFFAIRS. The School of Inter-American Affairs is offering in the academic year of 1954-55 six tuition scholarships in the general course leading to a B.A. in Inter-American Affairs. These scholarships are open to well-qualified graduates of high schools of the state of New Mexico who deserve

* A Brochure on *Inter-American Affairs* adequately explaining the nature and scope of this field of study, its importance, and the opportunities opened to its graduates, etc., will be sent free of charge upon request to the Director of the School.

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 School. *All applications must be received not later than June first.*

GENERAL CURRICULUM IN INTER-AMERICAN AFFAIRS

The curriculum leading to a B.A. with a major field of concentration in Inter-American Affairs has been designed to provide a general basic training in fundamental subjects and at the same time a wide choice of supplementary courses to meet individual needs and preferences.

The emphasis of this major field of concentration is on language study and on the social sciences with particular attention to the Hispanic countries. Proficiency in Spanish will be a basic requirement since students are expected to use the language as a tool in the various courses of Hispanic content given in other departments.

Attention is also called to the fact that this is not a departmental major, but a *major regional field of concentration*, integrating the studies of Hispanic content and allied subjects offered by the various departments.

Because of its comprehensive and integrated concentration in the field of Inter-American Affairs, this major permits no minors in the departmental sense, nor can a minor be taken in Inter-American Affairs. However, credits equivalent to minors and even majors can be earned through electives in instructional departments. For this purpose students may choose in their sophomore year fields of interest. Thus, besides the general preparation in Inter-American Affairs, they may obtain added proficiency in other lines of study.

INTER-AMERICAN CURRICULUM

I. LOWER DIVISION REQUIREMENTS

	Hours
English	9
Natural Science and Math	11
History 1, 2. <i>Western Civilization</i> or Social Science 1, 2. <i>Introduction</i>	6
Spanish	12
History 11, 12. <i>The Americas</i>	6
<i>Introduction to Latin America</i>	3
	—

TOTAL 47

LOWER DIVISION ELECTIVES

13 hours from a list of courses to be issued at registration.

II. UPPER DIVISION REQUIREMENTS

Hours

(A). LATIN AMERICAN CONTENT COURSES:

Geography 101. <i>South America</i>	3
Geography 102. <i>Middle America</i>	3
History 161, 162. <i>Latin America</i>	6
	<hr/>
	12

15 additional hours selected from the following courses:

Economics 121. <i>Economics and Trade of Latin America</i>	(3)
Government 141. <i>International Politics</i>	(3)
Government 155. <i>Governments of Latin America</i>	(3)
Sociology 111. <i>Social Problems of Latin America</i>	(3)
History 151. <i>American Diplomacy</i>	(3)
History 163. <i>The A.B.C. Powers in Recent Times</i>	(3)
History 165. <i>Spain</i>	(2)
History 166. <i>Spain</i>	(2)
History 167. <i>History and Civilization of Portugal</i>	(3)
History 168. <i>Mexico and the Caribbean</i>	(3)
Philosophy 123. <i>Hispanic Thought</i>	(2)
Portuguese 157. <i>Survey of Brazilian Literature</i>	(3)
Spanish 145. <i>Hispanic Civilization</i>	(2)
Spanish 146. <i>Ibero-American Civilization</i>	(2)
Anthropology 106. <i>American Indian: South America</i>	(3)

TOTAL 27

(B). SPANISH REQUIREMENTS:

The required courses in the junior and senior years are:

Spanish 92. <i>Introduction to Spanish Literature</i>	3
Spanish 101, 102. <i>Advanced Composition and Conversation</i> ..	6
Spanish 157, 158. <i>Survey of Spanish-American Literature</i> ...	6

TOTAL 15

UPPER DIVISION ELECTIVES

Other recommended Spanish and Latin-American courses to be selected from a list to be distributed at registration.

MASTER'S DEGREE IN INTER-AMERICAN AFFAIRS

Facilities for graduate work in the field of Inter-American Affairs leading to the degree of Master of Arts have been provided through inter-departmental committees within the Graduate School which will approve and supervise programs of study correlating the various subjects offered by the departments. The individual needs of students and preferences for certain lines of specialization will be taken into consideration.

Students will be admitted to graduate study in Inter-American Affairs with (a) the degree of Bachelor of Arts with a major in Inter-American Affairs from the University of New Mexico, or its equivalent from another institution; or (b) the degree of Bachelor of Arts with a minimum of 12 semester hours of advanced work in Latin-American studies. A reading and oral knowledge of Spanish must be certified before admission to full degree status.

For further information see the *Graduate School Bulletin*.

EXTRA-CURRICULAR ACTIVITIES OF THE SCHOOL

The School operates a research Bureau on Latin America and Cultural Relations in the Southwest in coöperation with the Department of Sociology; organizes a series of public lectures on Hispanic Affairs in which members of the faculty and outside speakers participate; sponsors conferences and exhibits; maintains close relationship with the Spanish-speaking groups in the state; coöperates in various projects with other University units and organizations outside the University; and directs a program of publications under the title *Inter-Americana Series*.

DEPARTMENTS OF INSTRUCTION

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

Anthropology	Journalism
Biology	Library Science
Chemistry	Mathematics and Astronomy
Economics	Modern and Classical Languages
English	Philosophy
Geography	Physics
Geology	Psychology
Government and Citizenship	Sociology
History	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, Business Administration, 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 per cent 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 on 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. 36.

ADMISSION

Freshmen seeking admission to the College of Business Administration must satisfy the general requirements for admission to the University. Similarly the general requirements of the University will govern admission to the College of Business Administration of students seeking admission with advanced standing.

Prospective graduate students in the College of Business Administration must satisfy the requirements of the Graduate School of the University.

DEGREES OFFERED

For the degree of Bachelor of Business Administration, the student is required to complete satisfactorily a four-year course including a chosen field of concentration and to maintain a 1.0 scholarship index. 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 P.E.). For such students Business Law (B.A. 106, 107) may be waived. This rule applies whether the work is taken in law at the University of New Mexico or elsewhere.

The same rule will apply to other professional colleges (Education, Fine Arts, Engineering, Pharmacy), except that Business Law (B.A. 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.

SCHOLARSHIP REGULATIONS

The student should become familiar with the general academic and scholarship rules which apply to all students enrolled in the University (see pp. 82-83). 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 (scholarship index of 1.0) except that for specific courses as indicated in the course descriptions a certain minimum grade may be required in a prerequisite course.
2. The maximum load for beginning freshmen shall be 17 hours (not counting P.E.). Other students may petition to carry more than 17 hours.
3. The following will count as laboratory science: Physics, Chemistry, Biology, Geology, Psychology, and Home Economics courses 53L, 54L.
4. The successful conclusion of the sophomore proficiency examination in English.
5. 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.

6. 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.

7. 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.

AIR FORCE AND NAVAL ROTC

Students enrolled in the Naval ROTC and the Air Force ROTC may receive the degree of Bachelor of Business Administration and their commissions at the end of four 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.

DEGREE REQUIREMENTS

Requirements for the degree of Bachelor of Business Administration (for description of courses, *see* catalog 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—	
B A 5, 6, Principles of Accounting	3-3
B A 65, Business Writing	3
B A 106, 107, Business Law	3-3
B A 108, Marketing	3
B A 109, Statistics	3
B A 110, Corporation Finance	3
B A 130, Business Organization and Management	3
Ec 51, 52, Intro to Economics	3-3
Ec 111, Money and Banking	3
Total	36
C. CONCENTRATION REQUIREMENTS (varies with concentration)	14-21
D. FREE ELECTIVES—	17-26
Total hours of credit for degree	128

SUGGESTED FRESHMAN PROGRAM

(Be sure to read explanations)

First Semester		Second Semester	
English 1	3	English 2	3
BA 5 Accounting	3	BA 6 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 Education	1	Physical Education	1

EXPLANATIONS:

English. The beginning freshman will take either English 1W, English 1, or English 2, depending on the scores made on the English placement test.

Laboratory Science. Laboratory science means Psychology, Chemistry, Physics, Geology, Biology and certain courses in Home Economics.

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.

Naval and Air Force students probably will have to defer to a later semester, or to a later year, one of the above courses each semester in order to take the required military science course. Physical Education is not required for Naval and Air Force students.

Secretarial-Office Training students may find it necessary to defer certain requirements to a later year in order to take courses in typing and shorthand.

SUGGESTED SOPHOMORE PROGRAM

(Be sure to read explanations)

BA 63 Intermediate Accounting	3	BA 64 Intermediate Accounting	3
BA 65 Business Writing	3	or elective	3
Economics 51	3	Literature (numbered above 50)	3
Government 51	3	Economics 52	3
Foreign Language or English 55	3	Government 52	3
Physical Education	1	Foreign Language or English 64	3
		Physical Education	1

EXPLANATIONS:

Secretarial-Office Training students may find it necessary to defer one of the above each semester in order to take certain courses in their field of concentration.

Naval and Air Force students may find it necessary to defer one of the above each semester in order to take the required courses in military science.

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

5 and 6, but any course may have a specific prerequisite which will be stated in its description. At the end of the sophomore year or near 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. Philosophy, Speech, and Social Science requirements should be taken in the junior and senior years.

CONCENTRATIONS

1. ACCOUNTING. Advisers: Mr. Dunbar, 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.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

Intermediate Accounting (BA 63, 64)

Cost Accounting (BA 104)

Auditing (BA 119)

Tax Accounting (BA 117)

Advanced Accounting (BA 121)

Recommended electives: BA 102, 120, 118, 127, 128.

2. FINANCE. Advisers: Mr. Parish, Mr. Evans.

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.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

Life Insurance (BA 127)

Credits and Collections (BA 113)

Investments (BA 115)

Public Finance (Ec 152)

Intermediate Accounting (BA 63)

Recommended electives: BA 128, 143; Ec 141, 162.

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 of 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.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

- a. 8 or 9 hours in BA from the following: BA 63, 113, 114, 115, 127, 128, 134, 143, 158, and 195.
- b. 6 hours in Economics from the following: Ec 141, 152, 154, 161, 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 be 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.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

- Cost Accounting (BA 104)
- Personnel Management (BA 131)
- Industrial Psychology (Psy 58)
- Salary and Wage Administration (BA 132)
- Labor Problems (Ec 141)
- Collective Bargaining (BA 133)
- Industrial Management Policy (BA 195)

Recommended electives: BA 143; Ec 152, 180, 140.

5. MARKETING. Adviser: Mr. Edgel.

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.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

- Advertising (BA 114) or Problems in Market Analysis (BA 183)
- Transportation (BA 143)
- Retail Merchandising (BA 182)
- Marketing Management (BA 185)
- Selling and Sales Supervision (BA 134)
- Credits and Collections (BA 113)
- Intermediate Accounting (BA 63)

Recommended electives: BA 127, 128, 165; Ec 63, 152.

6. SECRETARIAL-OFFICE TRAINING. Advisers: Mrs. Glaese, Mrs. Reva.

In recognition of the increasing demand for trained office personnel this program is designed to give students not only the basic knowledge and skills necessary for initial employment, but also the background necessary in office administration and supervision that will help the new employee progress toward positions of greater managerial and supervisory responsibility. In recent years greater appreciation of the value of well-planned and well-directed office services has opened an attractive field for employment for college trained men and women. Those students who wish to teach business subjects in high schools, and who take courses in the College of Education to fulfill teacher certification requirements, may wish to choose this concentration.

Specific requirements common to all concentrations, see page 105.

Concentration requirements (in addition to specific requirements):

Office Machines and Filing (BA 7)

Beginning Typewriting (BA 11) or high school credit

Intermediate Typewriting (BA 12) or high school credit

Advanced Typewriting (BA 61 or examination; 62)

Shorthand Theory (BA 13) or high school credit

Beginning Dictation (BA 14) or high school credit

Transcription; Speed Dictation (BA 53; 54 or examination)

Secretarial Office Practice (BA 157)

Office Management (BA 158)

Recommended electives: BA 113, 114, 131; Ec 63; and English.

COLLEGE OF EDUCATION

THE PURPOSE of the College of Education is to correlate the forces of the University in order to meet the needs of the state in the preparation and certification of teachers, supervisors, and administrators. The college sets for itself these tasks: the thorough training of elementary and high school teachers and of supervisory and administrative officers; the provision of courses in the various fields of education; and opportunities for research.

The curricula are based upon the assumption that the teacher or supervisory officer should have a broad and liberal education; that he should be master of the subject or group of subjects that he expects to teach; and that his training should be supplemented by professional education designed to give a knowledge of the pupils to be taught, the problems to be met in teaching, and the new meaning of the subjects of instruction. For the prospective teacher this policy has the effect of placing the emphasis upon the subjects he intends to teach.

STANDARDS

Graduation from the College of Education meets the requirements of the New Mexico State Board of Education for certification of high school and elementary teachers, and the recommendations of the North Central Association of Colleges and Secondary Schools as to professional subjects in education and the proper subject matter courses for purposes of high school teaching. Because of the tendency in various states to increase the number of credit hours in education for certification, students are advised to secure credit in not less than twenty-four semester hours in education, including 3 hours in general psychology.

PRINCIPLES GOVERNING THE COLLEGE OF EDUCATION IN ITS TEACHER EDUCATION PROGRAM

1. The direction of the programs of all students expecting to receive a bachelor's degree in Education should be under the supervision of the College of Education.

2. Although it shall be the general policy of the College of Education to accept the recommendation of the department concerned, the College of Education reserves the right of final approval of the specific courses within fields as suitable majors or minors for students enrolled in the College of Education.

3. All courses in education methods are to be taught by persons approved by the Dean of the College of Education.

4. For those students who desire to prepare themselves to teach music or art in the elementary, junior high, and senior high schools, majors in Music Education and Art Education are offered.

5. Instructors teaching courses in both methods and subject matter courses are considered members of the faculty of the College of Education as well as of the college in which the subject matter courses are represented.

ADMISSION

For the quantitative requirements for admission to the College of Education, see "Admission."

In the admission of applicants to the College of Education, the following points will be considered: (1) good moral character, (2) physical and intellectual fitness, and (3) personal qualities necessary for success in some field of education.

A student intending to prepare for teaching should register in the College of Education, in order that he may be educationally guided and be enabled to make the necessary professional adjustments.

MAXIMUM NUMBER OF HOURS

No student in this College may enroll for more than 17 semester hours, plus one 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 Committee on Scholarship, which may, in its discretion, grant permission to enroll for extra hours up to a maximum of 19 hours.

EXTRA-CURRICULAR ACTIVITIES FOR TEACHERS

In choosing teachers, principals and superintendents are always eager to find candidates who are able to handle extra-curricular activities or who have developed some particular ability which will contribute to the life of the school. From the point of view of getting a position and becoming indispensable after the position has been secured, 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.

PRACTICE 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 who act

as critic teachers under the general direction of a professor of education in the College of Education.

The facilities of the city school system furnish an excellent opportunity for students to work in a practical laboratory where the principles and best practice in teaching can be exemplified and applied. The practice teaching is correlated with the subjects taught in the University.

LABORATORIES

LABORATORY FOR THE DEPARTMENT OF SECONDARY EDUCATION. The facilities of the Department of Secondary Education have been materially increased by the equipment of a workroom, or laboratory, in which will center all work connected with the professional training of high school teachers. The major publishing houses are keeping this room supplied with textbooks and other materials of secondary education with which students will wish to become familiar. Here, too, will be found various types of research materials for students in this department.

LABORATORY AND MATERIALS FOR THE DEPARTMENT OF ELEMENTARY EDUCATION. A large workroom is available for students. It is equipped with apparatus and materials to assist in constructing units of work for practice teaching and classwork.

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.

EDUCATION PLACEMENT BUREAU

A placement bureau, one function of which is to assist students and graduates of the University in obtaining positions in the teaching profession, is maintained by the University. The bureau aims to keep on file a complete record of the scholarship, experience, and personal qualifications of each candidate for a position. Copies of these records will be mailed to school officials at their request. The University reserves the right to refuse to extend its coöperation to students who apply for positions for which they are manifestly unfit.

Blanks for registration may be obtained from the Education Placement Bureau. A fee of \$2 is charged each registrant, which covers permanent registration. No commission is charged by the Bureau. Communications should be addressed to the Education Placement Bureau.

SCHOLARSHIP REGULATIONS

See pp. 82-83.

REQUIREMENTS FOR GRADUATION

Upon the completion of all specified requirements, candidates for degrees in the College of Education who major in business education, educational administration, 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 Education; and those who major in other subjects receive the degree of Bachelor of Arts in Education.

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

1. Students who plan to be high school teachers should complete a major and a minor in subjects usually taught in high schools.

2. A major is the principal subject which the student desires to teach in high school. It must be chosen with the advice of the dean.

A minor should be selected in a subject which the student plans to teach, and whenever possible, the student should secure a second minor. The specific requirements for majors and minors are listed under the several departments; the work in these fields must be of at least C quality, and courses in which the grade of D is earned are accepted only as electives.

3. It is often necessary for the teacher of science to teach classes in more than one field. The same is true of teachers of social science. This makes it impossible for students to make adequate preparation for teaching in these fields by completing a major in any one department of the University.

Therefore, students preparing to teach in one of these fields will be permitted to complete either a general Major in Science or a general Major in Social Studies as follows:

A. MAJOR IN SCIENCE IN SECONDARY EDUCATION. The major in science shall consist of 48 hours, including freshman courses, in the Departments of Biology, Chemistry, Geology, Physics, and Naval Science. The student shall offer a minimum of 12 hours in each of three of these departments. No minor is required, but one is strongly recommended. Survey courses will not be accepted toward the major. Necessary deviation from the rule requiring 40 hours above 100 will be approved in individual cases.

B. MAJOR IN SOCIAL STUDIES IN SECONDARY EDUCATION. Students preparing to teach the social studies in secondary schools may be permitted to offer a major in general social studies. Such general social studies major shall consist of at least 48 hours, including freshman courses, of which 18 hours must be in the Department of

History, 9 hours in the Departments of Government and Citizenship and Economics, 9 hours in the Departments of Sociology, Anthropology, and in Geography courses, 12 hours in electives from social studies departments. No minor is required with the general social studies major, but one is strongly recommended.

4. The demand for teachers of business subjects has steadily increased in recent years. Students preparing to teach in high schools may now offer a major or minor in this field. Upon graduation, they will receive the degree of Bachelor of Science in Education.

5. Students preparing to teach should follow the curriculum as outlined. A minimum of 124 semester hours, plus physical education (or equivalent NROTC and AFROTC credits), is required for graduation. This amount is based upon an average quality of work done. Ninety hours of the total must be C grade or better, and, in addition, students transferred from other institutions must make a grade of C or better in three-fourths of the hours earned in the University of New Mexico.

6. In addition to the required work in 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 practice teaching.

7. Students who desire to prepare for administrative or supervisory positions should major in the curriculum for administrators and supervisors, and should minor in some subject which has bearing upon their chosen field of work.

8. Students who plan to teach in the elementary schools are not required to have a major or a minor, nor meet the group requirements listed below. They will be expected to follow the curriculum as outlined on p. 117.

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

10. All students in the College of Education are required to pass the Sophomore Proficiency Examination in English. No student shall be recommended for graduation unless he shows ability to write and speak clear and correct English.

11. Every candidate for graduation must take the National Teachers examination, see p. 87.

12. For minimum residence requirements, see p. 86.

GROUP REQUIREMENTS

Students must complete the following requirements in the various groups. As much of this work as possible should be done in the freshman and sophomore years, and professional work and

major and minor requirements should be completed in the junior and senior years. For required courses in physical education, see p. 86.

I. ENGLISH. As evidence of proficiency in oral and written English a student must earn 12 semester hours, three of which may be in Speech, and must pass the Sophomore Proficiency Examination. Six hours must be earned in English 1, 2, and the additional hours must be earned in courses numbered above 50. (See special curricula for modifications of this ruling.) Students who fail to pass the Sophomore Proficiency Examination may be required to report for additional workshop training.

II. FOREIGN LANGUAGE. A student who has been admitted with no credit in a foreign language, or who begins a language in which he has done no work in high school is required to complete four semesters, or twelve hours credit in one foreign language.

Other students continuing a language begun in high school will be tested and assigned to courses according to ability shown. Such students will then complete the remainder of the twelve hours required. Substitutions may be made as follows:

(1) Administrators and supervisors may substitute an equal number of hours of professional subjects.

(2) Students preparing to teach in high school may substitute an equal number of hours in courses approved by the adviser in addition to the regular requirements. This additional work must be of C grade or better.

(3) Students preparing to teach in the elementary schools are advised to take Spanish, but no foreign language is required.

III. SOCIAL STUDIES. Nine semester hours (not more than 6 from one department) must be completed in approved* courses in the Departments of Anthropology, Economics, Geography, History, Government and Citizenship, Philosophy, or Sociology.

IV. MATHEMATICS AND SCIENCES. Eleven semester hours (not more than 8 from one department, and including 6 hours in courses that require laboratory work) must be completed in courses in the Departments of Biology, Chemistry, Geology, Mathematics, or Physics. Home Economics 53L and 54L may be applied toward this requirement.

CURRICULA

Curricula have been outlined, in 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

* For approved courses, see Courses of Instruction.

to teach in high 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 public schools.

NROTC and AFROTC students may substitute required Military Science courses during each semester of each school year for courses in required Physical Education. The courses in Military Science may also be substituted for courses in each 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

CURRICULUM FOR ART TEACHERS AND ART SUPERVISORS

(Leading to the degree of Bachelor of Arts in Education and meeting the requirements for elementary and secondary teacher's certificate in New Mexico.)

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Math or Science	3-4	Math or Science	3-4
Soc Studies	3	Soc Studies	3
Art 1	2	Art 2	2
Art 3	2	Art 4	2
Art 5	2	Art 6	2
Physical Ed	1	Physical Ed	1
SOPHOMORE YEAR			
English	3	English	3
Psy 51	3	Psy 54	3
Math or Science	3	Electives	4-6
Art Ed 48	3	Art Ed 49	3
Ceramics or Crafts	2	Drawing or Painting	2
Lettering	2	Physical Ed	1
Physical Ed	1		
JUNIOR YEAR			
Ed Electives	6*	Ed Electives	6*
Art Ed 124	3	Art Ed 125	3
Philosophy	3	Art Electives	4-6
Dram Art	3	General Electives	3
Art Electives	2		
SENIOR YEAR			
Art Ed 151	3	Art Ed 155a	3
Art Electives	3	Elem Ed 136 or Sec Ed 156	5
General Electives	9-11	Electives	6-8

* Students planning to meet the requirement for a Master Teacher's Elementary Certificate (Regular) Five-Year, will choose the following courses for the Education Electives: Elementary Education 121, 122, 123, 135; General Education 72, 102.

Students planning to meet the requirement for a Regular High School Five-Year Certificate will choose the following courses in Education for the Education Electives: Secondary Education 141, 153, plus one course from the designated electives for secondary education.

BUSINESS EDUCATION**CURRICULUM FOR STUDENTS PREPARING TO
TEACH BUSINESS SUBJECTS**

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

FRESHMAN YEAR

First Semester		Second Semester	
English 1	3	English 2	3
Lab Science	4	Lab Science	4
Soc Studies	3	Soc Studies	3
Physical Ed	1	Physical Ed	1
†Foreign Language	3	†Foreign Language	3
Math 1	2	Business Ad 7	2

SOPHOMORE YEAR

Business Ad 5	3	Business Ad 6	3
Psychology 51	3	English 55	3
Social Studies	3	Ed Psy 54	3
Physical Ed	1	Physical Ed	1
Business Ad 11†	2	Business Ad 12†	2
Business Ad 13†	3	Business Ad 14†	3
†Foreign Language	3	†Foreign Language	3

JUNIOR YEAR

Business Ad 65	3	Business Ad 54	3
Business Ad 53	3	§Education Elective	3
Sec Ed 141	3	Sec Ed 153	3
Sec Ed 143	3	Business Ad 62	2
Business Ad 61	2	Minor and Electives	6
Minor and Electives	3		

SENIOR YEAR

Teachers' Course (Sec Ed 155g)	3	Business Ad 157	3
Business Ad 106	3	Sec Ed 156	5
Minor and Electives	6-8	Business Ad 107	3

ELEMENTARY EDUCATION**CURRICULUM FOR STUDENTS PREPARING TO TEACH
IN ELEMENTARY GRADES**

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

FRESHMAN YEAR

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
Elective: Lang or Anth or Geog	3	Elective: Lang or Anth or Geog	3

† Substitutions for Foreign Language may be deferred to the junior year and should be approved by the major department chairman.

‡ Certain elementary courses may be waived on the basis of a placement test if the student has had shorthand or typewriting in high school, but six hours of credit must be earned in shorthand and six in typewriting.

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

SOPHOMORE YEAR

First Semester		Second Semester	
English 53	3	English 54	3
Geology 1	3	Geology 2	3
History 51	3	History 52	3
Language or H E 138L	3-4	Lang or Math 1	3-2
Psychology 51	3	Gen Ed 72	2
Music Ed 93	2	Music Ed 94	2
Physical Ed (Rec. W81)	1	Physical Ed (Rec. W80)	1

JUNIOR YEAR

Elem Ed 121	3	Elem Ed 124	3
Elem Ed 119	2	Elem Ed 135	2
Elem Ed 122	2	Ed Psych 110	3
Sociology 110	2	Sociology 82	3
†Elective	7	†Elective	6

SENIOR YEAR

School Ad 107	2	Gen Ed 102	3
Elem Ed 123	2	Elem Ed 120	2
English 82	3	Elem Ed 136	5
Government 103	3	†Electives	4
†Electives	6		

All programs must be approved by chairman of department.

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

English 1	3	English 2	3
Biology 12L	4	Biology 36 and 39L	5
Fine Arts	2-3	Soc Studies	3
Soc Studies	3	Business Ad 5	3
Physical Ed M1	1	Physical Ed M2	1
Electives	3-2		

SOPHOMORE YEAR

Speech 55	3	English	3
Soc Studies	3	Ed Psych 54	3
Psychology 51	3	Physical Ed 62L	4
Physical Ed 40L	2	Physical Ed 41L	2
Physical Ed M1	1	Physical Ed M2	1
Physical Ed 72	2	Physical Ed 64	2
Electives	3		

† It is recommended but not mandatory that part of the electives be selected from the following:

Dramatic Art
Corrective Speech
Geography 103
Anthropology

College Arithmetic
Sociology 71, 117
Library Science
Art

Music
Psychology 111
Psychology 101
Astronomy

First Semester	JUNIOR YEAR		Second Semester
Biology 126L	3	Home Ec 104	2
Education (Elective)	3	Sec Ed 141	3
Physical Ed 121	2	Physical Ed 128	2
Physical Ed 138	3	Physical Ed 104L	4
Physical Ed 164	3	Electives	5
Electives	2		

SENIOR YEAR			
School Ad 164	3	Sec Ed 156	5
Sec Ed 153	3	Physical Ed 172	3
Physical Ed 119	2	Physical Ed 186	2
Physical Ed 183L	2	Physical Ed 125	2
Physical Ed 171	3	Physical Ed 185	3
Electives	3	Electives	1-3

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, to serve as the health coordinator in a school system.

FRESHMAN YEAR			
English 1	3	English 2	3
Soc Studies	3	Soc Studies	3
Fine Arts	4	Biology 36 and 39L	5
Biology 12L	4	Fine Arts	2
PE 49 Prof Activity	1	PE 72	2
PE W1	1	PE W2	1

SOPHOMORE YEAR			
Speech 55	3	English	3
Soc Studies	3	Ed Psych 54	3
Psychology 51	3	Physical Ed 64	2
Physical Ed 96	1	Physical Ed 98	1
Physical Ed 97	1	PE Elective Activity	1
PE Elective Activity	1	Electives	6
Electives	4		

JUNIOR YEAR			
Biology 126L	3	Sec Ed 141	3
Education (Elective)	3	Physical Ed 109	2
Physical Ed 121	2	Physical Ed 104L	4
Physical Ed 108	2	Physical Ed 145	1
Physical Ed 119	2	Physical Ed 148	1
Physical Ed 138	3	Home Ec 104	2
Physical Ed 146	1	Physical Ed 107	2
		Electives	1

SENIOR YEAR			
Physical Ed 156	2	Sec Ed 156	5
Sec Ed 153	3	Physical Ed 172	3
Physical Ed 171	3	Physical Ed 185	3
Physical Ed 154	2	Physical Ed 125	2
Physical Ed 164	3	Electives or Sec Ed 155p	3
Physical Ed 147	1		
Electives	2		

MINOR STUDY IN HEALTH EDUCATION FOR MEN OR WOMEN

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	2	Physical Ed 64	2
Physical Ed 138	3	Physical Ed 185	3
Home Ec 104	2	Biology 36	3
Physical Ed 164	3		

MINOR STUDY IN RECREATION LEADERSHIP FOR MEN OR WOMEN

The recreation minor is designed to prepare students to serve as coördinators of recreation in the school; to lead recreation activities on the playground, in community centers, and in youth centers; to plan and direct recreation programs in service organizations, church groups and youth organizations such as Scouts, YMCA, YWCA, etc.; to serve as counselors in summer camps; and to encourage further specialization in the field of recreation.

Physical Ed 105	3	Drama 1, 29, 30	
Physical Ed 175	3	Music 5, 6, 39, 40	
Specialty in one area (in addition to major field)	8	Physical Ed 64, 69, 80, 81, 90, 107, 108, 109, 119, 121, 125, 128, 171, 172	
Courses advised for Specialty: Art 3, 4, 7, 8; Art Ed 17, 18		Electives	4

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 Education 40L and 41L are recommended for all minors although not required.

Home Ec 104	2	Physical Ed 172	3
Physical Ed 62L	4	Biology 12L	4
Elective Physical Ed	2	Biology 36 and 39L	5
Physical Ed 104L	4		

MINOR STUDY IN PHYSICAL EDUCATION FOR MEN

This minor of 26 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	2	Physical Ed 172	3
Home Ec 104	2	Biology 12L	4
Physical Ed 64	2	Biology 36 and 39L	5
Physical Ed 40L	2	Physical Ed 104L	4
Physical Ed 41L	2		

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 96, 98, 146, or 148	1
Physical Ed 109	2	Physical Ed 49, 97, 145, or 147	1
Physical Ed 108	2	Electives	3 or 2
Physical Ed 107 or 156	2		

HOME ECONOMICS

MAJOR STUDY

See curriculum below. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 235.

For a combined major in Home Economics Education and Dietetics, the following courses are required in addition to the ones listed below in the "Curriculum for Students Preparing to Teach Home Economics": Home Economics 150L, 151, and 159, Chemistry 64L and Biology 93L.

MINOR STUDY

Home Economics 1, 2L, 12L, and 12 hours in courses numbered above 50, or 20 hours specified by the Chairman of the Department.

NOTE: The College of Education 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.

CURRICULUM FOR STUDENTS PREPARING TO TEACH HOME ECONOMICS

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

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Biology 12L	4	Biology 36	3
Art Ed 30	3	Art Ed 31	3
Home Ec 1	3	Intro to Soc Science 1	3
Home Ec 2L	2	Home Ec 12L	2
Physical Ed	1	Home Ec 53L	3
		Physical Ed	1
SOPHOMORE YEAR			
Intro to Soc Science 2	3	English	3
Chemistry 41L	5	Chemistry 42L	5
Psychology 51	3	Psychology 54	3
Home Ec 54L	3	Home Ec 60L	3
Home Ec 63L	3	Home Ec 64L	3
Physical Ed	1	Physical Ed	1
JUNIOR YEAR			
Sec Ed 141	3	Sec Ed 153	3
Home Ec 102	2	English	3
Home Ec 108	2	Economics 103	3
Home Ec 107L	3	Home Ec 109	2
Electives	6	Home Ec 132	3
		Electives	3

SENIOR YEAR

First Semester		Second Semester	
Home Ec 127L	4	Home Ec 128	3
Home Ec 138L	4	Home Ec 133L	3
Electives	9	Home Ec 196	1-2
		Sec Ed 155d	3
		Sec Ed 156	5

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

Engl 1 Writing with Rdgs in Expos	3	Engl 2 Writing with Rdgs in Lit	3
†IA 1 Shop Computations	3	†IA 2 Shop Computations	3
IA 20L Machine Shop	3	IA 10L General Woodwork	3
Arch E 11L Engr Drawing	3	Arch E 12L Machine Drawing	3
*Elective	3	Soc Studies Elective	3
Physical Ed	1	Physical Ed	1

SOPHOMORE YEAR

Engl 64 Informative Writing	3	Speech 55 Bus and Prof	3
Psychology 51 General	3	Psy 54 Educational	3
Arch E 2L Descriptive Geom	3	IA 60L Cabinet Work	3
Ec 51 Intro to Econ	3	Arch E 62L Constr Drawing	3
Art 3 Creative Design	2	Art 7 Gen Crafts	2
*IA 53 Const Materials	2	Physical Ed	1
Physical Ed	1		

JUNIOR YEAR

†Science & Lab	4	†Science & Lab	4
Sec Ed 141 Prin of	3	IA 80L Gen Electricity	2
IA 162L Carpentry	3	IA 105L Sheet Metal	2
IA 163L Pattern Making	3	IA 165L Machine Shop	3
*Elective	3	Sec Ed 155i Tchg IA in Sec Schs	3
		*Elective	3

SENIOR YEAR

Gen Ed 115 Educ & Voc Guid	3	Sec Ed 156 Dir Tchg in Sec Schs	5
Sec Ed 153 Gen Meth in Sec Schs	3	Gen Ed 110 Use of Aud-Vis Aids in Tchg	3
IA 157L Foundry Prac	3	IA 102L Forging & Orn	2
IA 159L Arc & Acet Welding	2	Iron Wk	2
American History	3	IA 156 Theory & Org of Gen Shop	2
*Elective	2	*Elective	3

† The students enrolled in Navy ROTC must see advisers in regard to these courses.

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses.

MUSIC EDUCATION**NASM MEMBERSHIP**

The Department of Music Education is accredited by the National Association of Schools of Music for the degree of Bachelor of Music Education.

**CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN SECONDARY SCHOOLS**

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

FRESHMAN YEAR			
First Semester		Second Semester	
English	3	English	3
Soc Science	3	Soc Science	3
Physical Ed	1	Physical Ed	1
Music 5, Elem Harmony	3	Music 6, Elem Harmony	3
Music 39, Appreciation	2	Music 40, Appreciation	2
Music 19, Piano	1	Music 20, Piano	1
Music 19, Voice	1	Music 20, Voice	1
Music 19, major	1	Music 20, major	1
Music 55, Clarinet	1	Music 56, Clarinet	1
Band, orch, or chorus	1	Band, orch, or chorus	1
	17		17
SOPHOMORE YEAR			
Physical Ed	1	Physical Ed	1
English	3	English	3
Psychology 51	3	Psychology 54	3
Music Ed 93	2	Music Ed 94	2
Music 69, Piano	1	Music 70, Piano	1
Music 55, Cornet	1	Music 56, Cornet	1
Music 55, Violin	1	Music 56, Violin	1
Music 65, Adv Harmony	3	Music 66, Adv Harmony	3
Music 63, Choral Org	1	Music 64, Choral Org	1
Band, orch, or chorus	1	Band, orch, or chorus	1
	17		17
JUNIOR YEAR			
Elective	3	Elective	3
Math or Science	4	Math or Science	4
Sec Ed 141	3	Sec Ed 153	3
Music Ed 145, Jr HS	2	Music Ed 146, Sr HS	2
Music 109, Form Anal	2	Music 110, Form Anal	2
Music 119, Piano	1	Music 120, Piano	1
Music 155, Instru	1	Music 156, Instru	1
Music 113, Band Org	1	Music 114, Orch Org	1
Band, orch, or chorus	1	Band, orch, or chorus	1
	18		18
SENIOR YEAR			
Soc Science	3	Math or Science	3
Elective	2	Elective	2
Music Ed 136M	4	Music Ed 156M	4
Music 61, History	3	Music 62, History	3
Music 163, arr	2	Music 164, arr	2
Band, orch, or chorus	1	Band, orch, or chorus	1
	15		15

**CURRICULUM FOR STUDENTS PREPARING TO TEACH
MUSIC IN ELEMENTARY SCHOOLS**

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

Students preparing to teach music or supervise music teaching in the elementary schools should follow the curriculum outlined for teaching music in the secondary schools on p. 123 and should substitute the following courses in elementary education in lieu of courses required for secondary education.

Gen Ed 72 Health Education	2	El Ed 135 Sup of Arith	2
Gen Ed 102 Hist & Phil of Am Ed	3	El Ed 136 Dir Teach	5
Elem methods including reading methods	6		

**CURRICULUM FOR STUDENTS PREPARING TO TEACH IN THE
ELEMENTARY GRADES WITH A CONCENTRATION IN MUSIC**

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

Students preparing to teach in the elementary schools with a concentration in music should follow the elementary curriculum as outlined on p. 117, and should take the following required courses in lieu of the electives provided in the Elementary curriculum.

Music 5, 6 Harmony	6	Music, Piano	4
Music 39, 40 Appreciation	4	Music, Voice	2
Music 63, 64 Choral Org	2	Ensemble	2
			<hr/>
		Total	20

MINOR IN MUSIC EDUCATION

Music 5, 6 Harmony	6	Music 63, 64 Choral Org	2
Music 39, 40 Appreciation	4	Music Ed 93 and 94	
Music, Piano	4	or 145 and 146	4
Music, Voice	2	Ensemble	2
			<hr/>
		Total	24

PROFICIENCY EXAMINATIONS IN MUSIC EDUCATION

The above curricula will require passing a proficiency examination in the above areas in piano and voice.

PHYSICAL EDUCATION

See Health, Physical Education, and Recreation

SCHOOL ADMINISTRATION**CURRICULUM FOR ADMINISTRATORS AND SUPERVISORS**

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

Teaching experience is required before a student may be admitted to this major. Twenty-four semester hours of work in courses numbered above 50 are necessary for a major. The following courses are acceptable toward meeting the requirements for a major study in administration and supervision. Candidates must also complete a minor in some field other than education.

Educational Psychology	3	Problems of Education in N. M.	2
History of Education	3	Elementary Education	3
Educational and Psychological Tests	3	Educational and Vocational Guid	3
Child Psychology	3	The Principal and His School	3
City School Administration	3		

SECONDARY EDUCATION**CURRICULUM FOR STUDENTS PREPARING TO TEACH
IN HIGH SCHOOL**

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

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Math or Science	3-4	Math or Science	3-4
Soc Studies	3	Soc Studies	3
*Foreign Language	3	*Foreign Language	3
Physical Ed	1	Physical Ed	1
Electives	3	Electives	3
SOPHOMORE YEAR			
English	3	English	3
Psychology 51	3	†Ed Psych 54	3
Soc Studies	3	*Foreign Language	3
*Foreign Language	3	Physical Ed	1
Physical Ed	1	Electives or Science	6-7
Electives	3		
JUNIOR YEAR			
Sec Ed 141	3	Sec Ed 153	3
¶Majors and Minors	8-9	§Teachers Course	3
Elective	3	¶Majors and Minors	10-11
†Education (Elective)	3		
SENIOR YEAR			
§Teachers Course	3	Sec Ed 156	5
¶Majors and Minors	13	¶Majors and Minors	11

* For substitution see Group Requirements for Graduation.

¶ For required courses see Courses of Instruction.

† Approved by Chairman of Department of Secondary Education.

§ One teacher's course, according to the advice of the Chairman of the Department of Secondary Education.

† If not taken during the sophomore year, the advanced course Psychology 110 must be substituted.

COLLEGE OF ENGINEERING

THE DUTIES of the engineer are so varied and far-reaching that no single definition adequately portrays his services to the human race. He should, however, be able to apply the laws of nature to the benefit of mankind, to manage and to control technical works and industries, and to apply his scientific training and experience to the political and social problems of his day. Such a variety of work requires men of good character who are well grounded in the fundamentals of the profession of engineering.

It is the purpose of the College of Engineering to train the student in the elements of his branch of engineering, and to develop honesty, loyalty, industry, and thoroughness, so that he may enter the profession of his choice with profit to mankind as well as to himself.

ADMISSION

A detailed statement of entrance requirements will be found under "Admission."

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 four-year programs of study leading respectively to the degrees of Bachelor of Science in Architectural Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Mechanical Engineering, and Bachelor of Science in Chemical Engineering. It is also possible to arrange a program of study so that the Bachelor of Arts degree can be obtained in one additional year.

AERONAUTICAL ENGINEERING, PETROLEUM ENGINEERING. Students in Mechanical Engineering may elect courses so that an option in either of the above fields can be obtained.

AIR SCIENCE, NAVAL SCIENCE. Students enrolled in Air Force ROTC or Navy ROTC may complete any curriculum in the College of Engineering in the required time by the proper substitution of courses. The department chairman concerned should be consulted before the student makes out a program.

GRADUATE STUDY

A program of graduate work is offered in the College of Engineering leading to the Master of Science degree in the department in which the student desires to major. 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 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.

Electives, where permitted, are to be chosen with the consent of the chairman of the department concerned.

The course of study for the first year is uniform for all departments. Near the end of the freshman year, the student must elect the course which he intends to follow, and report his choice to the Dean's office.

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."

COURSES OF STUDY FOR ALL ENGINEERING STUDENTS

FRESHMAN YEAR					
First Semester			Second Semester		
		Hrs.			Hrs.
		Cr. Lect.-Lab.			Cr. Lect.-Lab.
Math 15 College Alg	3	(3-0)	Math 22 Pl & Sol		
Math 16 Trig	2	(2-0)	Anal Geom	4	(4-0)
Engl 1 Writing with			Engl 2 Writing with		
Rdgs in Expos	3	(3-0)	Rdgs in Lit	3	(3-0)
Chem 5L Gen Chem	4	(3-3)	Chem 6L Gen Chem	4	(3-3)
Arch E 1L Engr Draw	3	(1-6)	Arch E 2L Descr Geom	3	(2-4)
Arch E 3 Orientation	1	(1-0)	Arch E 4L Engr Probs	2	(1-3)
	16	(13-9)		16	(13-10)
*PE	1		*PE	1	

NOTES:

a. Students deficient in mathematics will be required to take a preparatory course in this subject before taking Mathematics 15 or 16.

b. Students deficient in English will be required to take English 1W.

c. For a description of the freshman courses refer to page 245 for Mathematics; to page 218 for English; to page 192 for Chemistry; and to page 204 for Architectural Engineering (Arch E).

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

ARCHITECTURAL ENGINEERING

The curriculum in Architectural Engineering not only emphasizes the structural and mechanical phases of architecture, but also the architectural design of buildings, both public and private.

After graduation, opportunities for employment would be in the fields of drafting, architectural or structural designing, superintending building construction, estimating cost of construction, general contracting, and in the many service organizations in the building field.

All work, drawings and designs made by the student and presented for credit will become the property of the department; their return will be at the discretion of the faculty.

The Architectural Engineering Building has three large, well-lighted and well-equipped rooms for architectural design. The building also has four offices, an exhibition room, a model room, a materials room and adequate storage space.

The freshman drafting courses are offered in a temporary building, B2. The building houses four well-equipped drafting rooms in addition to offices, store rooms, and a printing room.

CURRICULUM IN ARCHITECTURAL ENGINEERING

SOPHOMORE YEAR					
First Semester			Second Semester		
	Hrs.			Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 53 Calculus	4	(4-0)	Math 54 Calculus	4	(4-0)
Physics 51L Gen	4	(3-3)	Physics 52L Gen	4	(3-3)
Arch E 81L Elem of Arch I	3	(0-9)	CE 60 Statics	3	(3-0)
Art 42 History of Arch	2	(2-0)	Arch 82L Elem of Arch II	3	(0-9)
Art 5 Begin Drawing	2	(0-6)	Art 61 Hist of Arch	2	(2-0)
*Ec 51 Intro to Econ	3	(3-0)	*Art 3 or 6 Creative Design or Begin Draw	2	(0-6)
	18	(12-18)		18	(12-18)
*PE	1		*PE	1	
JUNIOR YEAR					
Arch E 131L Arch Design I	4	(0-12)	Arch E 132L Arch Design II	4	(0-12)
CE 102 Str of Mat'ls	3	(3-0)	CE 115L Pl Concrete I	3	(2-3)
CE 103L Str of Mat'ls Lab	1	(0-3)	CE 122L Struct Anal	2	(1-3)
ME 108L Mech Equip of Bldgs	4	(3-3)	CE 124 Struct Design I	2	(2-0)
Art 62 Hist of Modern Arch	2	(2-0)	EE 108L Elec Equip of Bldgs	4	(3-3)
*CE 53L Elem Survey	3	(1-6)	*Engl 64 Info Writing	3	(3-0)
	17	(9-24)		18	(11-21)

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

SENIOR YEAR			
First Semester		Second Semester	
Arch E 161 Arch Pract & Build Mat'ls I	3 (3-0)	Arch E 162 Arch Pract & Bldg Mat'ls II	3 (3-0)
Arch E 171 Seminar	1 (1-0)	Arch E 168 Specification Writing	2 (2-0)
Arch E 181L Arch Design III	5 (0-15)	Arch E 172 Seminar	1 (1-0)
CE 156L Struct Design II	3 (1-6)	Arch E 182L Arch Design IV	5 (0-15)
CE 158 Rein Concrete Des I	2 (2-0)	CE 159L Rein Concrete Des II	3 (1-6)
*Elective	3 (3-0)	*Elective	2 (2-0)
	<hr/> 17 (10-21)		<hr/> 16 (9-21)

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.

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

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

SOPHOMORE YEAR					
First Semester			Second Semester		
	Hrs.			Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 53 Calculus	4	(4-0)	Math 54 Calculus	4	(4-0)
Physics 51L Gen	4	(3-3)	Physics 52L Gen	4	(3-3)
Chem 53L Quant Analysis	4	(2-6)	Chem 101 & 103L Organic	4	(3-3)
Ch E 51 Chem Calculations	3	(3-0)	Ch E 52 Ind. Stoichiometry	3	(3-0)
*Ec 51 Intro to Ec	3	(3-0)	C E 60 Statics	3	(3-0)
	18	(15-9)		18	(16-6)
*PE	1		*PE	1	
JUNIOR YEAR					
Ch E 111 Unit Oper I	3	(3-0)	Ch E 112 Unit Oper II	3	(3-0)
Ch E 168L Lub, Fuels, & Comb	3	(2-3)	Ch E 114L Unit Oper Lab I	2	(0-6)
Chem 111 and 113L Physical	4	(3-3)	Chem 112 and 114L Physical	4	(3-3)
Chem 102 and 104L Organic	4	(3-3)	Ch E 162 Inorg Unit Proc	2	(2-0)
†*Elective (tech)	3	(3-0)	C E 102 Str of Mat'ls	3	(3-0)
	17	(14-9)	†*Elective (tech)	3	(3-0)
				17	(14-9)
SENIOR YEAR					
Ch E 113 Unit Oper III	3	(3-0)	Ch E 164 Org Unit Proc	3	(3-0)
Ch E 115L Unit Oper Lab III	2	(0-6)	Ch E 172 Ch E Econ	2	(2-0)
Ch E 191 Prin of Chem Proc & Thermo I	3	(3-0)	Ch E 192 Prin of Chem Proc & Thermo II	3	(3-0)
Ch E 181L Process Lab I	2	(0-6)	Ch E 182L Process Lab II	2	(0-6)
Ch E 151 Seminar	1	(1-0)	Ch E 152 Seminar	1	(1-0)
E E 105 Elec Applications	2	(2-0)	E E 106 Elec Applications	2	(2-0)
E E 111L Elec Appl Lab	1	(0-3)	E E 112L Elec Appl Lab	1	(0-3)
*Elective (non-tech)	3	(3-0)	*Elective (non-tech)	2	(2-0)
†Elective (tech) or Ch E 153 Adv Ch E Calculations	2	(2-0)	Ch E 194L Design	2	(1-3)
			Ch E 198 Field Trip	0	(0-0)
	19	(14-15)		18	(14-12)

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

† Technical electives may be chosen from Ch E 117, 160.

CIVIL ENGINEERING

The aim of the Civil Engineering Department is to give capable students a sound technical training in a professional atmosphere where they study under the guidance of registered professional engineers.

The rapidly expanding economy of the Southwest promises to continue to provide increasing opportunities for competent civil engineers in the fields of irrigation; flood control; sanitary, highway, municipal, construction, and safety engineering; and in the many fields of the parent branch of the engineering profession.

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

The Civil Engineering Building, constructed in 1949, 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 an optical theodolite of latest design, constitute the most modern equipment procurable.

CURRICULUM IN CIVIL ENGINEERING

SOPHOMORE YEAR

First Semester			Second Semester		
	Cr.	Hrs. Lect.-Lab.		Cr.	Hrs. Lect.-Lab.
Math 53 Calculus	4	(4-0)	Math 54 Calculus	4	(4-0)
Physics 51L Gen	4	(3-3)	Physics 52L Gen	4	(3-3)
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 115L Plain Concrete I	3	(2-3)
CE 103L Str of Mat'ls Lab	1	(0-3)	CE 122L Struct Anal	2	(1-3)
CE 110 Fluid Mech	3	(3-0)	CE 124 Struct Design I	2	(2-0)
CE 111L Fluid Mech Lab	1	(0-3)	CE 120 Hydrology	3	(3-0)
CE 109L Engr Prop of Soil	4	(3-3)	CE 104L Curves and Earthwork	3	(2-3)
ME 106 Dynamics	3	(3-0)	EE 105 Elec Applications	2	(2-0)
*Elective	3	(3-0)	*Elective	3	(3-0)
	18	(15-9)		18	(15-9)

SENIOR YEAR

CE 155L Struct Design II	3	(1-6)	CE 159L Rein Concrete Des II	3	(1-6)
CE 158 Rein Concrete Des I	2	(2-0)	CE 162L Sewerage & Sewage Treat	3	(2-3)
CE 161L Water Supply	3	(2-3)	CE 165 Seminar	1	(1-0)
CE 154L Highway Engr	4	(3-3)	†*CE Elective	6	(5-3)
†*CE Elective	3	(2-3)	ME 101 Thermo-dynamics	3	(3-0)
EE 106 Elec Applications	2	(2-0)	CE 152 Engr Rela	2	(2-0)
	17	(12-15)		18	(14-12)

ELECTRICAL ENGINEERING

The Electrical Engineering course is designed to educate the student in the basic sciences of mathematics, physics, chemistry and engineering so that he can apply these basic principles to the practical problems of industry. These problems are usually varied and

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

† CE electives may be chosen from the following courses: CE 160L, 170L, 171L, 172, 173, 183, 184, 186, 187L, 188, 190L, 191, 192 and 195L.

Electives in the junior year for regular students will be selected with the assistance of advisers.

broad in nature. Therefore the curriculum is designed so that the student may obtain a maximum of related courses by using the electives in the senior year. Thus the research type of student can take work in mathematics and the sciences, or he might combine electronics and power courses for a better background in both power and electronics, or he might combine some business administration courses with his basic electrical engineering.

ELECTRICAL ENGINEERING LABORATORIES. The power for all laboratories is supplied at 2300 volts and then stepped down to 115 and 230 volts. Special transformers supply 440 volt service to the distribution panel. Direct current is supplied by four motor generator sets.

The power laboratory is equipped with the common types of D.C. and A.C. motors and generators and the necessary manual and automatic starters and controllers for performing all the standard tests on this equipment.

The transformer section includes a number of standard transformers of various capacities and voltage ratings, and a special testing transformer, auto transformers, voltage regulators, etc.

The industrial electronics laboratory recently acquired material which will complete its integration and correlation with the theoretical presentation of the subject. Equipment in use includes 25 Kw ignitron converter, Thyatron motor control, speed regulators, voltage regulators, electronically controlled resistance welder, industrial X-ray unit, induction and dielectric heaters, precipitron, and so on. Facilities are available for demonstrating most of the circuits and techniques associated with industrial electronic control.

The electronics and communications laboratory comprises a series of more than sixty comprehensive experiments that are closely integrated with the courses in electronics, communications, and ultra-high frequency techniques. The tests performed, test equipment employed, and circuits tested are all, insofar as is possible, standard. This has been done in order to familiarize the student with accepted practices in this field and with the capabilities and limitations of the test equipment ordinarily available to him. Some special facilities are available for advanced study by graduate students and exceptional undergraduates, particularly in the U.H.F. field and materials testing by electronics.

The experiments include the determination of tube characteristics, ranging from vacuum diodes to klystrons and magnetrons; network analysis with precision laboratory measuring equipment; behavior of standard circuits found in AM and FM radio, radar, television, sound on film recordings, carrier telephony, etc.

CURRICULUM IN ELECTRICAL ENGINEERING

SOPHOMORE YEAR			
First Semester		Second Semester	
	Hrs.		Hrs.
	Cr. Lect.-Lab.		Cr. Lect.-Lab.
EE 51L EE Computations	3 (2-3)	EE 54 DC Circuits	3 (3-0)
Math 53 Calculus	4 (4-0)	EE 54L DC Circ Lab	1 (0-3)
Physics 51L Gen	4 (3-3)	Math 54 Calculus	4 (4-0)
Engl 64 Info Writing	3 (3-0)	Physics 52L Gen	4 (3-3)
*Ec 51 Intro to Econ	3 (3-0)	CE 60 Statics	3 (3-0)
		*Elective	3 (3-0)
	17 (15-6)		18 (16-6)
*PE	1	*PE	1
JUNIOR YEAR			
EE 101 DC Mach	3 (3-0)	EE 102L DC Mach Lab	1 (0-3)
EE 113 AC Circuits	3 (3-0)	Math 143 Diff Equations	3 (3-0)
EE 113L AC Circ Lab	1 (0-3)	EE 142 Circuit Analysis	3 (3-0)
EE 131 Fund Electronics	3 (3-0)	EE 142L Circuit Anal Lab	1 (0-3)
EE 131L Electronics Lab I	1 (0-3)	EE 132 Electronic Circuits I	3 (3-0)
ME 106 Dynamics	3 (3-0)	EE 132L Electronic Circ Lab I	1 (0-3)
*Elective	3 (3-0)	CE 102 Str of Mat'ls	3 (3-0)
	17 (15-6)	*Elective	3 (3-0)
			18 (15-9)
SENIOR YEAR			
EE 151 AC Mach	3 (3-0)	EE 152 AC Mach	3 (3-0)
EE 151L AC Mach Lab I	1 (0-3)	EE 152L AC Mach Lab II	1 (0-3)
EE 171 Seminar	1 (1-0)	*EE 172 Seminar	1 (1-0)
EE 181 Electromagn Engr I	3 (3-0)	EE 188 Servo-mechanisms	3 (3-0)
ME 101 Thermo-dynamics	3 (3-0)	BA 130 Org & Mgt	3 (3-0)
Physics 106L Elec Lab	2 (1-3)	*Elective	7 (6-3)
*Elective	4 (3-3)		18 (16-6)
	17 (14-9)		

Electives in the senior year must, in general, be numbered 100 or higher. They must have the approval of the Department Chairman.

Students who fail any junior EE course will not be permitted to take senior electives in EE courses until after the deficiency is removed.

INDUSTRIAL ARTS

(A division of the Department of Mechanical Engineering.
See p. 136.)

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

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

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, and fuel analysis and testing.

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: test engineering; production control; tool design; machine design; heating and air conditioning design, production, installation and operation; power plant design, construction, and operation; refrigeration engineering; research; sales and purchasing engineering; product design and development; consulting engineering; transportation; safety engineering; aeronautical engineering; petroleum production.

CURRICULUM IN MECHANICAL ENGINEERING

SOPHOMORE YEAR					
First Semester			Second Semester		
	Cr.	Hrs. Lect.-Lab.		Cr.	Hrs. Lect.-Lab.
Math 53 Calculus	4	(4-0)	Math 54 Calculus	4	(4-0)
Physics 51L Gen	4	(3-3)	Physics 52L Gen	4	(3-3)
*Ec 51 Intro	3	(3-0)	*Engl 64 Info Writ	3	(3-0)
ME 53 Engr Mat'ls	3	(3-0)	CE 60 Statics	3	(3-0)
ME 64L Pattern Making & Found	2	(0-6)	ME 70L Mach Shop	2	(0-6)
ME 75L Welding	1	(0-3)	ME 54L Engr Mat'ls. Lab	1	(0-3)
	17	(13-12)		17	(13-12)
*PE	1		*PE	1	
JUNIOR YEAR					
ME 101 Thermo-dynamics	3	(3-0)	ME 102 Thermo-dynamics	4	(4-0)
ME 103L Heat Power Lab	2	(0-6)	ME 117L Fluid Mech	4	(3-3)
ME 106 Dynamics	3	(3-0)	ME 114L Dynamics of Mach	3	(1-6)
ME 113L Kinematics	3	(1-6)	EE 105 Elec Appl	2	(2-0)
CE 102 Str of Mat'ls	3	(3-0)	*Elective (non tech)	3	(3-0)
CE 103L Str of Mat'ls Lab	1	(0-3)	EE 111L Elec Appl Lab	1	(0-3)
*Elective (non tech)	3	(3-0)		17	(13-12)
	18	(13-15)			

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

SENIOR YEAR			
First Semester		Second Semester	
ME 151L Mech Engr		ME 152L Mech Engr	
Lab	1 (0-3)	Lab	2 (0-6)
ME 150L Mach Design	4 (3-3)	ME 153L Mech Engr	
EE 106 Elec Appl	2 (2-0)	Design	3 (0-9)
ME 175 Metals & Alloys	2 (2-0)	ME 160 Internal Comb	
ME 172 Seminar	1 (1-0)	Engines	3 (3-0)
*†Tech Electives	6 (6-0)	ME 156 Indus Engr	3 (3-0)
EE 112L Elec Appl		ME 173 Seminar	1 (1-0)
Lab	1 (0-3)	*†Tech Electives	6 (6-0)
	<hr/>		<hr/>
	17 (14-9)		18 (13-15)

INDUSTRIAL ARTS, DIVISION OF (Mechanical Engineering)

The general objectives for the Industrial Arts program are:

- (1) to prepare students for teaching Industrial Arts Education;
- (2) to offer service courses which are required in engineering curricula;
- (3) to offer elective courses for students from other colleges.

The curriculum leading to the degree of Bachelor of Science in Industrial Arts Education is listed under the College of Education.

The service courses offered for the engineering students provide opportunities for these students to gain experience with industrial tools, machines, and processes.

Industrial Arts courses taken as electives by other students provide avocational opportunities in this field.

INDUSTRIAL ARTS LABORATORIES. 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 jig saws; 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.

* Students enrolled in Air or Navy ROTC may, with the approval of the Department Chairman, substitute ROTC courses for the above to the extent of 18 hours.

† Technical electives may be chosen from the following courses: ME 155, 162, 165, 167, 168, 171, 181, 182, 193, 1A 157L, 165L, ROTC courses. Others may be selected with advice of the Department Chairman. Those students interested in Aeronautical Engineering should elect ME 167, 168 and 171. Those interested in Petroleum should elect ME 181, 182, and as much geology and chemistry as possible.

COLLEGE OF FINE ARTS

THE COLLEGE of Fine Arts is established for the following purposes: (1) to stimulate a greater interest in and understanding of the arts as a part of a liberal education; (2) to offer those who wish to specialize in any of the fields of art an opportunity to do so; (3) to coordinate more efficiently the work of the College in 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.

Courses leading to the degree of Bachelor of Fine Arts in Dramatic Art, Music, and Art respectively, are offered; in the combined curriculum, successful candidates will receive the degree of Bachelor of Arts in Fine Arts.

TAOS FIELD SCHOOL

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

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 Sophomore English Proficiency Examination. Failure to pass this test requires the student to report to the English Workshop for English remedial help.

Courses in Naval Science or Air Science may be substituted in each curriculum with approval of the Dean of the College of Fine Arts.

COMBINED CURRICULUM

(Leading to the degree of Bachelor of Arts in Fine Arts.) Hours required for graduation, 132. This curriculum is designed for the student who desires an introduction to the fine arts combined with

a liberal academic course. Its major and minor requirements provide study in two of the arts, which the student elects; if he desires to explore in the third field, he may do so in the free elective hours. Hours required in major field 45; minor field 25. (Specific courses are listed under department headings.) Free elective hours 17-23.

FRESHMAN YEAR			
First Semester		Second Semester	
Major Field	6	Major	7
Minor Field	5	Minor	5
English 1	3	English 2	3
P.E.	1	P.E.	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
P.E.	1	P.E.	1
	17		17
JUNIOR YEAR			
Major	5	Major	5
Minor	2	Minor	2
Science or Math	4	Science or Math	4
Foreign Language	3	Foreign Language	3
(Music Majors only)		(Music Majors only)	
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		16
	17		

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

PRE-OCCUPATIONAL THERAPY CURRICULUM

PRE-PROFESSIONAL

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 three or four scholarships a year for students from the University of New Mexico who have earned a degree in Fine Arts (a degree in Education or Arts & Sciences with a major in Fine Arts is also acceptable).

CURRICULUM

The following curriculum for freshmen in Pre-occupational Therapy is suggested:

First Semester		Second Semester	
Art 3	2	Art 4	2
Art 7	2	Art 8	2
Biology 1L	4	Biology 2L (or 12L)	4
English 1	3	English 2	3
Psy 60	3	Psy 51	3
Language 1	3	Language 2	3
P.E.	1	P.E.	1
	18		18

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 requirement of the school where the student will complete this study:

Art 10—Introduction to Art	3
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 127—Advanced Jewelry	(3 per semester) 6
Art 137—Advanced Ceramics	3
Art 147—Advanced Textiles	(3 per semester) 3
Biology 36—Human Anatomy & Physiology	3
Biology 93L—General Bacteriology	4
Biology 126L—Physiology of Exercise	3
Chemistry 41L—Elements of Gen Chem	5
Chemistry 42L—(continuation of 41L)	5
General Education 115—Educational & Vocational Guidance	3
Home Ec. 104—Nutrition	2
P.E. 64—First Aid	2
P.E. 90—Recreational Games	1
P.E. 93—American Country Dance	1
P.E. 104L—Human Anatomy & Kinesiology	4
Psych. 60—Psychology of Adjustment	3
Psych. 101—Social Psychology	3
Psych. 103—Abnormal Psychology	3
Psych. 111—Child Psychology	3
Psych. 196—Physiological Psychology	3
Sociology 72—Social Pathology	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. 178.

FIELD SESSION

Each summer a field school in painting is conducted at the Harwood Foundation in Taos, New Mexico.

PRE-OCCUPATIONAL THERAPY

See curriculum on p. 139.

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 one-point average; of this requirement at least 28 hours must be in art courses.

MAXIMUM NUMBER OF HOURS

No student in the Art Department may enroll in more than eighteen semester hours without permission from the Chairman of the Department.

CURRICULA IN ART

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

FRESHMAN YEAR

(The course for all Art Majors is the same in the freshman year.)

First Semester		Second Semester	
†Art 1	2	†Art 2	2
Art 3	2	Art 4	2
Art 5	2	Art 6	2
Art 7	2	Art 8	2
English 1	3	English 2	3
*Foreign Language	3	*Foreign Language	3
Physical Education	1	Physical Education	1
	—	Gen Univ Elective	2
	15		17

† Three courses are to be elected in the freshman and sophomore years from Art 1, 2, 51, 52. When one of these courses is not taken during any one of the semesters it must be replaced by an elective in Art other than the major group.

* The student who has had two 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.

Three possible courses of study are offered by the Art Department, and the student at the end of his freshman year will select one of these fields in which to specialize (or major). They are:

GROUP I—Painting, Sculpture and Drawing

GROUP II—Crafts and Commercial Art

GROUP III—Art History

CURRICULUM FOR GROUP I OR GROUP II MAJORS

SOPHOMORE YEAR			
First Semester		Second Semester	
Art (Major Group)	4	Art (Major Group)	4
†Art 51	2	†Art 52	2
Art (Other than Major)	3	Social Science	3
Social Science	3	Physical Education	1
Physical Education	1	Gen Univ Elective	6
Gen Univ Elective	3		—
	16		16
JUNIOR YEAR			
Art (Major Group)	6	Art (Major Group)	6
Art Group III	2	Art Group III	2
Natural Science	3	Natural Science	3
Gen Univ Elective	6	Gen Univ Elective	6
	—		—
	17		17
SENIOR YEAR			
Art (Major Group)	4	Art (Major Group)	4
Art Group III	2	Art Group III	2
Art Elective	3	Art Elective	3
Literature	3	Literature	3
Gen Univ Elective	5	Gen Univ Elective	5
	—		—
	17		17

For Group II Majors only, 18 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			
Art 51	2	Art 52	2
Art (Other than Major)	2	Art (Other than Major)	2
Anthropology 1	3	Anthropology 2	3
History 1	3	History 2	3
Physical Education	1	Physical Education	1
Gen Univ Elective	5	Gen Univ Elective	5
	—		—
	16		16

† Three courses are to be elected in the freshman and sophomore years from Art 1, 2, 51, 52. When one of these courses is not taken during any one of the semesters it must be replaced by an elective in Art other than the major group.

First Semester		JUNIOR YEAR		Second Semester	
Art (Major Group)	4	Art (Major Group)	4		
Art (Other than Major)	4	Art (Other than Major)	2		
Natural Science	3	Natural Science	3		
Gen Univ Elective	6	Philosophy 102	3		
	—	Gen Univ Elective	5		
	17		—		
			17		
		SENIOR YEAR			
Art (Major Group)	4	Art (Major Group)	4		
Art Elective	3	Art Elective	3		
Literature	3	Literature	3		
Gen Univ Elective	7	Gen Univ Elective	7		
	—		—		
	17		17		

PUBLIC SCHOOL CERTIFICATION

It is possible for the student majoring in Art and enrolled in the College of Fine Arts to take those courses in Education required for a teacher's certificate in New Mexico and other states as well. For students desiring to meet public school certification requirements, the following curriculum is suggested:

FRESHMAN YEAR

(Same for all art students.)

		SOPHOMORE YEAR	
Art (Major Group)	4	Art (Major Group)	4
Art (Other than Major)	3	†Art 52	2
†Art 51	2	*Psychology 54	3
Psychology 51	3	Physical Education	1
Physical Education	1	Art Education 49	3
Art Education 48	3	Literature	3
	—		—
	16		16

		JUNIOR YEAR	
Art (Major Group)	6	Art (Major Group)	6
Art Group III	2	Art Group III	2
Social Science	3	Social Science	3
Gen Univ Electives	6	*Secondary Ed 141	3
	—	*Secondary Ed 153	3
	17		—
			17

† Three courses are to be elected in the freshman and sophomore years from Art 1, 2, 51, 52. When one of these courses is not taken during any one of the semesters it must be replaced by an elective in Art other than the major group.

* Certification requirements for New Mexico:

Psychology 54	3
Secondary Education 141	3
Secondary Education 153	3
Secondary Education 156	5
Education electives	6
(Art Education 48 and 49 are suggested.)	—

Total 20 hours

SENIOR YEAR			
First Semester		Second Semester	
Art (Major Group)	4	Art (Major Group)	4
Art Elective	3	Art Elective	3
Art Group III	2	Art Group III	2
Literature	3	Literature	3
Gen Univ Electives	5	*Secondary Ed 156	5
	17		17

**COURSES OFFERED BY OTHER DEPARTMENTS AND
COLLEGES ACCEPTED FOR ART CREDIT**

No more than 25% of the total number of hours in the major field, or of the total 65 hours required in art may be taken in these courses.

Group I

Art Education 150

Group II

Architectural Engr 1L
Drama 29, 30
Drama 175, 176
Drama 185, 186

Home Ec 60L
Home Ec 109
Industrial Arts 14L
Industrial Arts 10L

Group III

Anthropology 97
Anthropology 162

Anthropology 184
Philosophy 102

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. 194.

CURRICULA IN DRAMATIC ART

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

FRESHMAN YEAR			
English 1	3	English 2	3
Elective in Social Science	3	Elective in Social Science	3
Drama 10	3	Drama 11	3
Drama 1	3	Drama 2	3
Drama 29	3	Drama 30	3
Physical Education	1	Physical Education	1

* Certification requirements for New Mexico:

Psychology 54	3
Secondary Education 141	3
Secondary Education 153	3
Secondary Education 156	5
Education electives	6

(Art Education 48 and 49 are suggested.)

Total 20 hours

First Semester		SOPHOMORE YEAR		Second Semester	
Beginning Drawing	2	Beginning Drawing	2	Beginning Drawing	2
Foreign Language	3	Foreign Language	3	Foreign Language	3
Drama 75	3	Drama 76	3	Drama 76	3
Drama 85	3	Drama 86	3	Drama 86	3
Drama 89	3	Drama 90	3	Drama 90	3
Physical Education	1	Physical Education	1	Physical Education	1
JUNIOR YEAR					
English 57	3	Psychology 51	3	Psychology 51	3
Drama 135	3	Drama 136	3	Drama 136	3
Drama 175	3	Drama 176	3	Drama 176	3
Drama 161	3	Drama 162	3	Drama 162	3
Philosophy Elective	2-3	English Elective	3	English Elective	3
Other Electives	3-2	Other Electives	2	Other Electives	2
SENIOR YEAR					
Drama 185	3	Drama 186	3	Drama 186	3
Drama 197	3	Drama 198	3	Drama 198	3
English 141 or 142	3	English Elective	3	English Elective	3
Electives	8	Other Electives	8	Other Electives	8

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

FRESHMAN YEAR

(Same as freshman year outlined above.)

First Semester		SOPHOMORE YEAR		Second Semester	
Beginning Drawing	2	Beginning Drawing	2	Beginning Drawing	2
Foreign Language	3	Foreign Language	3	Foreign Language	3
Drama 75	3	Drama 76	3	Drama 76	3
Drama 85	3	Drama 86	3	Drama 86	3
Psychology 51	3	*Psychology 54	3	*Psychology 54	3
Physical Education	1	Physical Education	1	Physical Education	1
JUNIOR YEAR					
English 57	3	Philosophy Elective	3	Philosophy Elective	3
Drama 135	3	Drama 136	3	Drama 136	3
*Secondary Ed 141	3	*Secondary Ed 153	3	*Secondary Ed 153	3
Drama 89	3	Drama 90	3	Drama 90	3
Drama 175	3	Drama 176	3	Drama 176	3
English Elective	3	Other Electives	2	Other Electives	2
SENIOR YEAR					
Drama 161	3	Drama 162	3	Drama 162	3
*Secondary Ed 156	5	*Education Electives	6	*Education Electives	6
English 141 or 142	3	English Elective	3	English Elective	3
Drama 185	3	Drama 198	3	Drama 198	3
Other Elective	3	Other Elective	3	Other Elective	3

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.

* Required for certification.

In addition to the planned course of study, students of the department participate in all phases of production of three-act and one-act plays. So far as is possible, this work is correlated to class work.

In lieu of courses not offered during certain terms, substitution made with the advice of the Chairman of the Department will be accepted.

MUSIC

For curricula leading to the B.F.A. in Music, see below. For major studies in the Fine Arts Combined Curriculum, and for minor study requirements, refer to the "Courses of Instruction" section, p. 256.

NASM MEMBERSHIP

The Department of Music is accredited by the National Association of Schools of Music for the degree of Bachelor of Fine Arts in Applied Music, Theory and Composition, Music Literature, and Public School Certification.

RECITALS AND PUBLIC PERFORMANCE

Music majors are required to attend all student and faculty recitals, and to participate in certain specified recitals and public performances. Loss of credit will result from failure to observe either of these requirements.

Students are not to perform in public without the consent of the Department Chairman upon recommendation of the instructor.

FIELDS OF CONCENTRATION

A minimum of three-fourths of the total hours of electives in each field of concentration must be taken in courses outside the Department of Music.

Before graduation every candidate for the Bachelor's degree must demonstrate proficiency at the piano by successfully passing an examination of which the minimum requirements are:

1. All major and minor scales in moderate tempo.
2. One two-part invention by Bach.
3. One composition corresponding in difficulty to:
 - Mozart. Sonata in C Major (K. 545), first movement.
 - Beethoven. Sonata in G major, Op. 49, No. 2, any movement.
 - Bartok. Mikrokosmos, Book III.
 - Diller-Quaile. Third Solo Book.
4. Sight reading of a simple composition.

This examination may be taken at the end of any semester before graduation, upon written application to the Department Chairman.

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 (8 hours) : piano, 4 hrs.; elective, 4 hrs.

Theory (45 hours) : 5, 6, 55, 56, 63, 65, 66, 95, 96, 109, 110, 135, 136, 153, 154, 185, 186, 197, 198, plus 4 hrs. selected from 113, 114, 157, 158.

History and literature (10 hours) : 61; 62; historical literature, 4 hrs.

Ensemble: 6 hours.

Electives: 23 hours.

APPLIED MUSIC (instrumental) (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: 32 hours in major instrument.

Theory (30 hours) : 5, 6, 55, 56, 63, 64, 65, 66, 95, 96, 109, 110, 197, 198.

History and literature (10-12 hours) : 61; 62; historical literature, 4 hrs. (49 and 50 for piano majors only).

Ensemble: 8 hours (for piano majors include 37, 38, and 195 or 196).

Electives: 12 hours (10 for piano majors).

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 (40 hours) : voice, 32 hrs.; piano, 2 hrs.; plus 129, 130, 187, 188.

Theory (28 hours) : 5, 6, 63, 64, 65, 66, 95, 96, 109, 110, 197, 198.

History and literature (8 hours) : 61, 62, 147, 148.

Ensemble (6 hours) : chorus 4 hrs., ensemble elective 2 hrs.

Electives: 10 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, 55, 56, 63, 64, 65, 66, 95, 96, 109, 110, 197, 198.

History and literature (26 hours) : 39; 40; 49; 50; 61; 62; historical literature, 10 hrs.; 147; 148; 171.

Ensemble: 6 hours.

Electives: 22 hours.

MUSIC EDUCATION (134 hours)

Required liberal arts subject areas (39 hours) : English, 12 hrs.; mathematics or science, 11 hrs.; social science, 9 hrs.; Psychology 51, 3 hrs.; physical education, 4 hrs.

Applied music (10 hours) : piano, 6 hrs.; voice, 2 hrs.; major instrument or voice, 2 hrs.

Theory (32 hours) : 5, 6, 55, 56, 63, 64, 65, 66, 109, 110, 113, 114, 155, 156, 163; 164.

History and literature (10 hours) : 39, 40, 61, 62.

Ensemble: 8 hours.

* Reduction of credit from 2 hrs. to 1 hr. in secondary applied music.

Education (9 hours): Psychology 54, Secondary Education 141, Secondary Education 153.

Music Education (8 hours): 93, 94, 145, 146.

Directed teaching (8 hours): Music Education 136M, 156M.

Electives: 10 hours.

Students in music education will be required to pass proficiency examinations in piano, voice, strings, woodwinds, and brasses.

GENERAL COLLEGE

THE GENERAL COLLEGE has been planned in terms of two-year programs. It makes provision for rather large numbers of students who, for one reason or another, do not find the four-year course advisable. Some of these groups are:

1. Those who are interested in general, instead of specialized types of knowledge. Students of this sort prefer an overview of a field with emphasis upon general principles rather than upon techniques and details, and are to be taken care of to a large extent by general education courses.

2. Those who wish to "explore." Interest in one or more of the fields of knowledge is a prime factor in college success; and this interest, together with greater efficiency in mental habits, can often be fostered through exploration.

3. Those who desire distinctly vocational courses of the semi-professional nature. Many capable young people want courses that lead to definite vocational techniques, even though they are not interested in general academic training.

4. Adults who have no interest in degrees or in technical courses, but who desire information and guidance in general or practical fields.

5. Young people who know from the beginning that either for financial or other reasons they must place a time limit upon their higher education. They may prefer either the general or the vocational type of training, but they are forced to look for that from which they can derive the most nearly finished and comprehensive results in less than four years.

6. Those who desire to complete a two-year preparatory course leading to entrance into a professional or specialized college.

ADMISSION REQUIREMENTS

For admission requirements to the General College, see "Admission." Applicants for admission are held to the regulations as set down in the general admission section, except that the Dean of the General College may accept an individual who has as least a two-thirds grade-point average.

A student with more than 60 semester hours, exclusive of activity credits in physical education, is not permitted to enter the General College.

SCHOLARSHIP REGULATIONS

See pp. 82-83.

TRANSFER

A student enrolled in the General College may apply for admission to one of the four-year undergraduate colleges of the University at the end of any semester or summer session. The requirement for such a transfer is a 1.0 scholarship index.

COMPLETION OF COURSE

Sixty-four hours of passing work with at least a 0.66 scholarship-index exclusive of non-theoretical courses in physical education, must be completed in order to fulfill the requirements for the General College diploma. Normally, this work will be divided into four semesters as indicated below:

Students registering in the General College may pursue courses in the Department of Naval Science only with the permission of the Dean of the General College and the Chairman of the Department of Naval Science.

CURRICULA***ACADEMIC COURSE[†]**

FRESHMAN YEAR	
First Semester	Second Semester
English 1	English 2
Soc S	Soc S
Math, Lang, or Science	Physical Ed
Physical Ed	Math, Lang, or Science
Electives	Electives
16	16

ART

FRESHMAN YEAR	
English 1	English 2
Intro to Soc S	Intro to Soc S
†Art History	†Art History
Art 3	Art 4
Art 5 or 7	Art 6 or 8
Electives	Electives
Physical Ed	Physical Ed
4	4
6	6
6	6
SOPHOMORE YEAR	
Art Electives Group II	Art Electives Group II
Art Electives Group I	Art Electives Group I
Electives	Electives
4	4
6	6
6	6

CLERICAL

FRESHMAN YEAR	
English 1	English 2
Intro to Soc S	Intro to Soc S
†B A 11	†B A 12
Psy 1L	Psy 2L
Physical Ed	Math 1
B A 5	Physical Ed
3	B A 6
3	3
3	3
3	3
2	2
3	3
3	3
3	3

* Students in the General College are limited to lower division courses without special permission of the General College Dean.

† Courses to be elected from Art 1, 2, 10, 51, 52.

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

SOPHOMORE YEAR

First Semester		Second Semester	
English 55	3	Speech 55	3
Ec 63	3	B A 65	3
B A 61	2	B A 62	2
B A 7	2	Physical Ed	1
Physical Ed	1	Electives	8
Electives	6		

HOME MAKING

FRESHMAN YEAR

English 1	3	English 2	3
Intro to Soc S	3	Intro to Soc S	3
H Ec 1	3	Physical Ed	1
Psy 1L	3	Psy 2L	3
Physical Ed	1	Biology 36	3
H Ec 2L	2	H Ec 12L	2

SOPHOMORE YEAR

H Ec 53L	3	H Ec 54L	3
H Ec 63L	3	H Ec 64L	3
Physical Ed 64	2	Electives	10
Electives	5		
Sociology 51	3		

INDUSTRIAL ARTS

See first two years of Industrial Arts Education curriculum, College of Education, or some selection of courses may be arranged to meet the individual needs.

MUSIC

FRESHMAN YEAR

English 1	3	English 2	3
Intro to Soc S	3	Intro to Soc S	3
Music 5	3	Applied Music	2
Applied Music	2	Ensemble Music	1
Ensemble Music	1	Music 40	2
Music 39	2	Electives	5
Electives	2	Physical Ed	1
Physical Ed	1		

SOPHOMORE YEAR

D A 1	3	D A 2	3
Music 61	3	Music 62	3
Ensemble Music	1	Ensemble Music	1
Music 6	3	Music 65	3
Electives	6	Electives	6

PREIDENTISTRY

Because of the variable admission requirements of different schools of dentistry, the student is advised to seek admission information from the Department of Biology.

PREFORESTRY

Because of the variable admission requirements of different schools of forestry, the student is advised to seek admission information from the Department of Biology.

PRELAW

College of Law candidates must have at least three years of prelaw work. Not more than two years of this work can be taken in the General College. Students in the General College should consult with the Dean of the College about suitable courses. The prelaw student who starts his program in General College should plan to meet requirements for transfer to the College of Arts and Sciences or the College of Business Administration as early in his career as possible.

PREOPTOMETRY

Because of the variable admission requirements of different schools of optometry, the student is advised to seek admission information from the Department of Biology.

SECRETARIAL

FRESHMAN YEAR	
First Semester	Second Semester
English 1	English 2
Intro to Soc S	Intro to Soc S
†B A 11	†B A 12
†B A 13	†B A 14
Psy 1L	Psy 2L
Physical Ed	Physical Ed
Physics 1 or 3	Elective
SOPHOMORE YEAR	
B A 61	B A 65
B A 53	B A 62
English Lit	B A 54
Mathematics 1	Geog 63
Psy 58	Physical Ed
B A 7	Elective
Physical Ed	

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

THE GRADUATE SCHOOL

GRADUATE WORK leading to the master's degree is offered in the following departments: Anthropology, Art, Art Education, Biology, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Economics, Electrical Engineering, Elementary Education, English, Geology, Government and Citizenship, History, Inter-American Affairs, Mathematics and Astronomy, Mechanical Engineering, Modern and Classical Languages, Music, Philosophy, Physical Education and Health, Physics, Psychology, School Administration, Secondary Education, Sociology, and Speech.

The degree of Doctor of Philosophy is offered in American Studies, Anthropology, Biology, Chemistry, English, History, Physics, and Spanish.

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. *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 evaluation fee, if applicable,* on file in the Graduate Office at least one month in advance 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.

Any student may be refused admission if his previous scholastic record indicates inability to pursue advanced work satisfactorily.

* Not required of students under G.I. Bill 346 or 550 or Public Law 16, or of students with degrees from the University of New Mexico, or of students applying for Special Graduate status only.

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, §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, without efforts at indoctrinating the students with particular views, 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, three years of college work. 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, proc-

esses 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. We also endeavor 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 fifteen 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.

FACILITIES

LAW BUILDING

The College of Law occupied its new building Semester I, 1952-53.

The 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 microfilm 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 soundproofed. 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 donation of the Francis C. Wilson, Francis E. Wood, and other private law library collections. It contains approximately 40,000 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, state and Federal statutes, legal treatises, periodicals, encyclopedias and digests, administrative reports, and other classes of legal materials. It also maintains a microcard collection of scarce court reports, legal periodicals, U. S. Supreme Court appeal papers, and miscellaneous materials.

COURTS AND THE BAR

State and municipal courts, the United States District Court and the United States Court of Appeals 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 is active and utilizes the services of students to assist its 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.

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 three years of study in a college or university. In these three years or more of residence he must have completed three-fourths of the work acceptable for a bachelor's degree on the basis of four 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. 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.

Applicants are required to take the Law School Admission Test (see below).

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.

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 or other evidence that their experience and training have equipped them to engage successfully in the study of law despite the lack of required college credit; they are not candidates for the law degree and upon completion of their law study, unless the faculty 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 transferring student must 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 three years of prelegal work of transfer students as well as of beginning students.
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 in that law school.

A transferring student whose scholastic average is satisfactory for graduation from the school in which his work was done will be given full credit for all law work certified by that school. Upon acceptance of the credits at New Mexico, the student's transferred hours and grades will be placed upon the permanent record here. Such transferred credits and grades are not computed, however, in determining the student's standing in the College of Law. (See "Scholarship Index," this catalog.)

A student eligible to reregister in the law school from which he transfers only on probation or its equivalent will be admitted to New Mexico on probation under such conditions as this College may impose. He will not, however, be admitted unless there is reason to believe that his failure to do better work was occasioned by factors that will not be present at New Mexico. Whether or not admitted "on probation," if his average in the school from which he transfers is less than that required by such school for graduation, though sufficient to remain in good standing there, or if his work has been of marginal quality, the condition may be imposed that his average on work done each semester at New Mexico be higher than that usually

required, e.g., he may be required to maintain a 1.2 instead of a 1.00, especially if he is to be at New Mexico for only his final year.

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 three 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 three-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

All applicants for admission are required to take the Law School Admission Test given by the Educational Testing Service, P. O. Box 592, Princeton, New Jersey. Tests will be given at various places throughout the United States. Information and application forms can be obtained by writing to the Educational Testing Service. These should be obtained well in advance of the examination dates, so that the application and \$10 fee can be returned ten days or more before the date of the test. Applicants who have taken this test on or after February 28, 1948, need not repeat it but must have a report of the test sent to this College, if they have not already done so. Applicants will not be excluded on the basis of the test and may be permitted to postpone the test until that first given after registration, usually in mid-November.

Students may be required to take, without charge, speech, hearing, interest, and additional 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. The three-fourths of the work will usually mean 96 semester hours of credit, which may include not more than 10% of non-theory courses. All students are strongly urged to complete their major, minor, group, and other requirements so that they can obtain the bachelor's degree that is offered by the College of Arts and Sciences and the College of Business Administration at the end of the first year of work in the College of Law (see post, "Combined Course of Study Leading to Two Degrees"). Students in other colleges, and in universities and

colleges other than the University of New Mexico, should also take the regular course in the particular college. This is because the curriculum of each college is designed to give a well-rounded education which the student may not obtain if he picks and chooses courses at random. The completion of major, minor, group requirements, etc., is not yet made a requirement for admission to the College of Law, but each record will be scrutinized to determine whether the applicant has the equivalent of the prelaw education required. The scholastic average will also be considered.

Certain fields might be listed and recommended in which a lawyer should have at least an elementary knowledge, such as accounting, economics, English composition, speech and literature, government, history, philosophy, psychology, sociology, and anthropology. Specific subjects might be collected as required or elective subjects into a "prelaw" program. It is believed, however, that the student's interest should be the dominant guide. For this and other reasons, no more specific recommendation is made at present than the broad cultural background that is afforded by the program of the College of Arts and Sciences or the cultural and business education of the College of Business Administration or a degree in any other field. There is no "Prelaw Curriculum."

One subject that is of special value to a lawyer not only because of the training in precision and clarity of thinking that it, like mathematics and the natural sciences, gives, but as a tool, is accounting. Speech 55 or 57 is also especially recommended. Business Administration 105, or other three credits of elementary accounting, if not previously taken, may be taken for law credit after entry into the law school, but students are urged to take it before entering the College of Law.

Obviously, an ability to think clearly, to read carefully and understandingly, and to speak and write well is essential. These abilities are also tools, indispensable tools. To read understandingly, and critically, requires a stock of information. But information is not as important as skills in reading, speaking, and writing, a capacity for, and a habit of, intensive application and carefulness, and high personal standards of accomplishment. If possible a student should take an Honors course or at least one course in which a competent job of independent writing and research is required. In these ways one will provide himself with a capacity for future development. Law touches life at so many points that one man simply cannot acquire all of the information that he may need. He can, however, equip himself with a capacity for acquiring and valuing special knowledge.

Not every subject can be taken. One's interest should be his chief guide. While some courses, such as natural science with laboratory work, or a language, are valuable for their informational content as well as for their disciplinary value, other courses are in their informational aspects more directly relevant to law—economics, ethics, government, American and English constitutional history, psychology, cultural anthropology and sociology, and logic for thinking.

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

COMBINED COURSE OF STUDY LEADING TO TWO DEGREES

A candidate for a bachelor's degree in Arts and Sciences or in Business Administration may offer, in lieu of the last thirty hours at the University of New Mexico, the first full year's work (satisfactorily passed and properly certified) in the College of Law, provided that the requirements stated in the announcements of those colleges are met.

THE DEGREE

REQUIREMENTS FOR BACHELOR OF LAWS DEGREE

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 nine. 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 ten." *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 one year of study must be done at the University of New Mexico, and if but one year is done here, it must comprise not less than 12 semester hours of law credit each semester.
3. Have secured 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 will be determined by the faculty and may be changed at any time. Special lectures and services such as legal aid are not listed as courses. Brief and Argument, Office Practice, Legal Writing, Practice Court, and Constitutional Law are "required," and all first-year subjects must be taken. All other subjects are elective. The faculty may require any course to be retaken if failed. All students may be required to attend special meetings and lectures, particularly those on Legal Ethics, and are required to do special exercises assigned including special examinations and such services as legal aid, even though no credit be given. Casebooks and other study materials listed are subject to change.

BAR EXAMINATION REVIEW. No instruction designed as a review course for bar examinations is offered.

ELECTIVES IN OTHER COLLEGES. Business Administration 105 (Basic Accounting), or other 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. 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

Courses should be taken in the year for which offered, if possible. Descriptions of courses will be found under "Law" in the catalog section "Courses of Instruction."

FIRST YEAR

(All first-year courses must be taken)

Semester I		Semester II	
101 Criminal Law	3	115 Agency & Partnership	3
103 Contracts	3	104 Contracts	3
107 Torts	2	108 Torts	3
105 Property I	2	117 Property II	3
109 Civil Procedure I	3	121 Equity	3
111 Legal Meth and Bibliog	2		
	<hr/>		<hr/>
	15		15

SECOND YEAR

(Second- and third-year courses are elective if not marked Required)

119 Property III	4	145 Negotiable Instruments	3
125 Corporations	3	159 Evidence	4
131 Trusts	3	133 Wills and Probate	3
141 Legal Writing (Req'd)	3	144 Law and Society	3
143 Law and Society	2	112 Brief and Argument (Req'd)	1
128 Local Government Law	2	165 Sales	2
		123 Constitutional Law (Req'd)	4

THIRD YEAR

151 Civil Procedure II	2	152 Civil Procedure II	2
167 Taxation	4	127 Family Law and Comm Prop	3
139 Labor Law	3	153 Security*	4
163 Water Law	2	173 Conflict of Laws	3
171 Law of Oil and Gas	2	122 Restitution	2
135 Administrative Law	3	161 Practice Court (Req'd)	1
155 Creditors' Rights	3	179 Seminar in Civil Liberties	1
157 Legislation	1	177 Military Law (Eve)	2
129 Office Practice (Req'd)	1		
175 Patent Law (Eve)	2		

Total offerings: 108; 83 credits required for the degree.

STUDENT AIDS

LAW SCHOLARSHIPS

ANONYMOUS. Three anonymous gifts of \$50.00 to be awarded annually to students selected by the Dean of the College of Law.

THE LT. JOHN D. GAMBLE MEMORIAL SCHOLARSHIP. A scholarship of \$100 is awarded annually on the basis of ability, social awareness, and need, to a first- or second-year law student selected by the faculty of the 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.

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 HARRY ROBERT PARSONS SCHOLARSHIP IN LAW (1953). A scholarship of \$400.00 annually (or two of \$200 for one semester each, or two of \$100 for two semesters each, if the College of Law so elects in any year) established by Critchell Parsons of Dallas, Texas, B.A., University of New Mexico, 1932; B.A. and M.A., Oxford University, England, as Rhodes Scholar from New Mexico, 1932-36, in honor of his father, Harry Robert Parsons, of the Fort Sumner, New Mexico, Bar, a pioneer New Mexico lawyer. Payable on a semester basis from a fund established by the donor to students selected by the College of Law on the basis of merit and need, usually for use in the second or third year of legal study.

* Not offered in 1954-55

LOAN FUND

HOSHOUR MEMORIAL FUND (1951). Established by old friends and associates in practice in memory of Harvey Sheely Hoshour, distinguished lawyer and teacher and courageous humanitarian, who died October 9, 1951, a professor of law at the University of New Mexico. Generous contributions were added by his family, students, and more recent associates and friends.

PRIZES AND AWARDS

NATHAN BURKAN MEMORIAL COMPETITION. Prizes of \$150.00 and \$50.00 provided by A.S.C.A.P. are awarded annually to seniors in the College of Law for papers in copyright law.

BOOK PRIZES are awarded annually by the publishing companies in recognition of outstanding work done in this College.

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 of a student assistant.

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 coöperative 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 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, and Air Force. 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 as a Class A college 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. 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.

An applicant for examination by the New Mexico State Board of Pharmacy must be a graduate of a recognized college of pharmacy, 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. All of this practical experience must be acquired subsequent to matriculation in a college of pharmacy and not less than six months of experience must be acquired subsequent to graduation.

ADMISSION

A detailed statement of admission requirements will be found under "Admission" in this catalog. It is highly recommended that the preliminary preparation of those seeking admission to the College of Pharmacy include biology, chemistry, physics, modern languages and such applied courses as typing, bookkeeping, accounting, and commercial arithmetic.

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 other institutions if a grade of F has been previously received in the course at the University of New Mexico.
3. 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.
4. No student will be permitted to enroll in the professional courses of the senior year if his scholarship index is less than 1.0.

MAXIMUM NUMBER OF HOURS

Students in the College of Pharmacy may not enroll for more than nineteen 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 as follows: Dr. James E. McDavid, Freshmen; Dr. Hugh C. Ferguson, Sophomores; Dr. Raymond N. Castle, Juniors; Dr. George L. Baker, 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) are 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 scholarship index of not less than 1.0, and receive grades of C or better in all the required courses in the major fields of Pharmacy, Pharmaceutical Chemistry, Pharmacognosy, and Pharmacology,
4. satisfy the minimum residence requirement,
5. 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".)

FRESHMAN YEAR			
First Semester		Second Semester	
Phm 1L Intro	3	Phm 2 Phm Calculations	2
English 1 Writing with Rdgs in Expos	3	English 2 Writing with Rdgs in Lit	3
Chem 1L General	4	Chem 2L General	4
Biology 1L General	4	Biol 2L General	4
†Math 15 College Algebra	3	†Math 16 Plane Trig	2
*Physical Education	1	*Physical Education	1
	18		16
SOPHOMORE YEAR			
Phm 6L Hist of Pharmacy	2	Phmcog 72L General	4
Phm Chem 132L Inorg Med	3	Chem 102 Organic	3
Chem 101 Organic	3	Chem 104L Organic Lab	1
Chem 103L Organic Lab	1	Physics 12L General	4
Physics 11L General	4	B A 5 Prin of Acct	3
*Option of:		*Option of:	
Phil 1 Humanities	(3)	Phil 2 Humanities	(3)
Soc S 1 Intro	(3)	Soc S 2 Intro	(3)
German	(3)	German	(3)
French	(3)	French	(3)
Spanish	(3)	Spanish	(3)
History	(3)	History	(3)
*Physical Education	1	*Physical Education	1
	17		19
JUNIOR YEAR			
Phm 151L Phm Preps I	4	Phm 152L Phm Preps II	4
Biol 93L Bacteriology	4	Phm 122 Pharmacy Law	2
Chem 53L Quant Analysis	4	Biol 102L Human Physiology	4
*Speech 55 Speech for Bus & Prof	3	Biol 123L Biological Chemistry	4
*Electives	3-4	*Ec 51 Intro	3
	18-19		17
SENIOR 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 Chem 163L Org Med I	5	Phmcol 196L Phmcol II	5
Phmcol 195L Phmcol I	4	Electives	2-4
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. No credit will be granted for this course.

* Air Force ROTC or NROTC courses may be substituted for these courses.

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 *four days before* registration each semester. AFROTC students must complete this processing before academic registration in the gymnasium. The \$10 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. 42 in this Bulletin.)

DEPARTMENT OF AIR SCIENCE AND TACTICS

FRESHMAN YEAR

AIR S 11-12 AIR SCIENCE I 2, 2

SOPHOMORE YEAR

AIR S 51-52 AIR SCIENCE II 2, 2

JUNIOR YEAR

AIR S 101-102 AIR SCIENCE III 4, 4

SENIOR YEAR

AIR S 151-152 AIR SCIENCE IV 4, 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		FRESHMAN YEAR		Second Semester	
NS11. Naval Orientation	3	NS12. Naval Orientation	3		
		SOPHOMORE YEAR			
NS51. Naval Weapons	3	NS52. Naval Weapons	3		
		JUNIOR YEAR			
NS101. Navigation	3	NS102. Navigation	3		
		SENIOR YEAR			
NS151. Naval Machinery & Diesel Engines	3	NS152. Ship Stability, Leadership and Military Justice	3		

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

		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.

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 extension bulletin is issued each year giving regulations and information concerning courses and services rendered by the Division of Extension. For a copy of the Extension 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 of the state. Interested persons or communities are invited to communicate with the Division of Extension of the University when extension classes are desired by the members of the community. Any of the regular University courses may be offered by extension so long as the class is not dependent upon the campus library and laboratory facilities.

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 eight 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 four-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. 50 of this catalog and in the *Graduate Bulletin*, 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 either in professional training, or in a means of better enjoying leisure time.

A bulletin listing both credit and non-credit courses offered each semester will be supplied to anyone making request to the Director of the Community College, University of New Mexico, Albuquerque.

CONFERENCES, INSTITUTES, AND SHORT COURSES

During the past few years a great number of conferences, institutes and short courses have been held on the campus. Business and professional groups interested in this type of service are urged to contact the Director 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.

FILM LIBRARY SERVICE

The Division of Extension can supply to the schools, clubs, and organizations of the State instructional motion pictures for classroom use. These films are 16 mm. sound films, not usable in silent projectors.

Over three hundred films are available, including classroom instructional films, Inter-American films, and special commercial prints. These contain latest subjects of interest to grade pupils, high school students, and college classes. They are also valuable for club, church, and other audiences.

A special Film Library catalog will be sent upon request to the Division of Community Services, University of New Mexico, Albuquerque.

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. In the summer a field school, in conjunction with the Art Department, is conducted at the Foundation. Also, a library is maintained all year for the people of Taos County and a Bookmobile program is operated during the school term.

TRANSLATION SERVICE

The Division of Community Services maintains a translation service for professional, business, or private use. Facilities are available for translation into English, French, German, Italian, Portuguese, Spanish, Russian, Chinese or Japanese. Anything from a letter to a lengthy publication will receive immediate attention.

TELEVISION PROGRAMMING

Televising of programs depicting the various academic and extra-curricular activities in the University began in September, 1953. Time for these programs which has been generously offered by commercial stations has been utilized on a limited basis.

FIELD SESSIONS

Field sessions are usually conducted each summer by the Departments of Anthropology, Art, and Engineering. Work in Biology is sometimes offered in the field. (For dates, see the Calendar.) Separate bulletins are published on the field sessions, and may be obtained by addressing the chairman of the department concerned.

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. The departments are arranged in alphabetical order in accordance with the table below:

Accounting (<i>See</i> Business Administration)	English
Air Science	Folklore (<i>See</i> Modern & Classical Languages, and English 161)
Anthropology	French (<i>See</i> Modern & Classical Languages)
Architectural Engineering (<i>See</i> Engineering, Architectural)	Geography
Art	Geology
Art Education (<i>See</i> Education, Art)	German (<i>See</i> Modern & Classical Languages)
Astronomy (<i>See</i> Mathematics & Astronomy)	Government & Citizenship
Biology	Greek (<i>See</i> Modern & Classical Languages)
Business Administration	Health, Physical Education, and Recreation
Business Education (<i>See</i> Business Administration)	History
Chemical Engineering (<i>See</i> Engineering, Chemical)	Home Economics
Chemistry	Industrial Arts
Chemistry, Pharmaceutical (<i>See</i> Pharmacy)	Italian (<i>See</i> Modern & Classical Languages)
Civil Engineering (<i>See</i> Engineering, Civil)	Journalism
Classical Languages (<i>See</i> Modern & Classical Languages)	Latin (<i>See</i> Modern & Classical Languages)
Dramatic Art	Law
Economics	Library Science
Education, Art	Mathematics & Astronomy
Education, Business (<i>See</i> Business Administration)	Mechanical Engineering (<i>See</i> Engineering, Mechanical)
Education, Elementary	Modern & Classical Languages
Education, General	Music
Education, Health (<i>See</i> Health, Physical Education, and Recreation)	Music Education (<i>See</i> Education, Music)
Education, Home Economics	Naval Science
Education, Industrial Arts (<i>See</i> Industrial Arts)	Pharmaceutical Chemistry (<i>See</i> Pharmacy)
Education, Music	Pharmacognosy (<i>See</i> Pharmacy)
Education, Physical (<i>See</i> Health, Physical Education, and Recreation)	Pharmacology (<i>See</i> Pharmacy)
Education, Psychology	Pharmacy
Education, School Administration	Philosophy
Education, Secondary	Physical Education (<i>See</i> Health, Physical Education, and Recreation)
Electrical Engineering (<i>See</i> Engineering, Electrical)	Physics
Elementary Education (<i>See</i> Education, Elementary)	Portuguese (<i>See</i> Modern & Classical Languages)
Engineering, Architectural	Psychology
Engineering, Chemical	Psychology, Educational (<i>See</i> Education, Psychology)
Engineering, Civil	Russian (<i>See</i> Modern & Classical Languages)
Engineering, Electrical	School Administration (<i>See</i> Education, School Administration)
Engineering, Industrial Arts (<i>See</i> Industrial Arts)	Secondary Education (<i>See</i> Education, Secondary)
Engineering, Mechanical	Sociology
	Spanish (<i>See</i> Modern & Classical Languages)
	Speech

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.

Symbols used in course descriptions: L—part of the course is laboratory work; F—course is given during field session; SS—course offered in eight weeks' 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.

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.

ACCOUNTING

See Business Administration.

AIR SCIENCE AND TACTICS

William M. Massengale, Colonel USAF, Professor of Air Science and Tactics. Assistant Professors: Charles P. Downer, Major USAF; William H. Jones-Burdick, Major USAF; Francis H. Skipper, Major USAF; Warren D. Curton, Major USAF; Willis J. Michael, Capt. USAF; Harry J. Williams, Capt. USAF. Instructors: Richard F. Butterfield, M/Sgt. USAF (Administrative Supervisor); Lorenzo L. Gunter, M/Sgt. USAF (Supply Supervisor); Charles R. Stuart, M/Sgt. USAF; Charles E. Snell, T/Sgt. USAF; James N. Corbin, T/Sgt. USAF; Francis L. Finch, S/Sgt. USAF.

CURRICULUM

See p. 169.

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

Orientation into the Air Force and the Air Force ROTC program. Introductory presentations of global geography, international military relationships, general aviation, and armed forces aviation.

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

A survey of the elements of aerial warfare and the career fields in the Air Force.

101-102. AIR SCIENCE III. (4,4)

A rather detailed presentation of military functions common to all officers in the Air Force including command and staff relationship, communications processes and correspondence, military law, and important applied air science subjects.

151-152. AIR SCIENCE IV. (4,4)

A continuation of the detailed presentation of military functions common to all Air Force officers including the principles of leadership and management, military aspects of world political geography, and a survey of military aviation and its impact on modern war.

ANTHROPOLOGY

Professors Hill (Chairman), Hibben, Newman, Spier; Associate Professor Ellis; Graduate Assistants Funk, Kurtz, Lindsey.

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 five major divisions: archaeology, ethnology, linguistics, topical and technical. A student must concentrate in one of the first three, and must take a minimum of 12 hours in that division. Six hours must be taken in each of the two other major divisions, and 3 hours in each of the remaining two 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 six hours to be taken in courses numbered above 100.

GROUP REQUIREMENTS

Courses in this department count toward Social Sciences (Group III).

1. GENERAL ANTHROPOLOGY: ORIGIN AND ANTIQUITY OF MAN. (3) Hibben
2. GENERAL ANTHROPOLOGY: DEVELOPMENT OF CULTURE. (3) Hill, Newman
8. SURVEY OF SOUTHWESTERN ANTHROPOLOGY. (3) Ellis
A non-technical course not credited toward the major or minor in Anthropology.
- 66F. ARCHAEOLOGIC FIELD METHOD. (2) Staff
71. SURVEY OF ANTHROPOLOGY. (2) Staff
The subdivisions of anthropology. Not open to students who have credit in Anthropology 1 and 2.
73. INTRODUCTION TO LATIN AMERICA. (3)
(Same as Economics 73, Government 73, and Sociology 73.)
97. INTRODUCTION TO CLASSICAL ARCHAEOLOGY. (3) Hibben
The cultural beginnings of Greece and Rome with special reference to the importance of classical backgrounds in modern culture.
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
This course excludes the Southwest and Mexico from consideration.
186. AMERICAN ARCHAEOLOGY: SOUTH AMERICA. (3) Hibben

Ethnology:

105. THE AMERICAN INDIAN: NORTH AMERICA. (3) Hill
106. THE AMERICAN INDIAN: SOUTH AMERICA. (3) Newman
119. RACES AND CULTURES OF EUROPE AND ASIA. (3) Staff
136. ETHNOGRAPHY OF AFRICA. (3) Spier
140. ANALYSIS OF CULTURE AREAS: WESTERN NORTH AMERICA. (3) Spier
Restricted to California, Basin and Plateau culture areas.
142. ANALYSIS OF CULTURE AREAS: PLAINS. (3) Spier
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) Newman
No prerequisites.
118. STRUCTURAL ANALYSIS. (3) Newman
A continuation of 117. The course 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. DENDROCHRONOLOGY. (3) Ellis
The science of tree ring studies applied to archaeological problems. Prerequisite: permission of the instructor. 1 lecture, 4 hrs. lab.
- 107L. PHYSICAL ANTHROPOLOGY: OSTEOLOGY. (3) Staff
2 lectures, 2 hrs. lab.
- 108L. PHYSICAL ANTHROPOLOGY: SOMATOLOGY. (3) Staff
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.
- 144L. MATERIAL CULTURE ANALYSIS. (3) Hill
Methods of analyzing archaeological, non-ceramic material traits. 1 lecture, 4 hrs. lab.
- 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) Spier
Essential concepts of the nature of culture and of racial relationship. No prerequisite.
104. COMPARATIVE SOCIAL STRUCTURE. (3) Spier
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) 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) Staff
Field Course. Prerequisite: permission of staff.

Graduate Courses:

205. PRO-SEMINAR: INTRODUCTION TO RESEARCH. (2) Hill
Required of all graduate students.
208. PROCESSES OF CULTURE CHANGE. (2) Spier
210. KINSHIP STUDIES. (2) Spier
212. SEMINAR: ETHNOLOGY. (2) Hill
- 251-252. PROBLEMS. (2, 2) Ellis, Hibben, Hill, Newman, Spier
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) Staff
294. SEMINAR: SOUTHWESTERN ARCHAEOLOGY AND ETHNOLOGY. (2) Ellis
300. THESIS. (6) Ellis, Hibben, Hill, Newman, Spier
400. DISSERTATION. Ellis, Hibben, Hill, Newman, Spier

ARCHITECTURAL ENGINEERING

See Engineering, Architectural.

ART

Professors Haas (Chairman), Adams, Davey, Douglass, Jonson; Associate Professor Tatschl; Assistant Professors Bunting, Poore; Graduate Assistants Caird, Leondar.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts a 64 hour major is offered leading to the degree of B.F.A. in Art. (*See curricula, p. 140*).

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:

- 8 hours chosen from Art 3, 4, 5, 6, 7, 8, or 10.
- 8 hours Group III including Art 1, 2, 51, or 52.
- 16 hours additional in the field of specialization.

Those specializing in Group III take the following:

- 8 hours consisting of Art 3, 4, 5, 6.
- 6 hours of Group I or II.

18 hours additional of Group III courses including three of the following courses: Art 1, 2, 51, or 52.

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. 137) a 45-hour art major is offered. This consists of: Art History (a choice of three of the following courses: 1, 2, 51, 52); Art 3, 4, 5, 6, 7, 8; 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 Arts & Sciences; 25 hours for College of Fine Arts) in a field of particular interest, such as Commercial Art, Sculpture, Painting, Photography, etc. (Art 10 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 one semester hour of credit it is expected that the student do approximately 48 clock hours of work (three clock hours per week through the semester), which includes time spent in recitation, preparation, and studio. If full studio hours are not assigned in the schedule, additional work will be arranged by the instructor.

(GENERAL)

10. INTRODUCTION TO ART. (3) Haas
Introduction to the field of art stressing basic principles of art as related to contemporary art forms. This course is offered primarily for the student outside of the art field in order to better understand trends in modern art.

(GROUP I)

Painting, Sculpture, and Drawing

- 3-4. CREATIVE DESIGN. (2, 2)
Introduction to line, color, form and composition.

Staff

- 5-6. BEGINNING DRAWING. (2, 2) Staff
Introduction to the methods and theories of drawing and painting.
63. PAINTING AND DESIGN. (2) Adams, Davey, Haas, Jonson
Introductory study of the painter's craft. Various media. Figure, portrait and still life. Prerequisites: 3, 5, 6. May be repeated to a maximum of 6 hours.
65. DRAWING. (2) Adams, Davey, Douglass, Tatschl
Craftsmanship of drawing in various media, including still life, anatomy, and figure drawing. Prerequisites: 5, 6. May be repeated to a maximum of 4 hours.
89. SCULPTURE. (2) Tatschl
Technique, executed in various media of sculpture. Prerequisites: 4, 5, 6. May be repeated to a maximum of 4 hours.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
103. LANDSCAPE. (2) Adams, Davey, Douglass, Haas
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, Davey, Jonson
Prerequisite: 63. May be repeated to a maximum of 18 hours.
165. ADVANCED LIFE DRAWING. (3) Adams, Davey, Tatschl
Prerequisite: 65. May be repeated to a maximum of 12 hours.
189. ADVANCED SCULPTURE. (3) 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 two hours per semester with a total of eight hours toward graduation. Open to juniors and seniors having a B average in their art courses. (Undergraduates only.)
- 251-252. SPECIAL 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. THESIS. (6) Graduate Staff
The thesis should be taken over two semesters.

(GROUP II)

Crafts and Commercial Art

- 7-8. GENERAL CRAFTS. (2, 2) Staff
Introduction to the processes involved in crafts. Art 3 and 4 prerequisites or to be taken concurrently.
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) Poore
Beginning jewelry design in various media, with emphasis upon the inherent qualities of the materials used. Of interest to teachers. Prerequisites: 3, 4, 7, 8.
58. BEGINNING TEXTILES. (2) Poore
An experimental approach to weaving and textile design with emphasis upon the combination of materials and the use of new materials. Prerequisites: 3, 4, 7, 8.
67. GRAPHIC ARTS. (2) Tatschl
Techniques and methods in lithography, etching, and woodcuts. Prerequisites: 3, 4, 5, 6, 65. May be repeated to a maximum of 4 hours.

- 77-78. **GENERAL COMMERCIAL ART. (2, 2)** Douglass
Art and layout in advertising, various techniques and methods of reproduction. Optional work in cartooning. Prerequisites: 3, 4, 5, 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.) Art 87 must be taken prior to 88.
97. **BEGINNING CERAMICS. (2)** Poore, Tatschl
Beginning ceramics, including practice in casting, shaping, wheel throwing, firing and glazing. No prerequisite.
- HA. **READING FOR HONORS. (1-3 each semester)** Staff
- HB. **RESEARCH FOR HONORS. (1-3 each semester)** Staff
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)** Poore
Continuation of Art 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.
168. **INTERIOR DECORATION. (3)** Poore
Contemporary materials for home decoration, furnishings, and interior planning, will be fully investigated. Sketches, plans and models will be executed in conjunction with this study. Prerequisites: 3, 4, 7, 8.
- 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)** Staff
Advanced work in projects or fields not covered in the regular catalog courses. Maximum two hours per semester with a total of eight hours toward graduation. Open to juniors, seniors having a B average in their art courses. (For undergraduates only.)
- 251-252. **SPECIAL PROBLEMS. (2-3 each semester)** Staff
Graduate work in projects or fields not covered in the regular catalog courses. Maximum 6 hours.

(GROUP III)

Art History

1. **GENERAL ART HISTORY. (2)** Haas
Introductory study of the architecture, painting, sculpture and crafts of the prehistoric, and ancient periods.
2. **GENERAL ART HISTORY. (2)** Bunting
Introductory study of the architecture, painting, sculpture and crafts from the Hellenistic period to the end of the Middle Ages.
42. **HISTORY OF ARCHITECTURE: ANCIENT AND MEDIEVAL. (2)** Bunting
A survey of architectural forms and structural design from Egyptian times through the Middle Ages.

51. GENERAL ART HISTORY. (2) Bunting
Introductory study of the architecture, painting, sculpture and crafts of the Renaissance and Baroque periods.
52. GENERAL ART HISTORY. (2) Bunting
Introductory study of the architecture, painting, sculpture and crafts of the 19th and 20th centuries.
61. HISTORY OF ARCHITECTURE: RENAISSANCE AND BAROQUE. (2) Bunting
A survey of architectural design from the Renaissance to 1800.
62. HISTORY OF MODERN ARCHITECTURE AND CITY PLANNING. (2) Bunting
A survey of architectural forms and structural design from 1800 to the present.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
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) Staff
A study of the arts of the Americas prior to the conquests of the Spanish in the 15th century.
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.
171. PRIMITIVE ART. (2) Haas
The art forms of present day primitive peoples, with main emphasis on those of the Oceanic and African areas but with discussion on the art forms of North, Central and South America. No prerequisites.
199. SPECIAL PROBLEMS. (2) Staff
Advanced work in projects or fields not covered in the regular catalog courses. Maximum two hours per semester with a total of eight hours toward graduation. Open to juniors and seniors having a B average in their art courses. (For undergraduates only.)
- 251-252. SPECIAL 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. THESIS. (6) Graduate Staff
Should be taken over two semesters.

ART EDUCATION

See Education, Art

ASTRONOMY

See Mathematics and Astronomy

BIOLOGY

Professors Castetter (Chairman), Dittmer, Eversole, Koster; Consulting Professor Langham; Associate Professors Hoff, Johnson; Assistant Professor Fleck; Teaching Assistant Richmond; Graduate Assistants Bolsterli, Everett, Goldizen, Joseph, Torgerson; Research Assistants Furchner, Johnson, Mays, Richmond.

MAJOR STUDY

Biology 1L, 2L, 71L, 72L, 109, 109L, 130L, and 8 additional hours, 4 of which must be in courses numbered above 100. Courses 6, 33, 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. 6, 33, and 126L are not acceptable toward the minor.

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

See pp. 93-96.

GROUP REQUIREMENTS

Courses in this department count towards Science and Mathematics (Group IV).

NOTE

Credit will not be allowed for both 36-39L and 130L; or for 36-39L and 102L; or for 102L and 130L; or for both 48 and 109.

- 1L. GENERAL BIOLOGY. (4) Yr. Koster, Dittmer, Fleck
An introduction to the fundamental structures, functions, and principles of higher plants and animals with emphasis on the unity, rather than on the diversity, of phenomena. Credit suspended until 2L is completed. 3 lectures, 3 hrs. lab.
- 2L. GENERAL BIOLOGY. (4) Koster, Dittmer, Fleck
A continuation of 1L. Survey of the plant and animal kingdoms; heredity, environmental relations, and evolution. Prerequisite: 1L. 3 lectures, 3 hrs. lab.
6. INTRODUCTION TO THE BIOLOGICAL SCIENCES. (3) Fleck
An elementary survey of the world of living things. Includes brief studies of both plant and animal life, digestion, respiration, circulation, excretion, reproduction, communicable and functional diseases, heredity and evolution. Emphasis on the human body.
- 12L. GENERAL ZOOLOGY. (4) Fleck
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.
33. MICROBIOLOGY. (3) Johnson
The part played by microorganisms in the environment of man; a lecture and demonstration course emphasizing the general aspects of disinfection, public health, and the common infectious diseases.

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.
- 39L. HUMAN ANATOMY AND PHYSIOLOGY LABORATORY. (1-2) Staff
Laboratory work in elementary anatomy and physiology with emphasis on anatomy. Cannot be taken independently of Biology 36.
41. SURVEY OF NEW MEXICO PLANT LIFE. (2) Dittmer
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 and 2L. 2 lectures, 4 hrs. lab.
- 72L. COMPARATIVE PLANT MORPHOLOGY. (4) Dittmer and Assistant
A comparative study of the four great groups of the plant kingdom. Prerequisites: 1L and 2L. 2 lectures, 4 hrs. lab.
- 93L. GENERAL BACTERIOLOGY. (4) Johnson and Assistant
Biology and significance of bacteria and other microorganisms. Fundamental principles governing the bacteriology of water, sewage, milk, food, and sanitation. Prerequisites: 1L and 2L, Chemistry 1L and 2L. 2 lectures, 4 hrs. lab.
- 96L. ORNITHOLOGY. (4) Koster
Identification and habits 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: Biology 2L; corequisites: Chemistry 102, 104L. 3 lectures, 3 hrs. lab.
109. GENETICS. (3) Fleck
The scientific, cultural, and philosophical aspects of inheritance. Prerequisites: 1L and 2L.
- 109L. GENETICS LABORATORY. (1) Fleck and Assistant
Cannot be taken independently of 109. Optional for other than biology majors. 2 hrs. lab.
110. EVOLUTION. (3) Koster
History of the principle and theories of evolution. Prerequisite: 109.
- 112L. COMPARATIVE EMBRYOLOGY OF THE VERTEBRATES. (4) Koster
Prerequisites: 1L, 2L, and 71L. 2 lectures, 6 hrs. lab.
- 114L. GENERAL ENTOMOLOGY. (4) Hoff
Structure, habits, and classification of the insects. Prerequisites: 1L and 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, 6 hrs. lab. (Offered in alternate years.)
- 121L. COMPARATIVE VERTEBRATE ANATOMY. (5) Hoff and Assistant
Prerequisites: 1L, 2L, and 71L. 2 lectures, 6 hrs. lab.
- 123L. BIOLOGICAL CHEMISTRY. (4) Johnson and Assistant
An introductory course dealing with the chemistry of biological compounds and their transformation in plants and animals. Prerequisites: Chemistry 102 and 104L. 3 lectures, 3 hrs. lab.
- 126L. PHYSIOLOGY OF EXERCISE. (3) Fleck and Assistant
A study of 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 Assistants
The functions and structures of the animal body with emphasis on fundamental physiological processes and mechanisms. Prerequisites: 1L and 2L, Chemistry 1L and 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 and 2L. Organic Chemistry recommended. 3 lectures, 3 hrs. lab.
- 144L. COMPARATIVE PHYSIOLOGY. (4) Eversole
Continuation of 143L but with emphasis on respiration, circulation, and excretion in the vertebrates. Prerequisites: 71L, 72L, Chemistry 1L and 2L. Organic Chemistry recommended. 3 lectures, 3 hrs. lab.
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) Johnson
Microorganisms of milk, dairy products, and other foods, and their relation to spoilage and sanitation. Techniques and significance of the standard methods of bacteriological procedures for water and dairy products. Prerequisite: 93L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 155L.)
- 154L. PATHOGENIC BACTERIOLOGY. (4) Johnson
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 156L.)
- 155L. SYSTEMATIC AND DETERMINATIVE BACTERIOLOGY. (3) Johnson
A history of bacterial classification and rules of nomenclature. The laboratory isolation, identification, and classification of bacteria. Prerequisite: 93L. 1 lecture, 4 hrs. lab. (Offered in alternate years; alternates with 153L.)
- 156L. IMMUNITY AND SEROLOGICAL METHODS. (4) Johnson
Principles of immunity and the use of antigen-antibody reactions in disease diagnosis and in the identification of bacteria. Prerequisites: 93L and Chemistry 42L or 102 and 104L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 154L.)
158. DYNAMICS OF BIOCHEMISTRY. (3) Johnson
Selected topics in physical biochemistry including consideration of the quantitative enzymatic interconversion and synthesis of organic matter in the cell. Prerequisites: 123L and 130L. (Offered in alternate years.)
- 163L. FLORA OF NEW MEXICO. (4) Dittmer
Prerequisites: 1L and 2L. 2 lectures, 4 hrs. lab.
- 171L. TERRESTRIAL ECOLOGY AND GEOGRAPHY. (4) Hoff
Animals and plants in relation to the environment; a study of biotic communities; problems of plant and animal distribution. Field trips. Prerequisites: 1L and 2L. 3 lectures, 3 hrs. lab.
- 174L. PLANT ANATOMY. (4) Dittmer
Structure of vascular plants. Prerequisites: 1L and 2L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 176L.)
- 176L. MYCOLOGY AND PLANT PATHOLOGY. (4) Dittmer
A taxonomic study of the fungi, with some consideration of the causative factors and economic aspects of plant diseases. Prerequisites: 1L, 2L, and 72L. 2 lectures, 4 hrs. lab. (Offered in alternate years; alternates with 174L.)
177. ECONOMIC BOTANY. (3) Dittmer
Plants of economic importance throughout the world; geographic distribution, relation to world economy, and population distribution. (Offered in alternate years.)

- 178L. PLANT PHYSIOLOGY. (4) Dittmer
General physiology of plant functions, emphasizing photosynthesis, respiration, and transpiration. Prerequisites: 1L and 2L. 2 lectures, 4 hrs. lab.
179. CONSERVATION. (3) Dittmer
Various aspects of conservation including soil, water, mineral, wildlife, forestry, range, and human. Lecture, demonstration, field trips. (Offered in alternate years.)
- 181L. MEDICAL ENTOMOLOGY. (3) Hoff
A study of 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
Study of 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) Hoff, Koster
A study of fresh-water habitats and aquatic invertebrates with special reference to problems of productivity. Field trips. Prerequisites: 1L and 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- 185L. GENERAL VERTEBRATE ZOOLOGY. (4) Koster
Principles of classification; study of ecology, behavior, and speciation of the vertebrates. Prerequisites: 1L and 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 and 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- 189L. MAMMALOGY. (4) Koster
Classification, phylogeny, natural history and literature of mammals. All-day field trips and one or more over-night field trips required. Prerequisites: 1L and 2L. 3 lectures, 3 hrs. lab. (Offered in alternate years.)
- 190L. HISTOLOGY AND MICROTÉCHNIQUE. (3) Staff
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 and 2L and consent of Chairman of Department. 1 lecture, 4 hrs. lab. (Offered in alternate years.)
201. SEMINAR: CURRENT TOPICS IN BIOLOGY. (2) Dittmer, Eversole, Hoff, Johnson, Koster
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.)
- 204L. INDUSTRIAL MICROBIOLOGY. (3) Johnson
The role of microorganisms in industrial fermentations. Prerequisites: 8 hrs. of bacteriology, and Biology 123L. 1 lecture, 6 hrs. lab. (Offered in alternate years.)
- 205L. METHODS IN PHYSIOLOGICAL RESEARCH. (3) Eversole
Introduction to materials, methods, and experimental procedures used in research problems in physiology. 1 lecture, 6 hrs. lab.
- 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) Castetter
Trend of scientific thought and method from earliest times to the present. Origin and history of important biological principles.
251. PROBLEMS. (2-3) Dittmer, Eversole, Hoff, Johnson, Koster
252. PHYLOGENY OF THE PLANT KINGDOM. (2) Dittmer
Evolutionary trends with emphasis on the vascular plants.

254. PRINCIPLES OF ECONOMIC VERTEBRATE ZOOLOGY. (3) Koster
 The biotic effect of human settlement upon the vertebrates. Principles underlying management and control. (Offered in alternate years.)
300. THESIS. (6) Graduate Staff
400. DISSERTATION. Graduate Staff

BUSINESS ADMINISTRATION

Professors Sorrell (Dean), Parish; Associate Professors Dunbar, Edgel, Evans, Huber, Smith; Assistant Professors Brand, Finston, Glaese, Harmeyer, Mori, Reva; Instructors L. W. Auld, V. L. Auld.

CURRICULA AND CONCENTRATIONS

See pp. 105-109.

For Business Education see p. 117.

MINOR STUDY IN ARTS AND SCIENCES

Economics 51 and 52, Accounting 5 or 105 and nine additional hours in Business Administration courses numbered above 100.

Majors in Economics must have permission of the Economics Department Chairman to minor in Business Administration. For such students the minor requirements are 12 hours in Business Administration courses numbered above 100 in excess of Business Administration courses used to fulfill requirements for the major.

- 5-6. PRINCIPLES OF ACCOUNTING. (3, 3) Staff
 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 5 can be obtained without continuing in 6.
7. OFFICE MACHINES AND FILING. (2) Glaese
 Laboratory work in filing, transcription from recorded dictation, mimeograph, direct process and gelatine duplicators, listing and non-listing calculators. Class meets four hours a week. Prerequisite: 11 or equivalent.
- †11. BEGINNING TYPEWRITING. (2) Glaese, Reva
 The learning of the keyboard by the touch system; reconstruction of basic skills. Students who have had typewriting in high school or business school should take 61 or 62, as they will not receive credit in 11.
- †12. INTERMEDIATE TYPEWRITING. (2) Glaese, Reva
 Some business forms including letter writing are studied. A speed of 40 words per minute is achieved. Students who have had typewriting in high school or business school should take 61 or 62.
- §13-14. SHORTHAND THEORY; BEGINNING DICTATION. (3, 3) 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 and 13 or equivalent. 4 one-hour classes per week.
41. MATHEMATICS OF INVESTMENT. (3) Glaese, Reva
 (Same as Mathematics 41.)

† 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.

51-52. INTRODUCTION TO ECONOMICS. (3, 3)

(Same as Economics 51, 52.)

§53-54. TRANSCRIPTION; SPEED DICTATION. (3, 3)

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.

†61-62. ADVANCED TYPEWRITING. (2, 2)

Staff

Emphasis on speed, technique, and corrective drills. Business letters, reports, manuscripts, tabulation, rough drafts, billing, corporation reports, legal documents, filling in forms. Opportunities for achieving individual speed goals. Speed goal for 61: 50 wpm.; for 62: 60 wpm. Prerequisite: 12 or equivalent.

63-64. INTERMEDIATE ACCOUNTING. (3, 3)

Staff

Review of fundamentals; detailed consideration of partnerships and corporation net worth; basic accounting theory; problems of control of, and accounting for, cash; receivables, inventories, fixed assets, intangibles, investments, liabilities, funds and reserve, comparative statements, analytical ratios; statement of application of funds; partnership dissolution and liquidation, consignments, installment sales, the statement of affairs, realization and liquidation statement. Credit can be obtained in 63 without continuing in 64. Prerequisites: 5 and 6 with a minimum grade of "C" in 6.

65. BUSINESS WRITING. (3)

Reva

A study of psychology of tone, structure, and form of business letters. Includes the writing of order, adjustment, credit, collection, sales application, and recommendation letters.

101. ANALYSIS OF FINANCIAL STATEMENTS. (2)

Dunbar

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)

Smith

Essential principles of governmental accounting; account classification, budgets, statements, revenues and expenditures; general fund, bond and sinking funds, working capital and special assessment funds; utility accounts; cost accounting. Prerequisite: 63.

104. COST ACCOUNTING. (3)

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 104.

105. BASIC ACCOUNTING. (3)

Parish

A one-semester survey course for non-Business Administration students only. Included are: the nature of business transactions and their relationship to accounting reports; debit-credit theory; the use of journals and ledgers, preparation of financial statements; theory of accounting for assets, liabilities and capital; manufacturing accounting; interpretation of financial data. Emphasis is on the non-clerical aspects of accounting. Prerequisite: upper division standing.

106-107. BUSINESS LAW. (3, 3)

Huber

This course attempts to give an understanding of the basic legal institutions and a working knowledge of essential legal concepts. Attention is given to the following subjects: contracts, agency, and negotiable instruments. 107 is continued from 106 considering business organizations, real and personal property, security transactions and trade regulations. Prerequisite: upper division standing.

108. PRINCIPLES OF MARKETING. (3)

Staff

Principles of marketing: economic significance, functions, middlemen and channels of trade, competition, price policies, marketing management, market planning, budgets and cost, market research; consumer problems.

† 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.

109. **BUSINESS STATISTICS.** (3) Brand
Collection, arrangement, and interpretation of statistical material relating to business operations. Prerequisite: upper division standing.
110. **CORPORATION FINANCE.** (3) Evans
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) Staff
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) Evans
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.
- 117-118. **INCOME TAX ACCOUNTING.** (3, 3) Dunbar
Study of 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: 64. Credit may be obtained in 117 without continuing in 118.
119. **AUDITING.** (3) Dunbar
Auditing principles and procedure; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems. Prerequisite: 64.
120. **AUDITING.** (3) Dunbar
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: 119.
121. **ADVANCED ACCOUNTING.** (3) Smith
Problems, insurance, correction of errors, estates and trusts, budgets; branch accounting, consolidated statements, foreign exchange. 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: 102, 104, 117, 119, and 121. Credit in 125 is not dependent upon completing 126.
127. **LIFE INSURANCE.** (3) Evans
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) Huber
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.
129. **APPLIED BUSINESS STATISTICS.** (3) Brand
Application of principles of statistics to practical problems. Includes development of theories beyond the first course; critical analyses of statistical data and manipulative techniques, interpretation of data, and writing of reports. The Bureau of Business Research will be used as a laboratory. Prerequisite: 109 with a grade of B, or consent of instructor.

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.
131. **PERSONNEL MANAGEMENT.** (3) Finston
The field of personnel administration; functions of a personnel department, employment methods, physical working conditions, employee training, transfers and promotion, grievances, discharge; job analysis and specifications, production standards, labor turnover, employee rewards, profit-sharing; employee representation, collective bargaining; industrial government. Prerequisite: 130.
132. **SALARY AND WAGE ADMINISTRATION.** (2) Finston
Determination of wage rates and pay practices, evaluation of jobs, the wage structure, employer-employee cooperation and control. Prerequisite: 131.
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: 131.
134. **SELLING AND SALES SUPERVISION.** (3) Evans
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.
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) Glaese
Development of the ability to apply secretarial skills to office duties and to handle efficiently the responsibilities of a secretarial position. Prerequisites: 12 and 14 or equivalent.
158. **OFFICE MANAGEMENT.** (3) Glaese
Principles of 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 CYCLES.** (3) Hamilton
(Same as Economics 162.)
163. **RISE OF MODERN INDUSTRY.** (3) Staff
(Same as Economics 163.)
165. **PUBLIC UTILITY MANAGEMENT.** [Public Utilities] (3) Parish
Particular attention is given to non-technical management problems at the local level of electric light and power, artificial and natural gas, urban transportation, telephone, water, and garbage companies. Study is also made of electric power and natural gas problems on a regional and national scale.
180. **GOVERNMENT CONTROL OF BUSINESS.** (3) Duncan
(Same as Economics 180.)
182. **RETAIL MERCHANDISING.** (3) Staff
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. **PROBLEMS IN MARKET ANALYSIS.** (3) Staff
The various types of market analysis used by advertising media, manufacturers and distributors. Data is gathered in the market, analyzed, interpreted and conclusions are presented. Prerequisites: 108, 182.
185. **MARKETING MANAGEMENT.** (3) Staff
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: 114 or 182.
195. **INDUSTRIAL MANAGEMENT POLICY.** (3) Finston
An integrative course covering the major specific functions of top management, with special emphasis upon the relationship between policy formulation and manufacturing processes. Analysis of industrial management problems and policies under widely diversified operating conditions. Prerequisites: 6 hrs. in industrial administration, including 130.
196. **ADVANCED COST ACCOUNTING.** (3) Dunbar
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 104.
198. [208] **SECURITY ANALYSIS.** (3) Evans
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.)
203. **RESEARCH IN BUSINESS.** (3) Edgel
This course is 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) Staff
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) Dunbar
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.
207. **SEMINAR IN ADVANCED TAX ACCOUNTING.** (3) Dunbar
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
A treatment of 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 the Dean of the College of Business Administration required.
300. **THESIS.** (6) Graduate Staff

CHEMICAL ENGINEERING

See Engineering, Chemical

CHEMISTRY

Professors Riebsomer (Chairman), Smith; Consulting Professors Jette, Spence; Associate Professors Castle, Kahn, Martin, Suttle; Assistant Professor Daub; Lecturer Hammel; Instructor Searcy; Graduate Assistants Adelfang, Bentley, Eiland, Neill, Patton, Shultz, Stampfer; Research Associate Freedman; Research Assistants Barker, Comp, Doyle.

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

21 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.

GROUP REQUIREMENTS

Courses in this department count toward Science and Mathematics (Group IV).

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| 1L. GENERAL CHEMISTRY. (4) Yr. | Staff |
| Introduction to the chemical and physical behavior of matter. Credit suspended until 2L is completed. 3 lectures, 3 hrs. lab. | |
| 2L. GENERAL CHEMISTRY. (4) | Staff |
| Continuation of 1L and including qualitative analysis. 3 lectures, 3 hrs. lab. Prerequisite: 1L or permission of instructor. | |
| 5L. INTRODUCTION TO GENERAL CHEMISTRY. (4) Yr. | Staff |
| Credit suspended until 6L is completed. 3 lectures, 3 hrs. lab. | |
| 6L. INTRODUCTION TO GENERAL CHEMISTRY. (4) | Staff |
| Continuation of 5L. 3 lectures, 3 hrs. lab. | |
| 41L. ELEMENTS OF GENERAL CHEMISTRY. (5) | 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. 4 lectures, 3 hrs. lab. | |
| 42L. ELEMENTS OF ORGANIC CHEMISTRY. (5) | Searcy |
| A brief course in organic chemistry. Prerequisites: 41L or 2L or 6L. 4 lectures, 3 hrs. lab. | |
| 53L. QUANTITATIVE ANALYSIS. (4) | Martin |
| Theory and techniques of volumetric and gravimetric analysis. Prerequisites: 2L or 6L and Chemical Engineering 51. 2 lectures, 6 hrs. lab. | |
| 64L. ELEMENTS OF PHYSIOLOGICAL CHEMISTRY. (4) | Searcy |
| An introduction to the chemistry of food, nutrition and animal metabolism. Prerequisites: 41L and 42L, or their equivalents. 3 lectures, 3 hrs. lab. | |

70. GLASSBLOWING. (2) Staff
Laboratory practice in glass manipulation and in the construction and repair of laboratory apparatus. Prerequisite: sophomore or higher standing. 6 hrs. lab.
- 101-102. ORGANIC CHEMISTRY. (3, 3) Daub, Riebsomer
The chemistry of the compounds of carbon. Prerequisites: 2L or 6L and Chemical Engineering 51. Corequisite: 103L for 101; 104L for 102.
- 103L. ORGANIC CHEMISTRY LABORATORY. (1-2) Staff
To be taken concurrently with 101. 3 or 6 hrs. lab.
- 104L. ORGANIC CHEMISTRY LABORATORY. (1-2) Staff
To be taken concurrently with 102. 3 or 6 hrs. lab.
- 105L. QUALITATIVE ORGANIC CHEMISTRY. (4) Daub
Identification of carbon compounds through the characteristic reactions of the functional groups. Prerequisite: 104L. 1 lecture, 9 hrs. lab.
- 106L. ORGANIC PREPARATIONS. (2-4) Castle, Daub
The synthesis of organic compounds utilizing the usual preparative reactions such as Grignard, Friedel-Crafts, etc. Prerequisites: 104L, and permission of the instructor. 6 to 12 hrs. lab.
107. THE CHEMISTRY OF THE ALKALOIDS. (2) Castle
(Same as Pharmaceutical Chemistry 107.) A study of the chemistry involved in the isolation, proof of structure, and synthesis of typical representatives of the different classes of alkaloids. Prerequisite: 104L.
- 108L. PHYSICAL CHEMISTRY. (3) Kahn
A short descriptive course in physical chemistry, primarily for pre-medical students. Includes the behavior of gases and solutions, the use of indicators and pH, colloids, etc. Not acceptable for chemistry majors or minors. Prerequisites: 53L and Physics 12L or 52L. 2 lectures, 3 hrs. lab.
110. THE CHEMISTRY OF THE HETEROCYCLIC COMPOUNDS. (3) Castle, Daub
(Same as Pharmaceutical Chemistry 110.) A study of the chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisite: 104L.
- 111-112. PHYSICAL CHEMISTRY. (3, 3) Kahn
The quantitative principles of chemistry, developed by numerous problems. Prerequisite for 111: 53L, Mathematics 53 and Physics 51L; pre- or corequisite: Mathematics 54 and Physics 52L. Prerequisite for 112: 111.
- 113L. PHYSICAL CHEMISTRY LABORATORY. (1) Staff
Experimental study of the subjects discussed in 111-112. Pre- or corequisite: 111. 3 hrs. lab.
- 114L. PHYSICAL CHEMISTRY LABORATORY. (1) Staff
Continuation of 113L. Pre- or corequisite: 112. 3 hrs. lab.
115. STRUCTURE OF MATTER. (3) Smith
Molecular structure and the fine structure of solids. The nature of chemical bonding. Chemical consequences of structure. Prerequisites: 53L and 104L.
- 116L. COLLOID CHEMISTRY. (3) Staff
Theoretical and descriptive treatment of the principal types of colloids. Prerequisites: 104L and 111. 2 lectures, 3 hrs. lab.
131. INORGANIC CHEMISTRY. (3) Martin, Suttle
A systematic survey of the chemical behaviors of the elements and their inorganic compounds. Prerequisite: 104L.
- 136L. INORGANIC PREPARATIONS. (2) Suttle
Synthesis and purification of typical inorganic compounds. Prerequisite: 104L. 6 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; and 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 and 112. 2 lectures, 6 hrs. lab.
- 171-172. ADVANCED PHYSICAL CHEMISTRY. (3, 3) Kahn
An advanced course in physical chemistry, including the thermodynamics and kinetics of chemical reactions and their relationships to the structure of chemical substances. Prerequisites: 111 and 112 with grades of C or better.
- 197-198. UNDERGRADUATE PROBLEMS. (2-5 each semester) Staff
204. THEORETICAL ORGANIC CHEMISTRY. (3) Daub
The more important theories of organic chemistry. Prerequisites: 105L and 112.
- 206L. X-RAY CRYSTALLOGRAPHY. (4) Beck
(Same as Geology 206L.) Theory and practical application of x-ray crystallography. Prerequisites: Geology 203L or permission of instructor. 2 lectures, 6 hrs. lab.
208. ADVANCED TOPICS IN ORGANIC CHEMISTRY. (3) Riebsomer
Prerequisite: 104L.
211. ADVANCED SEMINAR IN PHYSICAL CHEMISTRY. (3) Kahn
An advanced seminar in physical chemistry, including 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) Suttle
Prerequisites: 111 and 131.
234. ADVANCED TOPICS IN ANALYTICAL CHEMISTRY. (3) Martin
Prerequisite: 112.
300. THESIS. (6) Graduate Staff
400. DISSERTATION. Graduate Staff

CHEMISTRY, PHARMACEUTICAL

See Pharmacy

CIVIL ENGINEERING

See Engineering, Civil

CLASSICAL LANGUAGES

See Modern and Classical Languages

DRAMATIC ART

Professor Snapp (Chairman); Associate Professors Miller, Yell;
Assistant Professor Blackburn.

MAJOR STUDY

College of Fine Arts: see curricula on pp. 143-145.

For the purpose of Combined Curriculum in Fine Arts: 45 hours including 1, 2, 10, 11, 29, 30, 75, 76, 85, 86, 89, 90, plus 9 hours

to be chosen from 135, 136, 175, 176, 185 and 186. See also group requirements of College of Arts and Sciences and College of Education.

College of Education: 1, 2, 10, 11, 29, 30, 75, 76, 89, 90, 161, and English 141. Total 36 hours.

MINOR STUDY

1, 2, 10, 11, 29, 30, 89, 90, English 141. Total 27 hrs.

- 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.
- 10-11. THEATRE HISTORY. (3, 3) Miller
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.
- 29-30. STAGE CRAFT. (3, 3) Miller
Methods, materials, and techniques of stage carpentry. Students construct scenery for season's productions. 3 lectures, 3 hrs. lab.
40. MAKE-UP. (3) Blackburn
A practical course on the art of make-up for the stage, covering both basic principles and specific techniques.
- 51-52. RADIO DRAMA PRODUCTION. (3, 3) Yell
Adapting, editing, and producing dramatic radio programs; directing and production techniques. Radio workshop.
- 60-61. PLAYWRITING. (2, 2)
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.
- 75-76. TECHNICAL PRODUCTION. (3, 3) Miller
Analysis, planning, and construction of stage scenery and properties. Study of the theatre plant. Prerequisite: minimum of one semester of stage craft.
- 85-86. ACTING TECHNIQUE. (3, 3) Snapp
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.
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.
- 135-136. STAGE LIGHTING. (3, 3) Blackburn
Theory and practice of present-day methods of lighting the stage.
140. ADVANCED TECHNICAL PRODUCTION. (3) Miller
Theatre architecture and theatre planning, sight lines, acoustics, equipment, and installations. Advanced problems of the scene technician.
150. THEATRE ORGANIZATION AND MANAGEMENT. (3) Miller
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.
- 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.

197-198. PROBLEMS. (3, 3)

Staff

Advanced work in any of the following fields: directing, lighting, or scene design. Prerequisites: the student must have completed, or give concrete evidence of mastery of all preliminary courses offered in his chosen field.

ECONOMICS

Professor Duncan (Chairman); Associate Professors Crobaugh, Wollman; Assistant Professor Hamilton; Graduate Assistants Brasher, Proctor.

MAJOR STUDY

30 hours including Economics 51, 52, Mathematics 42, or Business Administration 109, Business Administration 5 or Business Administration 105, Economics 111, 161, 163, and one of the following courses in Government: 61, 105, 106, 111, 122; and 6 additional hours from upper division Economics courses. Majors in Economics must have the permission of the Chairman of the Department of Economics to minor in Business Administration.

MINOR STUDY

Economics 51, 52, Business Administration 5 or Business Administration 105, and 9 hours in upper division Economics courses. It is recommended that Mathematics 42 or Business Administration 109 be taken by students minoring in Economics.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

1-2. INTRODUCTION TO SOCIAL SCIENCE. (3, 3) Yr.

Staff

(Same as Government 1, 2 and Sociology 1, 2.) Credit suspended until both semesters are completed.

51. INTRODUCTION TO ECONOMICS. (3)

Staff

Basic economic concepts and the nature of the economic organization, the analysis of market price determination, national income, money and banking, international trade. Prerequisite: sophomore standing.

52. INTRODUCTION TO ECONOMICS. (3)

Staff

Application of economic principles to problems of modern society. Prerequisite: 51.

63. ECONOMIC RESOURCES. (3)

Kelley

(Same as Geography 63.)

73. INTRODUCTION TO LATIN AMERICA. (3)

(Same as Anthropology 73, Government 73, and Sociology 73.)

Prerequisite: Economics 51.

HA. READING FOR HONORS. (1-3 each semester)

Staff

HB. RESEARCH FOR HONORS. (1-3 each semester)

Staff

103. CONSUMER ECONOMICS. (3)

Staff

This course is designed for those whose chief interest is in the theory of consumption. It is especially recommended for students in Education and Home Economics. There is no prerequisite, except where the course is taken for graduate credit, in which case the prerequisite is 51 or equivalent.

110. CORPORATION FINANCE. (3) Evans
(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. ECONOMICS AND TRADE OF LATIN AMERICA. (3) Duncan
Survey of economic life and foreign trade, investments, economic planning. Prerequisite: 73.
122. THE ADMINISTRATIVE PROCESS. (3) McMurray, Richards
(Same as Government 122.)
140. ECONOMIC SECURITY. (3) Staff
The meaning and extent of poverty and insecurity, and methods of dealing with these problems.
141. LABOR PROBLEMS. (3) Wollman
Problems pertaining to the labor force, unions, labor-management relations, protective legislation, wage theory, and level of employment. Prerequisite: 51.
143. TRANSPORTATION. (3) Duncan
(Same as Business Administration 143.) Prerequisite: Economics 51, or consent of instructor.
152. PUBLIC FINANCE. (3) Wollman
Theory and practice of taxation, governmental borrowing, financial administration and public expenditures. Prerequisite: 51, or consent of instructor.
154. COMPARATIVE ECONOMIC SYSTEMS. (3) Crobaugh
A critical analysis of the proposed major reforms of the existing economic system. Prerequisite: 51.
160. ECONOMIC THEORY. (3) Crobaugh
Advanced economic analysis, with particular attention to problems of monopolistic competition, distribution of incomes, employment, and national income. Prerequisites: 51, 52.
161. HISTORY OF ECONOMIC THOUGHT. (3) Crobaugh
Development of the principal economic doctrines and schools of economic thought from the Physiocrats to Keynes. Prerequisite: 51.
162. BUSINESS CYCLES. (3) Hamilton
Theories of the causes of business fluctuations, remedies proposed, and the possibility of economic stability. Prerequisite: 51.
163. RISE OF MODERN INDUSTRY. (3) Staff
Institutional and technological factors underlying contemporary economic systems; implications of differing rates of technological and social change for economic development of under-developed areas. Prerequisite: 51.
180. GOVERNMENT CONTROL OF BUSINESS. (3) Duncan
Governmental and social control of business enterprise, including public utilities; the economics of rate-making in public utilities. Prerequisite: 51, or consent of instructor.
181. PRINCIPLES OF FOREIGN TRADE. (3) Duncan
Principles and problems of international trade. Prerequisite: 51.
185. ECONOMIC HISTORY OF THE UNITED STATES. (3) Smith
(Same as History 185.) Accepted toward major only.
186. [240] NATIONAL INCOME ANALYSIS. [Monetary Theory and 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
A study of the "American contribution" to economic thought as found in the work of Veblen, Mitchell, Commons, and other institutional economists.
238. THEORY OF SOCIALISM, WELFARE ECONOMICS, AND LIBERAL PROGRAMS OF REFORM. (3) Crobaugh

239. MONOPOLISTIC COMPETITION, GENERAL EQUILIBRIUM, AND ECONOMIC DYNAMICS. (3) Crobaugh
300. THESIS. (6) Graduate Staff

EDUCATION, ART

Professor Masley (Chairman); Teaching Assistant Lauderback;
Graduate Assistant Kurman.

CURRICULUM

See p. 116.

- 17-18. CREATIVE ARTS AND CRAFTS IN CHILDHOOD EDUCATION. (3,3) Masley
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) Staff
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.
150. CREATIVE APPROACH TO SCHOOL AND COMMUNITY ART PROBLEMS. (3) Masley
The art teacher in the school and the community.
151. PROBLEMS IN ART EDUCATION. (1-3) Masley
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) Masley
300. THESIS. (6) Masley

EDUCATION, BUSINESS

See Business Administration

EDUCATION, ELEMENTARY

Professor Tireman (Chairman); Assistant Professor McCann; Graduate Assistant Keith.

CURRICULUM

See p. 117.

52. TEACHING ENGLISH TO NON-ENGLISH-SPEAKING CHILDREN. (2) SS Tireman
For pre-first and first grade teachers.
61. TEACHING READING IN THE PRIMARY GRADES. (3) McCann
Methods and materials in pre-first to the fourth grades.
62. TEACHING OF LANGUAGE AND SOCIAL STUDIES. (3) SS Tireman
Materials and methods in grades one to four.
64. PRACTICE TEACHING IN ELEMENTARY GRADES. (4) SS Staff
Prerequisites: an observation course and 61. Corequisite: 62.
118. CHILD GROWTH AND DEVELOPMENT. (3) McCann
This course is planned to help pre-service and in-service teachers gain a better understanding of child growth and development and its implications for the school curricu-

lum. Educational practices are evaluated in terms of their effect upon the development of children. Reading, class discussion, individual and group reports, observation of children in classroom situations.

119. TEACHING OF PHYSICAL EDUCATION IN ELEMENTARY GRADES. (2)
Gugisberg, Milliken
120. CHILDREN'S LITERATURE. (2)
Materials and techniques of teaching. McCann
121. SUPERVISION OF PRE-FIRST AND PRIMARY READING. (3) McCann
122. SUPERVISION OF SOCIAL STUDIES. (2) McCann
123. SUPERVISION OF INTERMEDIATE READING. (2) Tireman
Supervision of reading in the fourth, fifth, and sixth grades. Diagnosis and remedial work. Prerequisite: 121.
124. SUPERVISION OF ELEMENTARY SCIENCE. (3) Tireman
125. TEACHING KINDERGARTEN AND PRE-FIRST. (2) McCann
126. TEACHING ORAL AND WRITTEN ENGLISH. (2) McCann
- 129c. ELEMENTARY EDUCATION WORKSHOP. (3) McCann
132. CLASSROOM ORGANIZATION AND MANAGEMENT. (3) McCann
135. SUPERVISION OF ARITHMETIC. (2) Tireman
136. DIRECTED TEACHING IN ELEMENTARY GRADES. (5) Staff
Prerequisites: an observation course, 121, 122, 123, 90 clock hours minimum of practice teaching.
139. REMEDIAL READING PROBLEMS. (2) Tireman
Actual remedial cases. Prerequisite: 121.
221. INVESTIGATIONS IN PRIMARY LANGUAGE ARTS. (2) Graduate Staff
Prerequisite: General Education 201.
222. INVESTIGATIONS IN INTERMEDIATE LANGUAGE ARTS. (2) Graduate Staff
Prerequisite: General Education 201.
223. INVESTIGATIONS IN EARLY CHILDHOOD EDUCATION. (3) McCann
An advanced study of educational experiences suited to the growth and development of children between the ages of five and eight years. Students will be helped to become acquainted with research, current literature, and with trends in this area of education. Prerequisite: General Education 201.
229. ELEMENTARY EDUCATION WORKSHOP. (4-8) SS Staff
232. INVESTIGATIONS IN SOCIAL STUDIES. (2) Graduate Staff
Prerequisite: General Education 201.
233. PHILOSOPHY OF THE ACTIVITY PROGRAM. (2) Graduate Staff
235. INVESTIGATIONS IN ARITHMETIC. (2) Graduate Staff
Prerequisite: General Education 201.
237. THE ELEMENTARY SCHOOL CURRICULUM. (2) Graduate Staff
238. SUPERVISION OF THE ELEMENTARY SCHOOL. (3) Tireman
No credit allowed if credit has been earned in Secondary Education 258.
- 251-252. PROBLEMS. (1-3 each semester) Graduate Staff
253. BILINGUAL EDUCATION. (2) Tireman
274. STUDY OF EDUCATION CLASSICS. (2) Graduate Staff
300. THESIS. (6) Graduate Staff

EDUCATION, GENERAL

Professors Nanninga (Dean), Clauve, Crawford, Diefendorf, Fixley, Masley, Reid, Ried, Tireman, White; Associate Professor Ivins; Assistant Professors Glaese, Johnson, Runge.

72. HEALTH EDUCATION. (2) White
Health instruction in elementary schools.

95. SOCIAL ARTS. (2) SS Staff
Standards of social behavior.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
101. HISTORY OF EDUCATION IN EUROPE. (3) Johnson
102. HISTORY AND PHILOSOPHY OF AMERICAN EDUCATION. (3) Johnson
- 105-106. ADULT EDUCATION. (3, 3) Reid
Origin, development, philosophy, objectives, methods, and materials.
109. EDUCATIONAL SOCIOLOGY. (3) Reid
Sociological aspects of school problems.
110. THE USE OF AUDIO-VISUAL AIDS IN TEACHING. (3) Ivins, Reid, Runge
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. (2) Staff
115. EDUCATIONAL AND VOCATIONAL GUIDANCE. (3) Fixley, Ivins, Runge
Principles and methods.
116. PROFESSIONAL ADJUNCTS. (1) Fixley
Attention to personality traits, the interview and written application, effective speech, personal budget, community relationships. For juniors and seniors only.
129. WORKSHOP.
All specific workshop courses are listed under the general number, 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. School 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.)
151. PROBLEMS. (1-3) Staff
170. SPEECH ACTIVITIES IN THE PUBLIC SCHOOL. (3) Eubank
(Same as Speech 170.)
- 174C. PHILOSOPHY OF EDUCATION. (2)
Credit not allowed for both 174 and 102. (Offered by correspondence only.)
180. MEASUREMENT AND EVALUATION IN THE SCHOOL CURRICULUM. (3) Crawford
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 is also considered.
188. PUPIL-PERSONNEL PROBLEMS. (3) Crawford
Aims to help classroom teachers, supervisors, principals, deans, and advisers of students, and guidance workers to understand the personal problems affecting success and failure of pupils.
- 201A, B. RESEARCH METHODS IN EDUCATION. (2) Crawford, Fixley
Required of all candidates for a graduate degree in the College of Education. 201A for candidates under Plan I; 201B for candidates under Plan II.
202. RESEARCH SEMINAR IN EDUCATION. (2) Crawford
Application of research techniques to a current educational problem. Required of all candidates for a graduate degree in education under Plan II, except that candidates in School Administration may substitute Sch Ad 206. Prerequisite: 201.

210. COUNSELING. (3) Wellck
An intensive study of the use of the interview for all guidance purposes. Emphasis is given to such approaches as the "directive," "nondirective," and "eclectic" methods, with opportunity provided for their application. Other major areas studied include the use of records, tests and inventories, check lists, and use of referral resources. Prerequisite: at least one course in guidance and one in testing or permission of the instructor.

229. WORKSHOP IN EDUCATION. (4)
A maximum of eight credit hours in workshop may be earned on the Master's degree in Education under Plan II. A maximum of five credit hours in workshop may be earned on the Master's degree in Education under Plan I.

EDUCATION, HEALTH

See Health, Physical Education, and Recreation

EDUCATION, HOME ECONOMICS

See Home Economics

EDUCATION, INDUSTRIAL ARTS

See Industrial Arts

EDUCATION, MUSIC

Professor Clauve; Assistant Professor Stephenson (Chairman).

CURRICULA

See pp. 123-124.

93. MUSIC IN THE PRIMARY GRADES. [Music Education] (2) Stephenson
This course is designed to study the musical needs of children of pre-school age, in kindergarten and grades one, two, and three. It includes the rote song, singing games, rhythm band, and music reading techniques. Children of this age will be observed in the public schools.

- 93W. WORKSHOP IN THE PRIMARY GRADES. (0)
This course in rudiments of music will be taught in conjunction with 93 for those people failing to meet minimum proficiency in music fundamentals. This class will meet once a week.

94. MUSIC IN THE INTERMEDIATE GRADES. [Music Education] (2) Stephenson
This course is designed to study the musical needs of children in grades four, five and six, including harmonic activity, creative experience, class piano, and instrumental techniques. Children of this age level will be observed in the public schools.

- 94W. WORKSHOP IN THE INTERMEDIATE GRADES. (0)
This course in rudiments of music will be taught in conjunction with 94 for those people failing to meet minimum proficiency in music fundamentals. This class will meet once a week.

- 136M. DIRECTED TEACHING IN THE ELEMENTARY SCHOOLS. (4) Stephenson
Teaching music in the primary grades and in the intermediate grades. Prerequisite: Music Education 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. Observation of junior high school music classes will be required.

146. [155f] MUSIC IN THE SENIOR HIGH SCHOOL. [The Teaching of Music in 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.

- 156M. DIRECTED TEACHING IN THE SECONDARY SCHOOLS. (4) Stephenson
Teaching music in the junior high school and in the senior high school. Prerequisite:
Music Education 145, 146.

EDUCATION, PHYSICAL

See Health, Physical Education and Recreation

EDUCATION, PSYCHOLOGY

Faculty: See Psychology.

54. EDUCATIONAL PSYCHOLOGY. (3) Keston, Weldon
An introductory course, primarily for sophomores. 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.
110. EDUCATIONAL PSYCHOLOGY. (3) Keston, Utter, Weldon
Advanced course. Not open to those who have credit for 54. Prerequisite: 2L or 51.
111. CHILD PSYCHOLOGY. (3) Keston
The principles of human behavior in infancy and childhood. Prerequisite: 2L or 51.
112. ADOLESCENT PSYCHOLOGY. (3) Keston
Development and problems during the adolescent period. Prerequisite: 2L or 51.
113. THE PSYCHOLOGY OF EXCEPTIONAL CHILDREN. (3) Keston, Norman
Prerequisite: 2L or 51.
131. PSYCHOLOGICAL AND EDUCATIONAL TESTS. (3) Norman
Problems related to mental measurement; review of various types of tests and their
practical applications.
- 132L. INDIVIDUAL MENTAL TESTING. (3) Norman
Practical laboratory study and discussion of Binet and Wechsler tests.
221. GRADUATE SEMINAR. (1-3) Peterson
222. GRADUATE SEMINAR. (1-3) Keston
240. CLINICAL PSYCHOLOGY. (3) Norman
Theory and problems in clinical psychology.
- 251-252. PROBLEMS. (2-3 each semester) Graduate Staff
300. THESIS. (6) Graduate Staff

EDUCATION, SCHOOL ADMINISTRATION

Professors Nanninga (Chairman), Fixley; Assistant Professor Johnson; Graduate Assistant Soult.

CURRICULUM

See p. 124.

107. PROBLEMS OF EDUCATION IN NEW MEXICO. (2) Nanninga
New Mexico school system.
164. CITY SCHOOL ADMINISTRATION. (3) Fixley
Required of all administrative majors. Educational, financial, and administrative
principles.
166. THE PRINCIPAL AND HIS SCHOOL. (3) Fixley, Johnson
Organization and administration, and supervision of a single school.
171. PROBLEMS OF THE TEACHING PROFESSION. (3) Nanninga
The principles of educational administration and organization as applied to the duties
and responsibilities of the classroom teacher.

206. SEMINAR IN EDUCATIONAL ADMINISTRATION. (2) Fixley, Johnson
Advanced reading and problems in educational administration. Admission on consultation with instructor.
- 251-252. PROBLEMS. (2, 2) Fixley, Johnson, Nanninga
261. SCHOOL LAW. (3) Fixley
Legislation and court decisions, with special reference to New Mexico school law.
263. STATE SCHOOL ADMINISTRATION. (3) Johnson, Nanninga
State school systems. Federal and state policy, and forms of control.
265. THE ADMINISTRATIVE PROCESS. (2) Johnson
The study of the nature of the administrative process in education for advanced students. Admission on consultation with instructor.
268. PUBLIC SCHOOL FINANCE. (3) Fixley, Johnson
Special attention to New Mexico.
277. SCHOOL BUILDINGS AND EQUIPMENT. (3) Fixley, Johnson
Problems, standards, committee reports, field trips.
300. THESIS. (6) Fixley, Johnson, Nanninga

EDUCATION, SECONDARY

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

CURRICULUM

See p. 125.

141. PRINCIPLES OF SECONDARY EDUCATION. (3) Staff
143. WORK EXPERIENCE IN SECONDARY SCHOOLS. [Principles & Practices of Distributive Education] (3) Runge
Considers 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.
147. EXTRACURRICULAR ACTIVITIES IN THE SECONDARY SCHOOL. (3) Fixley, Ivins
The guiding principles of pupil participation in the extracurricular life of the junior and senior high school.
149. CURRICULUM IN VOCATIONAL EDUCATION. [Curriculum Construction in Distributive education] (3) Runge
Construction of curriculum materials for secondary schools and adult classes in vocational education.
153. GENERAL METHODS IN THE SECONDARY SCHOOL. [High School Methods] (3) Staff
Prerequisite: Educational Psychology 54 or 110.
155. THE TEACHING OF SECONDARY SCHOOL SUBJECTS. [The Teaching of High School Subjects]
All specific methods courses are listed under the general number, Education 155, with the designating subscripts as indicated. These courses carry credit in education only, not in the subject matter departments. Required of students following secondary curricula. Prerequisite: 153.
- a. See ART EDUCATION.
 - 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) Reva
 - h. THE TEACHING OF SCIENCES. (3)
 - i. THE TEACHING OF INDUSTRIAL ARTS. (3) Bailey

- k. THE TEACHING OF SOCIAL STUDIES. (3) Ivins
- m. THE TEACHING OF SPANISH. (2)
(Offered in alternate years.)
- n. THE TEACHING OF READING. (2)
- p. THE TEACHING OF PHYSICAL EDUCATION. (3)
156. DIRECTED TEACHING IN SECONDARY SCHOOLS. [Practice Teaching in High School] (5) Runge
Observation and teaching in New Mexico secondary schools. Prerequisite: 153. 1 lecture, 5 hrs. practice teaching a week.
241. SEMINAR IN SECONDARY EDUCATION. (2) Crawford, Diefendorf, Ivins
242. CURRICULUM IN THE SECONDARY SCHOOL. [High School Curriculum] (3)
Crawford, Diefendorf, Ivins
- Trends and practical programs.
244. THE JUNIOR HIGH SCHOOL. (2) Crawford, Diefendorf, Ivins
History of the junior high school movement and some of the problems arising from its organization and administration.
- 251-252. PROBLEMS. (1-2 each semester) Graduate Staff
258. HIGH SCHOOL SUPERVISION. (3) Ivins
No credit allowed if credit has been earned in Elementary Education 238.
300. THESIS. (6) Graduate Staff

ELECTRICAL ENGINEERING

See Engineering, Electrical

ELEMENTARY EDUCATION

See Education, Elementary

ENGINEERING, ARCHITECTURAL

Professor Heimerich (Chairman); Associate Professors Huzarski, Stoneking; Assistant Professor Gafford; Instructor Norris.

When a prerequisite course number is not preceded by a department designation, "Arch E" is implied.

CURRICULUM

See p. 128.

Arch E

- 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.
- 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.
3. ORIENTATION. (1)
Orienting beginning engineering students in the various phases of engineering.
- 4L. ENGINEERING PROBLEMS. (2)
Use of the slide rule and presentation of various engineering problems.
- 12L. MACHINE DRAWING. (3)
A continuation of 1L, with emphasis on advanced dimensioning, detail and assembly drawings, exploded views, etc. Prerequisite: 1L.
- 62L. CONSTRUCTION DRAWING. (3)
Small house plans, with emphasis on construction details. Prerequisite: 2L.

- 81L. ELEMENTS OF ARCHITECTURE I. (3)
A study of the fundamentals of architectural design, and presentation of elementary architectural problems. Prerequisite: 2L; corequisites: Art 5 and 42.
- 82L. ELEMENTS OF ARCHITECTURE II. (3)
A continuation of 81L. Prerequisite: 81L; corequisite: Art 61.
111. CARTOGRAPHY. (3)
Map projection and use of maps to show areal distribution and graphic representation of statistical data. Prerequisite: 1L and consent of instructor.
- 131L. ARCHITECTURAL DESIGN I. (4)
Original problems in plan, elevation and section of various types of buildings, involving horizontal and vertical circulation. Prerequisite: 82L; corequisite: Art 62.
- 132L. ARCHITECTURAL DESIGN II. (4)
A continuation of 131L. Prerequisite: 131L.
161. ARCHITECTURAL PRACTICES AND BUILDING MATERIALS I. (3)
The use of materials and type of construction as applied to the architectural features of a building. The duties of the architect; relationship of the architect-contractor-client; frequent visits to buildings under construction. Prerequisite: senior standing.
162. ARCHITECTURAL PRACTICES AND BUILDING MATERIALS II. (3)
A continuation of 161. Prerequisite: senior standing.
168. SPECIFICATION WRITING. (2)
Writing specifications for various types of building construction. Prerequisite: senior standing.
- 171-172. SEMINAR. (1, 1)
Oral and written reports on, and the discussion of architectural topics. Prerequisite: senior standing.
- 181L. ARCHITECTURAL DESIGN III. (5)
Advanced problems in plan, elevation and section of buildings involving horizontal and vertical circulation, irregular terrain and multiple units. Prerequisite: 132L; corequisites: CE 156L and 158.
- 182L. ARCHITECTURAL DESIGN IV. (5)
A continuation of 181L. Prerequisite: 181L; corequisite: CE 159L.

ENGINEERING, CHEMICAL

Professor Castonguay (Chairman); Assistant Professor Ferm.

CURRICULUM

See p. 130.

When a prerequisite course number is not preceded by a department designation, "ChE" is implied.

ChE

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 6L or the equivalent.
52. INDUSTRIAL STOICHIOMETRY. (3)
The application of the fundamental laws of chemistry, physics, and mathematics to industrial chemical calculations. Prerequisites: ChE 51 or the equivalent; Physics 51L, and Mathematics 53.
111. UNIT OPERATIONS I. (3)
A study of 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. Prerequisites: ChE 52 or the equivalent; pre- or corequisite: Mathematics 54.

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.
- 115L. UNIT OPERATIONS LABORATORY II. (2)
Experimental laboratory study of the Unit Operations covered by 112 and 113. Prerequisite: 114L; corequisite: 113.
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)
A continuation of 52. Prerequisite: 112. (To be taught as a technical elective in the senior year.)
160. NATURAL GAS PRODUCTION AND TRANSMISSION. (3)
Prerequisite: ChE 111 or ME 101.
162. INORGANIC UNIT PROCESSES. (2)
A study of the processes and manufacturing methods used in more important industries based on inorganic chemistry. Prerequisites: Chemistry 111 and 113L, and ChE 112.
164. [161]. ORGANIC UNIT PROCESSES. (3)
A study of 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: Chemistry 101, 102, 103L, 104L, and ChE 112.
- 168L. [196L]. LUBRICANTS, FUELS, AND COMBUSTIONS. (3)
Laboratory examinations, analysis and testing of water, fuels, and lubricants, and the evaluation of their properties as applied in the chemical industry. Prerequisites: Chemistry 53L and ChE 52.
172. [171]. CHEMICAL ENGINEERING ECONOMICS. (2)
Discussion of 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: Economics 51 or the equivalent, ChE 113.
- 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. Prerequisite: Chemistry 111 and 113L; corequisite: ChE 162 or 164.
- 182L. CHEMICAL ENGINEERING PROCESS LABORATORY II. (2)
Continuation of 181L; but may be taken as an independent unit. Prerequisites: Chemistry 111 and 113L; corequisite: ChE 162 or 164.
191. PRINCIPLES OF CHEMICAL PROCESSES AND THERMODYNAMICS I. (3)
A study of the energy relations in chemical processes. Application of thermodynamics, chemical kinetics to operations involved in the chemical industry. Prerequisites: ME 101, Chemistry 111 and 113L, and ChE 112.
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.
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)
Offered each semester. Individual study on advanced phases of chemical engineering and industrial chemistry. Research, reports, and conferences.
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)
Studies in 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)
A study of 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)
Application of kinetics to industrial problems in Chemical Engineering.
300. THESIS. (6)

ENGINEERING, CIVIL

Professors Wagner (Chairman), Foss; Associate Professor May; Assistant Professors Martinez, Zwoyer; Instructor Radosevich.

CURRICULUM

See p. 132.

When a prerequisite course number is not preceded by a department designation, "CE" is implied.

CE

- 4L. SURVEYING. (2)
Lectures and field practice in plane surveying with emphasis on the use of the plane table for topographic mapping. For non-engineering students only.
- 53L. ELEMENTARY SURVEYING. (3)
Lectures and field practice in leveling, traversing, determination of areas, stadia measurements, and care and adjustment of instruments. Prerequisite: Mathematics 16.
- 54L. ADVANCED SURVEYING. (4)
Lectures and field practice in precise leveling, base line measurements, triangulation, rural and urban land surveying, construction layout, probable errors, solar observations, elementary photogrammetry, and office computations. Prerequisite: 53L or 4L.
60. APPLIED MECHANICS (STATICS). (3)
Principles of statics, friction, centroids and moment of inertia of areas. Corequisites: Mathematics 53, Physics 51L.

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; corequisite: Mathematics 54.

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.

104L. CURVES AND EARTHWORK. (3)

The theory of the geometric design of highways and railroads, and the economic distribution of earthwork quantities. Supplemented by practice in the field. Simple curves, vertical curves, spiral easements, mass diagrams, super-elevation, widening on curves, sight distance, right-of-way problems, special applications. Prerequisite: 53L or 4L.

109L. [167L] ENGINEERING PROPERTIES OF SOILS. (4)

Physical and mechanical properties of soils as they affect engineering problems; application of laws of permeability and compressibility to soil engineering; shearing strength and bearing capacity and their practical applications; cofferdams, caissons, and types of foundations; laboratory practice in the testing of soils for engineering purposes. Prerequisite: junior standing.

110. FLUID MECHANICS. (3)

Fundamental principles of hydrostatics, hydrokinetics and hydrokinematics with particular emphasis on application to practical hydraulic engineering problems. Prerequisite: 60; corequisite: Mathematics 54.

111L. FLUID MECHANICS LABORATORY. (1)

Laboratory and field experiments illustrating the elementary principles of fluid motion. Corequisite: 110.

115L. PLAIN CONCRETE I. (3)

The manufacture and properties of lime, clay products, and cement; occurrence and properties of stone, sand and gravel; design and tests of concrete and mortars. Prerequisite: junior standing.

120. HYDROLOGY. (3)

Occurrence, movement, and distribution of water by natural processes. Analysis of climatological and stream flow data. Studies of storm frequency, intensity and duration.

122L. STRUCTURAL ANALYSIS. (2)

Analytical and graphical methods of stress analysis in framed buildings, roof trusses, girders and bridges. A study of moving loads and influence lines. Prerequisite: 102.

124. STRUCTURAL DESIGN I. (2)

The study of the methods of design of tension, compression and flexure members of metals and wood; riveted and welded connections; study of current design specifications. Prerequisite: 102.

152. ENGINEERING RELATIONS, SPECIFICATIONS AND ESTIMATES. (2)

Ethical and professional considerations of the engineer's relationship to society and to the construction industry. The fundamental requirements of good specifications and sound cost estimates. Preparation of engineering specifications, quantity surveys, cost estimates. A study of construction contract documents and procedures. Prerequisite: senior standing.

154L. [118L] HIGHWAY ENGINEERING. (4)

Theory and practice in design, construction and maintenance of low cost, intermediate and high type road surfaces. Financing, operation and comparative study of road types. Prerequisite: senior standing.

155L. STRUCTURAL DESIGN II. (3)

A continuation of CE 124. The design of complete structures of steel and wood. The laboratory work consists of drafting room practice in actual design problems of framed structures consistent with the lecture work and current modern practice. Prerequisites: 122L and 124.

- 156L. **STRUCTURAL DESIGN II.** (3)
A continuation of 124. The design of complete structures of steel and wood. The laboratory work consists of drafting room practice in actual design problems of framed structures consistent with the lecture work and current modern practice. Primarily for Architectural Engineering students. Prerequisites: 122L and 124.
158. **REINFORCED CONCRETE DESIGN I.** (2)
The theory of reinforced concrete, the design of elementary members, including the study of current design specifications. Prerequisite: 122L.
- 159L. **REINFORCED CONCRETE DESIGN II.** (3)
The analysis and design of complete reinforced concrete structures and masonry structures consistent with the current modern practice. Prerequisite: 158.
- 160L. **INDETERMINATE STRUCTURES.** (3)
An introduction to statically indeterminate structures; a thorough training of slope and deflection and moment distribution in continuous beams, and rigid frames. A study of the deformation of trussed structures by angle changes and virtual work. Prerequisite: 122L.
- 161L. **WATER SUPPLY.** (3)
A study of 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.
- 162L. **SEWERAGE AND SEWAGE TREATMENT.** (3)
A study of 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.
165. **SEMINAR.** (1)
Prerequisite: senior standing.
- 170L. **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. **SANITATION.** (2-3)
Health aspects of water supply, of sewage and refuse disposal, of heating and ventilation, of housing and food supplies. Swimming-pool sanitation, industrial hygiene, insects and rodents in relation to health.
173. **SANITARY ENGINEERING AND THE PUBLIC HEALTH.** (2-3)
The sanitary engineer's responsibility in public health work. Study of organization, jurisdictions, and activities of public health agencies.
183. **INTERMEDIATE FLUID MECHANICS.** (3)
A comprehensive study of fluid behavior with emphasis upon physical properties. Prerequisite: 110.
184. **WATER POWER.** (3)
Hydraulics problems of water power development, dams, spillways, crest controls and power plants. Economics of water power developments. Prerequisites: 110 and 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 and 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 and 120.

188. **HYDRAULIC MEASUREMENTS. (3)**
An intensive study of the measurement of flowing liquids by means of weirs; orifices; venturi meters; pitot tubes; current meters; bends; hydrochemical, color-velocity and salt-velocity methods; and pressure measurements. Prerequisite: 110.
189. **PUMPS. (3)**
Study of pump classifications, theory, selection, installation, operation, maintenance, testing, and materials for pumping various liquids. Special topics such as cavitation, affinity laws, etc. Prerequisite: 110.
- 190L. **MUNICIPAL ENGINEERING. (3)**
City planning; street systems; subdivisions; housing; zoning; building codes and design of municipal details. Prerequisite: senior standing.
191. **HIGHWAY PLANNING AND ADMINISTRATION. (3)**
The broader aspects of planning modern highway transportation systems. Planning surveys; traffic engineering; economics of highway transportation; methods of financing; motor vehicle characteristics and trends. Corequisite: 154L.
192. **WATER AND SEWAGE TREATMENT PROCESSES. (2-3)**
Critical review of recent researches in the field of water and sewage treatment. Prerequisite: 161L.
- 195L. **PLAIN CONCRETE II. (3)**
Use of admixtures in concrete and critical review of research in the field of concrete mixes. Prerequisite: 115L.
205. **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)**
Study of the hydraulic jump and backwater curves. Slowly varied flow involving storage. Special topics of unsteady flow. Prerequisite: 110.
- 208L. **HYDRAULIC STRUCTURES. (2)**
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.
- 209L. **ADVANCED INDETERMINATE STRUCTURES. (3)**
A continuation of 160L.
- 210L. **STRUCTURAL DESIGN III. (3)**
A continuation of 155L and 156L.
- 211L-212L. **RESEARCH AND TESTING OF BUILDING MATERIALS. (3,3)**
Special research studies of non-metallic constructional materials for strength, effect of moisture, and comparative costs.
- 213L-214L. **RESEARCH AND TESTING OF HIGHWAY MATERIALS. (3,3)**
Special research studies of highway materials. Design of rigid and non-rigid pavements, bituminous mixes, and load distribution on subgrades.
- 215L. **REINFORCED CONCRETE DESIGN III. (3)**
A continuation of 159L.
216. **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.
- 217L. **TRANSPORTATION AND DEPOSITION OF SEDIMENT. (3)**
Hydraulic engineering aspects of sediment transportation and deposition including physical properties of sediments and their measurements, measurements of sediment discharge, laws governing sediment movement and their application to engineering problems. Prerequisite: 110.
- 220L. **PRE-STRESSED CONCRETE. (3)**
A treatment of the design principles of pre-stressed concrete. A comparison of the European methods to the American methods. Also a comparison of pre-stressed con-

crete to conventional reinforced concrete with a particular view to the savings of materials and construction costs. Prerequisite: 159L.

251-252. PROBLEMS. (3, 3)

Advanced reading, design or research.

300. THESIS. (6)

ENGINEERING, ELECTRICAL

Professors Tapy (Chairman), Ellis; Assistant Professors Hessemer, Jacobson; Lecturers Hill, Clement, Moore; Instructors Jako, Price, Stone, Williams.

CURRICULUM

See p. 134.

When a prerequisite course number is not preceded by a department designation, "EE" is implied.

EE

51L. ELECTRICAL ENGINEERING COMPUTATIONS. (3)

Problems in electrical engineering involving the use of determinants, series, complex numbers, hyperbolic functions. Prerequisite: Mathematics 22.

54. DIRECT CURRENT CIRCUITS. (3)

Direct current electric and magnetic circuits under steady state and transient conditions. Corequisite: Mathematics 53.

54L. DIRECT CURRENT CIRCUITS LABORATORY. (1)

Corequisite: 54.

101. DIRECT CURRENT MACHINES. (3)

Theory and application of D.C. motors and generators and their control equipment. Prerequisites: 54, 54L.

102L. DIRECT CURRENT MACHINES LABORATORY. (1)

Corequisite: 101.

105. ELECTRICAL APPLICATIONS. (2)

Theory and application of D.C. motors and generators. Prerequisite: Physics 52L. Corequisite: Mathematics 53.

106. ELECTRICAL APPLICATIONS. (2)

Theory and application of A.C. circuits and machines to industrial problems. Prerequisite: 105.

108L. ELECTRIC EQUIPMENT OF BUILDINGS. (4)

Elementary D.C. and A.C. circuits and wiring and equipment used in buildings. Illumination. Prerequisites: Mathematics 16, Physics 52L.

111L. ELECTRICAL APPLICATIONS LABORATORY. (1)

Corequisite: 105.

112L. ELECTRICAL APPLICATIONS LABORATORY. (1)

Corequisite: 106.

113. ALTERNATING CURRENT CIRCUITS. (3)

Sinusoidal single and polyphase, balanced and unbalanced circuits, coupled circuits, symmetrical components. Prerequisites: 54, 54L; corequisite: Mathematics 54.

113L. ALTERNATING CURRENT CIRCUITS LABORATORY. (1)

Corequisite: 113.

131. FUNDAMENTAL ELECTRONICS. (3)

The theory, characteristics, and equivalent representations of electronic devices. Co-requisites: 113, 113L.

131L. ELECTRONICS LABORATORY. (1)

Corequisite: 131.

132. PRINCIPLES OF ELECTRONIC CIRCUITS I. (3)
Fundamental circuit configurations embodying electronic components. Prerequisites: 131, 131L.
- 132L. ELECTRONIC CIRCUITS LABORATORY I. (1)
Corequisite: 132.
142. CIRCUIT ANALYSIS. (3)
Non-sinusoidal analysis, resonance, network theorems and transformations, impedance transformations, filter theory and electrical transients. Prerequisites: 113, 113L.
- 142L. CIRCUIT ANALYSIS LABORATORY. (1)
Corequisite: 142.
- 151-152. ALTERNATING CURRENT MACHINERY. (3, 3)
Prerequisites: 106, 113, 113L.
- 151L. ALTERNATING CURRENT MACHINERY LABORATORY I. (1)
Corequisite: 151.
- 152L. ALTERNATING CURRENT MACHINERY LABORATORY II. (1)
Corequisite: 152.
- 171-172. SEMINAR. (1, 1)
Prerequisite: permission of instructor.
174. INDUSTRIAL APPLICATIONS. (3)
Application and control of direct and alternating current machines. Prerequisite: 106; corequisites: 151, 151L.
- 174L. INDUSTRIAL APPLICATIONS LABORATORY. (1)
Corequisite: 174.
181. ELECTROMAGNETIC ENGINEERING I. (3)
A study of fields associated with electric and magnetic circuits. Prerequisites: 113, 113L.
182. ELECTROMAGNETIC ENGINEERING II. (3)
Principles governing the generation, transmission, and reception of electromagnetic waves. Prerequisite: 181.
- 182L. ELECTROMAGNETIC ENGINEERING II LABORATORY. (1)
Corequisite: 182.
183. ILLUMINATION. (2)
A study of light sources and their application to practical problems. Prerequisites: 113, 113L or equivalent.
186. GENERATING STATIONS. (3)
The engineering and economic considerations governing the location, design, and operation of electric power plants, and the elementary principles of corporate finance and rate making. Prerequisite: Economics 51; corequisites: EE 151, 151L.
188. SERVO-MECHANISMS. (3)
Theory and applications of Servo-Mechanism to control problems. Prerequisites: 142, 142L; corequisite: Mathematics 143.
193. PRINCIPLES OF ELECTRONIC CIRCUITS II. (3)
A continuation of 132, with emphasis upon the design of electronic circuits and multi-stage arrays. Prerequisites: 132, 132L; 142, 142L.
- 193L. ELECTRONIC CIRCUITS LABORATORY II. (1)
Corequisite: 193.
195. INDUSTRIAL ELECTRONICS. (3)
Electronics as applied to industrial problems. Rectifiers, speed and voltage regulators, automatic synchronizers, industrial X-ray, high frequency heating, etc. Prerequisites: 132, 132L; corequisites: 151, 151L.
- 195L. INDUSTRIAL ELECTRONICS LABORATORY. (1)
Corequisite: 195.
196. POWER TRANSMISSION AND DISTRIBUTION. (3)
Electrical and mechanical characteristics; economics of transmission and distribution systems. Prerequisites: 142, 142L.

- 196L. POWER TRANSMISSION AND DISTRIBUTION LABORATORY. (1)
Corequisite: 196.
201. SYMMETRICAL COMPONENTS. (3)
The application of symmetrical components to the solution of short circuit problems.
Prerequisites: 196, 196L.
202. ELECTRICAL MACHINERY. (3)
Advanced topics in synchronous and induction machinery, including a study of synchronous reactions, transients and harmonics. Prerequisites: 152, 152L.
209. SEMINAR IN POWER SYSTEMS. (3)
Prerequisites: 201, 202.
211. ELECTROMAGNETIC WAVES. (3)
A course dealing with the derivation and application of the basic ideas and laws relating to electromagnetic waves.
212. RADIATION AND ANTENNAS. (3)
A study of the principles and practices of antenna systems.
219. SEMINAR IN FIELD THEORY. (3)
Prerequisites: 211, 212.
221. TRANSIENTS IN LINEAR SYSTEMS. (3)
An advanced study of transient phenomena in linear electrical, mechanical, and electro-mechanical systems, through application of the Laplace transformation.
222. NETWORK SYNTHESIS. (3)
Syntheses of linear lumped-constant parameter networks using the complex frequency variable.
229. SEMINAR IN CIRCUIT THEORY. (3)
Prerequisites: 221, 222.
231. ELECTRONIC CIRCUITS I. (3)
Theory and design of Class A electronic circuits.
232. ELECTRONIC CIRCUITS II. (3)
Theory and design of electronic circuits operating in the switching mode.
239. SEMINAR IN ELECTRONICS. (3)
Prerequisites: 231, 232.
241. MICROWAVE CIRCUITS. (3)
The behavior of circuit elements at microwave frequencies.
242. MICROWAVE ELECTRONICS. (3)
A study of the interactions of electronic currents with microwave fields with applications to magnetrons, klystrons, traveling wave tubes and related physical devices.
249. SEMINAR IN MICROWAVES. (3)
Prerequisites: 241, 242.
- 251-252. PROBLEMS. (3, 3)
Advanced reading, design, or research.
255. MACHINE LOGIC. (3)
An introduction to cybernetics and some aspects of the logic processes followed by analogue and digital computers.
300. THESIS. (6)

ENGINEERING, INDUSTRIAL ARTS

See Industrial Arts.

ENGINEERING, MECHANICAL

Professors Grace (Chairman), Farris, Ford; Assistant Professors Rightley, Skoglund; Instructor Dutton.

CURRICULUM

See p. 135.

When a prerequisite course number is not preceded by a department designation, "ME" is implied.

ME

53. ENGINEERING MATERIALS. (3)
Characteristics of metals, alloys, wood, and concrete, and of the manufacture and heat treatment of iron and steel. Prerequisite or corequisite: Chemistry 6L.
- 54L. ENGINEERING MATERIALS LABORATORY. (1)
A study of the basic principles of metallography, the heat treatment and microstructure of metals. Prerequisite: 53.
- 55L. MECHANISMS. (3)
Displacements, velocities, and accelerations of such machine elements as links, cams, gears, chains, and belts. Prerequisites: AE 1L, 2L. Not for Mechanical Engineers.
- 64L. [IA 64L] PATTERN MAKING AND FOUNDRY. (2)
Construction of wood and metal patterns and core boxes used in industry. Fundamentals of foundry practice and study of production casting.
- 70L. [IA 70L] MACHINE SHOP. (2)
Bench work, operation of engine lathes, shapers, grinders, drill presses, milling machines, simple dies and punches.
- 75L. [IA 75L] WELDING. (1)
Use of arc and oxyacetylene in welding, brazing and cutting of metals.
- 101-102. THERMODYNAMICS. (3, 4)
Principles of heat engines and thermodynamics. Prerequisites: Chemistry 2L or 6L, Physics 51L; corequisite: Mathematics 54.
- 103L. HEAT POWER LABORATORY. (2)
Corequisite: 101.
106. DYNAMICS. (3)
Principles and applications of dynamics. Prerequisite: CE 60; corequisite: Mathematics 54.
- 108L. MECHANICAL EQUIPMENT OF BUILDINGS. (4)
Primarily for Architectural Engineering students. Theory and practice of heating equipment, heat loss of buildings, heating layouts, plumbing and heating codes. Prerequisite: junior standing.
- 110-111. MECHANICAL DESIGN. (2, 2)
A study of the principles, methods and processes employed in the design of the more common machine members. Primarily for Industrial Arts students. 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: AE 1L, 2L.
- 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: AE 1L, 2L; ME 106, 113L.
- 117L. FLUID MECHANICS. (4)
Kinematics of fluid motion; elements of hydrodynamics, effects of viscosity, compressibility and drag. Prerequisites: 106 and 101; corequisite: 102.
- 150L. PRINCIPLES OF MACHINE DESIGN. (4)
Introduction to transmission of power by gears, belting, and shafting; proportioning for strength of fastenings, couplings, shafts, and frames; design of gears for strength and wear; specification of fits and tolerances; principles of lubrication and bearing design. Prerequisites: ME 113L, 114L and CE 102.
- 151L. MECHANICAL ENGINEERING LABORATORY. (1)
Tests of steam boilers, engines, turbines, pumps and compressors. Prerequisites: 102, senior standing.

- 152L. MECHANICAL ENGINEERING LABORATORY. (2)
Tests of internal combustion engines, their fuels and lubricants. Prerequisite: 102; corequisite: 160.
- 153L-154L. MECHANICAL ENGINEERING DESIGN. (3, 2)
Analysis and design of some piece of equipment selected from the field of mechanical, aeronautical, or petroleum engineering. Prerequisites: ME 113L, 114L; CE 102 and ME 150L.
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 consent of instructor.
160. INTERNAL COMBUSTION ENGINES. (3)
Theories of Otto and Diesel type engines. Prerequisite: 102.
162. REFRIGERATION. (3)
The theory of refrigeration and the testing of refrigeration equipment. Prerequisite: 102.
165. AIR-CONDITIONING. (3)
Methods used to heat, cool, humidify, clean, and distribute air in buildings. 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: 117L.
171. AIRPLANE STRUCTURES. (2)
Application of fundamental principles of structural theory to practical airplane design. Prerequisite: CE 102.
- 172-173. SEMINAR. (1, 1)
Preparation, presentation, and discussion of papers and reports from current technical magazines and journals. Prerequisite: senior standing, or consent of instructor.
175. METALS AND ALLOYS. (2)
A study of the properties of the common metals and alloys as affected by mechanical working, heat treatment and composition. Prerequisite: 53.
- 181-182. PETROLEUM PRODUCTION. (3, 3)
Oil field development, methods of drilling and oil recovery; preliminary refining, storage, and transportation. Prerequisite: senior standing.
192. DESIGN ANALYSIS. (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, an introduction to methods of experimental stress analysis and their application to design. Prerequisite: 150L; corequisite: 153L.
193. HEAT TRANSFER. (3)
Principles and engineering applications of heat transfer by conduction, radiation, and free and forced convection. Prerequisites: 102 and 117L.
201. ADVANCED HEAT TRANSFER. (3)
Advanced principles and applications of heat transfer by conduction, convection and radiation. Prerequisites: 6 hours of Mathematics 141-145, or consent of Chairman of Department; ME 101, 102 or their equivalent.
202. SPECIAL TOPICS IN ADVANCED DYNAMICS. (3)
203. FLUID DYNAMICS. (3)
Advanced principles and applications of Fluid Mechanics with emphasis on compressible flow. Prerequisites: 6 hours of Mathematics 141-145, or consent of Chairman of Department; ME 101, 102 and 117L or their equivalent.
204. MECHANICAL VIBRATION. (3)
Topics of study include: kinematics of vibration; the single degree of freedom; two degrees of freedom; many degrees of freedom; natural frequency; forced vibration;

- effect of dry and viscous damping; torsional vibrations of crankshafts and geared systems; suppressions and elimination of vibration. Prerequisite: Mathematics 143.
206. **ADVANCED THERMODYNAMICS I.** (3)
Precise development of thermodynamic definitions, principles, and analytical methods. Prerequisites: 6 hours of Mathematics 141-145, or consent of Chairman of Department; ME 101, 102 or their equivalent.
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: 150L; corequisite: 153L.
208. **ADVANCED THERMODYNAMICS II.** (3)
Applications of thermodynamic theory to current engineering problems which involve relationships of properties, gas dynamics, reaction equilibria, flame propagation and stability. Prerequisite: 206, or its equivalent.
211. **ADVANCED HEATING AND AIR-CONDITIONING.** (3)
- 221L. **ADVANCED MACHINE DESIGN.** (3)
Analysis of machine elements, design of elements subjected to combined loading, designing for repeated loading, development of basic equations used in machine design, theories of lubrication, and an intensive study of gearing. Prerequisites: 150L, 153L.
- 222L. **CREATIVE DESIGN.** (3)
The development of an idea for a new product or a different design and/or application of an existing product. Study will include a survey of field of application; formulation of requirements of product, design including consideration of materials to be utilized, methods of production, design of special jigs and fixtures, sales appeal, and packaging (if required). Prerequisites: 221L and consent of instructor.
231. **REACTOR ANALYSIS.** (3)
In this course, the basic theory of reactors is developed. The major topics considered are 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. Prerequisites: 6 hours of Mathematics 141-145, or consent of Chairman of Department; ME 201 and ME 206, or equivalents. (Given at Los Alamos Laboratory only.)
232. **REACTOR ENGINEERING.** (3)
This course consists of a discussion of the engineering principles of reactor design and construction. The major topics considered in this course are general design principles, reactor materials, fuel recovery, heat removal and thermal stresses, radiation hazards and shielding, and descriptions of typical reactors. Prerequisite: 231. (Given at Los Alamos Laboratory only.)
- 251-252. **PROBLEMS.** (3,3)
Advanced reading, design or research.
300. **THESIS.** (6)

ENGLISH

Professors Arms (Chairman), Pearce, Dane F. Smith, Wicker, Wynn; Associate Professors Albrecht, Crowell, Jacobs, Keleher, Simons, Tedlock; Assistant Professors Baughman, Kluckhohn, Kuntz, Lueders; Instructors Darbee, Fleming, Schwartz; Teaching Assistants Menagh, Ochshorn, Peterson, Hugh Smith, Jr., Whipple; Graduate Assistants Bitter, Howard, Hurley, McKee, Parish, White.

MAJOR STUDY

A minimum of 36 hours is required for the major study in English. The courses taken must include 53, 54; 3 hours in American Literature; 3 hours in World Literature; 91; 141 or 142; 151 or 154; two courses chosen from 143, 146, 148, 157, 177, 178, 181, 182; and 198. Twelve hours must be taken in courses numbered above 100. It is strongly recommended that English majors take History of England, 71, 72—if possible concurrently with English 53, 54. Students with special interest in the theater may elect Drama 89, 90 toward a major study in English. Majors and minors who are planning to teach English should enroll in Education 155c, The Teaching of English in Secondary Schools. A comprehensive examination in English literature and language (see English 198) is required of majors. Six hours in courses numbered above 50 in either Journalism or Speech may count towards the major in English.

MINOR STUDY

College of Arts and Sciences: English 1, or English 1W (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, or English 1W (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 1W, Writing with Readings in Exposition (Workshop), a 3-credit course with 2 hours of non-credit tutoring in reading, grammar, punctuation, and vocabulary. 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 Engineering: English 64.

College of Education: 6 credit hours in courses numbered above 50. (In the Elementary Curriculum, these additional hours must be in literature.)

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.

I. WRITING

- 1W. WRITING WITH READINGS IN EXPOSITION (WORKSHOP). [Introduction to Rhetoric (Workshop).] (3) Lueders, Staff
Remedial work in reading, grammar, punctuation and vocabulary, plus expository writing. 3 lectures, 2 hrs. of tutoring.
1. WRITING WITH READINGS IN EXPOSITION. [Introduction to Rhetoric.] (3) Crowell, Staff
Expository writing, paragraph methods, and readings.
2. WRITING WITH READINGS IN LITERATURE. [Introduction to Literature.] (3) Crowell, Staff
The types of literature with readings and reports.
3. ENGLISH FOR FOREIGN STUDENTS. (3) Kluckhohn, Staff
A course in writing and understanding English, designed for students to whom English is a foreign tongue. Credit may be withheld until the course is repeated in the succeeding term. No credit allowed if credit is earned in English 1. 5 hours of classroom work.
- REFERRALS IN ENGLISH PROFICIENCY. [Sophomore Proficiency in English.] (0)
A non-credit tutoring course for referral students including those who failed the Sophomore Proficiency examination in English. (See graduation requirements in the several Colleges.)
61. CREATIVE WRITING: THE ESSAY. [Exposition.] (3) Keleher
An intermediate course with emphasis on the types, structure, and style of expository writing.
62. CREATIVE WRITING: DESCRIPTION AND NARRATION. (3) Keleher
The types, materials, and techniques of descriptive and narrative writing.
64. INFORMATIVE WRITING. (3) Albrecht, Staff
Professional expository composition and the preparation of elementary reports.
121. ADVANCED CREATIVE WRITING. [Creative Writing.] (3) Keleher
An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: 61 and 62 or permission of the instructor.
- 155c. THE TEACHING OF ENGLISH IN SECONDARY SCHOOLS. (3) Kuntz
(Same as Education 155c.)

II. LITERATURE

1. 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) Pearce, Simons
A detailed study of the comedies and historical plays.
142. SHAKESPEARE: TRAGEDIES. (3) Pearce, Simons
A detailed study of the problem comedies and tragedies.

143. DRAMA OF THE RESTORATION AND EIGHTEENTH CENTURY. (3) Smith
The best plays from D'Avenant to Sheridan. Prerequisite: 3 credit hours in literature.
146. AGE OF MILTON. (3) Smith
The major works of John Milton, and other masterpieces of prose and poetry from 1600-1660. Prerequisite: 3 credit hours in literature.
148. ELIZABETHAN DRAMA EXCLUSIVE OF SHAKESPEARE. (3) Pearce, Simons
Special attention to the plays of Marlowe and Jonson. Prerequisite: 3 credit hours in literature.
151. CHAUCER. (3) Albrecht, Pearce
A detailed study of the *Canterbury Tales* with some attention to Chaucer's other works.
154. MIDDLE-ENGLISH LITERATURE. (3) Albrecht, Pearce
A general survey of the types of thirteenth- and fourteenth-century literature. Prerequisite: 6 credit hours in literature.
157. ELIZABETHAN NON-DRAMATIC LITERATURE. (3) Pearce, Simons
Development of humanism, new poetry, literature of courtesy. Prerequisite: 3 credit hours in literature.
177. THE CLASSICAL PERIOD IN ENGLISH LITERATURE. (3) Crowell, Smith
The chief writers in England from the Restoration to Johnson. Prerequisite: 3 credit hours in literature.
178. THE ROMANTIC PERIOD. (3) Wicker
The eighteenth-century background of Romanticism and the major poets, Blake to Keats. Prerequisite: 3 credit hours in literature.
181. VICTORIAN POETS. (3) Crowell, Jacobs, Wicker
The representative poets from 1830 to 1890. Prerequisite: 3 credit hours in literature.
182. NINETEENTH-CENTURY PROSE. (3) Albrecht, Wicker
Representative prose writers from 1800 to 1890. Prerequisite: 3 credit hours in literature.
185. EARLY ENGLISH NOVEL. (3) Wicker
From the beginnings through Jane Austen.
186. LATER ENGLISH NOVEL. (3) Wicker
From Scott to 1910.
219. STUDIES IN MIDDLE-ENGLISH LITERATURE (1100-1500). (3) Albrecht, Pearce
The drama, romances, ballads, religious works, or other subjects.
223. STUDIES IN THE ENGLISH RENAISSANCE (1500-1616). (3) Pearce
Marlowe, Spenser, Shakespeare, Jonson, or others.
225. STUDIES IN THE SEVENTEENTH CENTURY (1600-1660). (3) Crowell, Smith
Prose writers, metaphysical poets, or Milton.
230. STUDIES IN THE RESTORATION AND EIGHTEENTH CENTURY (1660-1780). Smith
Dryden, Pope, or Johnson.
233. STUDIES IN THE RESTORATION AND EIGHTEENTH CENTURY (1660-1780). Crowell, Smith, Wicker
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) Albrecht, 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) Albrecht, 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, Smith, Tedlock
A general survey to 1900, with more extensive study of the great writers of the nineteenth 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
Major writers from Irving to Melville.
169. THE PERIOD OF REALISM IN AMERICAN LITERATURE. (3) Arms
Major writers from Whitman to Henry Adams.
203. STUDIES IN THE LITERATURE OF COLONIAL AND REVOLUTIONARY AMERICA. (1600-1800). (3)
The Connecticut Wits; early influences of the Frontier in literature, to 1840; or other subjects.
206. STUDIES IN EARLY NINETEENTH-CENTURY AMERICAN LITERATURE (1800-1855). (3) Arms
Emerson and Thoreau; Hawthorne, Melville, and Poe; or others.
209. STUDIES IN LATE NINETEENTH-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 nineteenth and twentieth centuries.
58. MASTERWORKS OF MODERN SHORT FICTION AND POETRY. (3) Simons, Staff
American and European writers of the nineteenth and twentieth centuries.
75. WORLD LITERATURE FROM HOMER TO DANTE. (3) Jacobs, Kuntz, Smith
Masterpieces of European and Asiatic literature, including the Bible.
76. WORLD LITERATURE FROM RABELAIS TO IBSEN. (3) Jacobs, Smith
Masterpieces of European literature, including the great Russian writers.
132. CONTEMPORARY POETRY. (3) Arms, Jacobs, Tedlock
A study of 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, Smith
European and American playwrights from Ibsen to the present.
139. COMPLETE GREEK DRAMA IN TRANSLATION. (3) Smutny
(Same as Greek 139.)
140. LATIN LITERATURE IN TRANSLATION. (3) Smutny
(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 story-telling in English and American literature.
166. LITERARY CRITICISM. (3) Arms
Major critical attitudes toward literature. Prerequisite: 6 credit hours in literature.
198. REVIEW SEMINAR. (1) Staff
Senior English majors are advised to take this course in preparation for the comprehensive examination.
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
Study of Latin and Greek word roots; introduction to etymology and semantics.
91. HISTORY OF THE ENGLISH LANGUAGE. (2) Albrecht, Pearce
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.
101. PHONETICS. (3)
(Same as Speech 101.)
215. OLD ENGLISH. (3) Albrecht, Pearce
Elementary grammar; translation of prose and poetry, exclusive of *Beowulf*.
216. BEOWULF. (3) Albrecht
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 FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
251. LITERARY PROBLEMS FOR THE MASTER'S DEGREE. (1-2 each semester)
Studies in literature and philology. Graduate Staff
300. THESIS. (6) Graduate Staff
351. SEMINAR PROBLEMS FOR THE DOCTOR'S DEGREE. (1-2 each semester)
Graduate Staff
400. DISSERTATION. Graduate Staff

FOLKLORE

See Modern and Classical Languages, and English 161.

FRENCH

See Modern and Classical Languages.

GEOGRAPHY

A division, offering only minor study.
Assistant Professor Kelley.

MINOR STUDY

Geography 1, 2, 51 and 12 additional hours.

GROUP REQUIREMENTS

Geography 51 and 179 count toward Science and Mathematics (Group IV)—non-laboratory; all other Geography courses count toward Social Science (Group III).

1. GENERAL GEOGRAPHY. (3)
An introduction to world geography; physical and cultural regions; development of natural resources.
2. GENERAL GEOGRAPHY. (3)
A continuation of 1. Concepts of economic and political geography; geographic comparison of the Great Powers.

51. [1] PHYSICAL GEOGRAPHY. (3)

A systematic study of the physical and biotic environment. World patterns of climate, land forms, natural vegetation, animal life, and mineral resources. 2 lectures, 2 hrs. map and photo study. Field trips.

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.

179. CONSERVATION. (3)

(Same as Biology 179.)

Dittmer

GEOLOGY

Professors Northrop (Chairman), Kelley; Associate Professors Beck, Wengerd; Assistant Professor Fitzsimmons; Graduate Assistants Brady, Del Mar, Langan, Lovejoy, Thompson.

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, 106L, 108L; either 109L and 110L or 111L and 112L; and 6 additional upper division hours. Architectural Engineering 1L, Chemistry 1L, 2L, Civil Engineering 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 seeking positions in petroleum exploration and production, mining geology, and geological engineering, as well as federal or state positions in 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: Architectural Engineering 1L, 2L, 111; Civil Engineering 4L, 54L, 60, 102, 104L, 109L, 110, 111L, 115L, 120, 187L; Mechanical Engineering 53, 101, 106, 175, 181, 182. Observe prerequisites.

MINOR STUDY

Geology 1, 2, 5L, 6L, and 12 additional hours.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

1. **PHYSICAL GEOLOGY.** (3) Staff
Materials composing the earth, and work of agencies, both external and internal, modifying its surface.
2. **HISTORICAL GEOLOGY.** (3) 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) Staff
Minerals, rocks, and topographic maps. Credit suspended when credit in Geology 1 is not earned. Corequisite: 1. 2 hrs. lab.
- 6L. **HISTORICAL GEOLOGY LABORATORY.** (1) Staff
Fossils and paleogeographic maps; emphasis on the historical geology of New Mexico. Credit suspended when credit in Geology 2 is not earned. Corequisite: 2. 2 hrs. lab.
- 73L-74L. **MINERALOGY.** (4, 4) Beck
Crystallography; chemical, physical, and descriptive mineralogy; geologic occurrences, associations, and uses. Prerequisite: Geology 5L; prerequisite or corequisite: Chemistry 1L, 2L. Course 73L may be taken separately, but 73L is prerequisite to 74L. 2 lectures, 6 hrs. lab.
101. **NONMETALLIFEROUS DEPOSITS.** (3) Kelley
Origin, properties, utilization, and classification of industrial minerals, rocks, and coal. Prerequisites: 6L and 74L.
102. **ORE DEPOSITS.** (3) Kelley
Metalliferous deposits with respect to their origin, distribution, structure, and alteration; mining and utilization problems. Prerequisites: 6L, 74L, and 103L.
- 103L. **PETROLOGY.** (3) Fitzsimmons
Classification, occurrence, origin, and hand-specimen recognition of common rocks. Prerequisites: 6L and 74L. 2 lectures, 3 hrs. lab.
105. **NEW MEXICO GEOLOGY.** (2) Kelley, Northrop
Prerequisites: 6L and 74L; 103L and 108L are strongly recommended.
- 106L. **FIELD GEOLOGY.** (3) Fitzsimmons, Kelley
Geologic mapping; principles and techniques; preparation of a report. Prerequisites: Geology 6L and CE 4L; prerequisite or corequisite: Geology 103L. 1 full day in field each week.
- 108L. **STRUCTURAL GEOLOGY.** (3) Kelley
Rock structures and their origins; problems. Prerequisite: 6L; mechanical drawing or descriptive geometry or both are strongly recommended. 2 lectures, 3 hrs. lab.
- 109L-110L. **STRATIGRAPHY.** (4, 4) Yr. 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. Credit suspended for 109L until 110L is completed. 2 lectures, 6 hrs. lab.
- 111L-112L. **PALEONTOLOGY.** (4, 4) Yr. 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. Credit suspended for 111L until 112L is completed. 2 lectures, 6 hrs. lab.
- 115L. **GEOLOGIC INTERPRETATION OF AERIAL PHOTOGRAPHS.** (2) Wengerd
Characteristics, photogrammetric computations, and stereoscopy. Preparation of planimetric and contour maps. Interpretation of geology and construction of photo-geologic

- maps. Prerequisites: Mathematics 16, Civil Engineering 4L, Geology 74L. Geology 108L and 181 are strongly recommended. 1 lecture, 3 hrs. lab.
- 121L-122L. OPTICAL MINERALOGY AND PETROGRAPHY. (4, 4) Beck
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: Geology 103L, 108L; Mathematics 15, 16; Physics 11L, 12L (or equivalent).
- 133L. ADVANCED FIELD GEOLOGY. (3) Kelley and Staff
Prerequisite: 106L.
- 141L. SEDIMENTOLOGY. (3) Wengerd
The sedimentary cycle and its products; rock-weathering and soils; transport; depositional environments; sedimentary petrology. Prerequisite: 74L. 2 lectures, 3 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. Prerequisite: 141L.
- 151-152. PROBLEMS. (2, 2) Staff
161. GROUND WATER. (2) Wengerd
Occurrence and development of ground water with special emphasis on Southwestern conditions. Prerequisite: 141L.
181. GEOMORPHOLOGY. (3) Wengerd
Origin, development, and classification of land forms, with detailed consideration of gradational processes. Prerequisite: 108L.
- 182L. GEOMORPHOLOGY OF THE UNITED STATES. (3) 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.
- 201L. 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. Prerequisites: 110L and 142. 1 lecture, 6 hrs. lab.
- 203L. ADVANCED CRYSTALLOGRAPHY. (3) Beck
Morphological crystallography and differential thermal analysis. 1 lecture, 6 hrs. lab.
- 206L. X-RAY CRYSTALLOGRAPHY. (4) Beck
(Same as Chemistry 206L.) Theory and practical application of X-ray crystallography. Prerequisite: 203L or permission of instructor. 2 lectures, 6 hours lab.
208. REGIONAL TECTONICS. (2) Kelley
- 241-242. SEMINAR. (2, 2) Graduate Staff
- 251-252. PROBLEMS. (2-3 each semester) Graduate Staff
300. THESIS. (6) Graduate Staff

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors McMurray (Chairman), Jorin, Judah; Associate Professor Irion; Assistant Professors Cline, Richards; Graduate Assistants Adams, Lahart.

MAJOR STUDY

A total of 36 hours including Government 1, 2, 51, 52, 195, and a minimum of 1 course from each of the following four 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.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III.)

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|---|-----------------|
| 1-2. INTRODUCTION TO SOCIAL SCIENCE. (3, 3) Yr. | Staff |
| (Same as Economics 1, 2, and Sociology 1, 2.) Credit suspended until both semesters are completed. | |
| 51. AMERICAN GOVERNMENT. (3) | Staff |
| Organization and procedure. | |
| 52. AMERICAN GOVERNMENT. (3) | Staff |
| Functions. | |
| 61. INTRODUCTION TO POLITICS. (3) | Jorrin, Judah |
| An elementary study of the fundamental concepts of political science and of the nature, forms, purposes and modes of operation of government. | |
| 62. POLITICS IN ACTION. (3) | Cline, 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) | Jorrin |
| (Same as Anthropology 73, Economics 73, and Sociology 73.) | |
| HA. READING FOR HONORS. (1-3 each semester) | Staff |
| HB. RESEARCH FOR HONORS. (1-3 each semester) | Staff |
| 101. MUNICIPAL GOVERNMENT AND ADMINISTRATION. (3) | Cline |
| Special consideration of the organization, administration, and problems of counties, municipalities, metropolitan areas, and administrative districts. | |

102. STATE GOVERNMENT AND ADMINISTRATION. (3) Cline
A survey of the constitutional, statutory, and administrative development of state government in the United States with special emphasis on New Mexico. Consideration of 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.
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. Prerequisites: 1, 2.
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 law-making, judicial review. Recommended: 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
A study of policy formulation; problems of decision-making; conflict of interests in administration; the contribution of administration to social satisfaction. Recommended: 51, 121.
141. INTERNATIONAL POLITICS. (3) Jorrin, McMurray
The origin and nature of the problems involved in international relations. Recommended: 51, 52.
143. INTERNATIONAL LAW AND ORGANIZATION. (3) Jorrin
An examination of 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) G. W. Smith
(Same as History 151.)
152. PUBLIC FINANCE. (3) Wollman
(Same as Economics 152.)
155. THE GOVERNMENTS OF LATIN AMERICA. (3) Jorrin
A consideration of 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) Jorrin
Knowledge of ancient and medieval history is recommended.
162. POLITICAL THEORY FROM THE ENLIGHTENMENT TO TODAY. (3) Jorrin
Knowledge of modern European history is recommended.
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. [Comparative Government.] (3) Judah
A survey and comparison of the leading governments of Europe. Prerequisite: 51, 52, or 61.
170. ORGANIZATION AND ADMINISTRATION OF SOCIAL WELFARE. (3) Ellis
The special application of the principles of public administration to the fields of social welfare. Prerequisite: 51.
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) Staff
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)
 A study of 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) Jorrin
 298. SEMINAR IN GOVERNMENT PRINCIPLES. (3) Jorrin, 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. 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. 118-121.

Professor White (Head); Associate Professor Burley (Graduate Studies), Harris, M.D. (Director, University Health Service); Assistant Professors Gerber, M. D., Sturges, M.D. (University Physicians).

Department of Health and Physical Education for Men: Professors Johnson (Chairman), Titchenal; Assistant Professors Barnes, Clements, Cullen, Petrol; Instructor Pittings.

Department of Health and Physical Education for Women: Associate Professor Gugisberg (Chairman); Assistant Professors McGill, Milliken; Instructors Glasebrook, Waters.

ALL UNIVERSITY REQUIREMENTS

Four semester hours of required physical education shall be completed by all undergraduate students at the University. Veterans, Air and Navy ROTC students, and students over thirty years of age 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.

ACTIVITY 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.

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| M1. ACTIVITY COURSE. (1) | Johnson and Staff |
| This course is designed to get the men into the best possible physical condition through such activities as conditioning and coordination exercises, swimming, tumbling, gymnastics, apparatus, touch football, speedball, basketball, combatives, seasonal recreational sports and games. Sections as required. | |
| W1. ORIENTATION. (1) | Staff |
| M2. ACTIVITY COURSE. (1) | Staff |
| This course is designed to get the men into the best possible physical condition through such activities as basketball, combatives, volleyball, tennis, track and field, swimming, softball, seasonal recreational sports and games. Sections as required. | |
| W2. ORIENTATION. (1) | Staff |
| W51. BEGINNING TENNIS. (1) | Glasebrook, Milliken |
| W52. INTERMEDIATE TENNIS. (1) | Milliken |
| W53. ADVANCED TENNIS. (1) | McGill |
| M&W55. BEGINNING RIDING. (1) | Staff |
| M&W56. INTERMEDIATE RIDING. (1) | Staff |
| M&W57. ADVANCED RIDING. (1) | Staff |
| M&W58. HIGH ADVANCED RIDING. (1) | Staff |
| M&W59. RIDING (RODEO). (1) | Staff |
| M&W61. BEGINNING GOLF. (1) | Dear, McGill |
| M&W62. INTERMEDIATE GOLF. (1) | Staff |
| M&W63. ADVANCED GOLF. (1) | Staff |
| W66. BEGINNING SWIMMING. (1) | Staff |
| W67. INTERMEDIATE SWIMMING. (1) | Staff |
| W68. ADVANCED SWIMMING. (1) | Staff |
| M&W69. LIFESAVING. (1) | McGill |
| Prerequisite: advanced swimming course or equivalent. American Red Cross Senior Lifesaving Certificate awarded upon satisfactory completion of course. | |
| M&W70. WATER FRONT SAFETY. (1) | McGill |
| Technique of teaching swimming and lifesaving, organization of swimming programs, pool operation. Prerequisite: current Senior Lifesaving Certificate. American Red Cross Water Safety Instructor's Certificate awarded for satisfactory completion of course. | |
| W71. BEGINNING SWIMMING, INDIVIDUAL AND TEAM SPORTS. (1) | Glasebrook |
| W72. INTERMEDIATE SWIMMING, INDIVIDUAL AND TEAM SPORTS. (1) | Glasebrook |
| W73. ADVANCED SWIMMING, INDIVIDUAL AND TEAM SPORTS. (1) | McGill |
| W79. FENCING. (1) | Staff |
| W80. INDIVIDUAL AND TEAM SPORTS. (1) | Staff |
| W81. TEAM SPORTS. (1) | Milliken |

- M&W90. RECREATIONAL GAMES. (1) Glasebrook
 M&W91. BALLROOM DANCING. (1) Staff
 M&W92. MEXICAN AND NEW MEXICAN DANCING. (1) Staff
 M&W93. AMERICAN COUNTRY DANCE. (1) Glasebrook
 M&W94. CONTEMPORARY DANCE. (1) Waters
 Modern dance, beginning level.
 M&W95. CONTEMPORARY DANCE. (1) Waters
 Modern dance, intermediate level.

THEORY COURSES

- 40L. GYMNASTIC TECHNIQUE AND PRACTICE. (Men) (2) Petrol
 Fundamental techniques of gymnastics and athletic activities, fieldball, games, aquatics, apparatus, gymnastics, tumbling. 2 lectures, 2 hrs. lab.
 41L. SPORTS TECHNIQUE AND PRACTICE. (Men) (2) Petrol
 Fundamental techniques of additional gymnastics and athletic activities, diamond and courtball games, individual sports, gymnastic drill, games, combatives. Prerequisite: 40L. 2 lectures, 2 hrs. lab.
 49. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
 Proficiency in stunts, tumbling, pyramid building, and certain self-testing activities.
 62L. THEORY AND PRACTICE IN MAJOR SPORTS (Men) (4) Johnson, Petrol, Clements
 Fundamental techniques of football, basketball, track and field, baseball and tennis. 4 lectures, 4 hrs. lab.
 64. FIRST AID. (2) Clements
 American Red Cross Standard and Instructors' Certificates will be granted upon satisfactory completion of the course.
 72. HEALTH EDUCATION. (2) White
 (Same as General Education 72.)
 96. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
 Directed observation and practice in group-work through one dual and one team sport.
 97. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
 Proficiency in soccer and speedball.
 98. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
 Directed observation and practice in group-work through one individual sport and Mexican and New Mexican dances.
 104. NUTRITION. (2) Elser
 (Same as Home Economics 104.)
 104L. KINESIOLOGY. (4) Burley
 Prerequisites: Biology 12L, 36, 39L.
 105. COMMUNITY RECREATION THROUGH THE SCHOOL. (3) McGill
 Basic course in planning school-community recreation. Discussion of objectives, facilities, activities, program planning, and leadership techniques. Prerequisite: proficiency in one area of recreation.
 107. TEACHING OF FOLK DANCE. (2) Staff
 Prerequisites: W92, W93, 145.
 108. TEACHING OF TEAM SPORTS. (Women) (2) Milliken
 Discussion of game techniques, strategy, rules, equipment, and teaching progression in softball, basketball, soccer, speedball, volleyball, and field hockey. Prerequisite: course in each sport.
 109. TEACHING OF INDIVIDUAL AND DUAL SPORTS. (Women) (2) McGill
 Discussion of game techniques, strategy, rules, equipment, teaching progression and unit planning in archery, tennis, badminton, bowling, and recreational games. Prerequisite: course in each sport.
 119. TEACHING OF PHYSICAL EDUCATION IN THE ELEMENTARY GRADES. (2) Gugisberg, Milliken
 (Same as Elementary Education 119.)

121. OFFICIATING IN SPORTS. (2) Johnson, McGill
Discussion and practice in officiating techniques in soccer, speedball or field hockey, football and basketball, etc. Prerequisite: permission of instructor.
125. ORGANIZATION AND ADMINISTRATION OF INTRAMURAL PROGRAMS. (1-3) McGill, Johnson
Theory and practice in organizing and directing intramural programs. Prerequisite: permission of instructor.
- 126L. PHYSIOLOGY OF EXERCISE. (3) Fleck
(Same as Biology 126L.)
128. THE TREATMENT OF ATHLETIC INJURIES. (2) Staff
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. Also discussions on basic health principles, unit planning, methods and use of community resources. Prerequisite: General Education 72.
145. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
Proficiency in European folk dancing.
146. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
Directed observation and practice in group work through swimming and American country dancing.
147. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
Proficiency in field hockey.
148. PROFESSIONAL ACTIVITIES. (Women) (1) Staff
Directed practice and observation in group work through contemporary dance.
154. TEACHING OF SELF-TESTING ACTIVITIES. (Women) (2) Milliken
Discussions on selection of content, unit planning, progression, safety measures, class organization and methods.
- 155p. TEACHING OF PHYSICAL EDUCATION IN SECONDARY SCHOOLS. (3) Gugisberg
(Same as Secondary Education 155p.)
156. TEACHING OF CONTEMPORARY DANCE. (Women) (2) Waters
Selection of methods and materials for teaching modern dance.
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) SS Staff
Open to high school teachers, principals, supervisors, and those who are interested in the field. Those enrolling must be licensed drivers. Discussion includes improving 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, physical tests for drivers. Standard methods of road instruction will be required. A complete library of tests, teaching aids, and courses of study will be available.
167. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION. (3) Burley
Techniques to determine abilities, needs, and placement in the physical education program.
171. PRINCIPLES OF PHYSICAL EDUCATION. (3) Gugisberg, Johnson
Approach to course of study construction through a study of aims and objectives, psychological, sociological, and physiological principles; the interrelationships between health, physical education, and recreation; a brief review of historical backgrounds of modern physical education. Prerequisite: permission of the instructor.
172. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. (3) Gugisberg, Johnson
A study of program building including criteria for the selection of activities and progression, and a study of other factors affecting course of study construction such

as facilities, equipment, budget, laws, policies, professional responsibilities, intramurals, and extramurals. Prerequisite: permission of instructor.

175. FIELD WORK IN RECREATION. (3) McGill
Theory and practice in recreation leadership in centers, playgrounds, etc. Prerequisite: 105.
- 183L. PRACTICE COACHING. (Men) (2) Clements
2 lectures, 2 hrs. lab.
185. ADMINISTRATION OF A SCHOOL HEALTH PROGRAM. (3) Gugisberg
Prerequisite: 138.
186. PROBLEM METHODS IN PHYSICAL EDUCATION. (1-3) White and Staff
190. SUPERVISION OF HEALTH AND PHYSICAL EDUCATION PROGRAMS. (1-3) Gugisberg
Supervisory techniques stressing cooperative planning will be applied to city and county programs in New Mexico. Each student will be required to develop a problem in terms of his particular needs and situation. Prerequisite: permission of instructor.
- 201AB. RESEARCH METHODS IN EDUCATION. (2) Crawford, Fixley
(Same as General Education 201.)
202. RESEARCH SEMINAR IN EDUCATION. (2) Crawford
(Same as General Education 202.) Required of all candidates for a graduate degree in education under Plan II. Prerequisite: 201.
205. FOUNDATIONS FOR A PHILOSOPHY OF PHYSICAL EDUCATION. (3) Burley
Prerequisite: At least 3 hrs. in history, principles, or methods of Physical Education.
207. FOUNDATIONS FOR A PHILOSOPHY OF RECREATION. (3) Burley
210. CURRICULUM CONSTRUCTION IN PHYSICAL EDUCATION. (3) Burley
214. THE REMEDIAL PROGRAM IN PHYSICAL EDUCATION. (3) Burley
216. SEMINAR IN HEALTH, PHYSICAL EDUCATION, AND RECREATION. (2) Staff
251. PROBLEMS IN PHYSICAL EDUCATION. (2-3) Burley, Gugisberg
- 271-272. ADMINISTRATION OF HEALTH EDUCATION. (3, 3) Harris
300. THESIS. (6) Burley

HISTORY

Professors Sacks (Chairman), Russell, Reeve, Scholes, Woodward;
Associate Professors Longhurst, Smith; Assistant Professor Dabney; Graduate Assistants, Delaney, Minge, Ochshorn.

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.

Students who began their major study in history before June, 1953, should see the Department Chairman for permission to waive any of the requirements listed below: a minimum of 5 lower division semester courses, including 1, 2; 11, 12, or 51, 52; and 1 semester course chosen from 71, 72, 83. A minimum of 3 semester courses each in European History and American History, and 2 semester courses in Hispanic-American History. These semester courses are to be chosen from the following:

European History 115, 116, 121, 122, 123, 124, 145, 146;
 American History 151, 171, 179, 183, 185, 192;
 Hispanic-American History 161, 162, 163, 168.

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 two of the three fields prescribed for the major study in History.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

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| 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) | Woodward |
| 11: Survey of European—chiefly Spanish, Portuguese, French, and English—exploration and settlement of the Americas. 12: Survey of the revolutions which separated the French, English, Spanish, and Portuguese colonies from their countries, and the establishment of national governments. | |
| 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. | |
| 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. | |
| 72. HISTORY OF ENGLAND FROM 1603 TO THE PRESENT. (3) | Sacks |
| Survey of constitutional, political, social, and religious developments in the British Isles. | |
| 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 FOR HONORS. (1-3 each semester) | Staff |
| HB. RESEARCH FOR HONORS. (1-3 each semester) | Staff |
| 115. GREEK POLITICAL INSTITUTIONS. (3) | Russell |
| Study of urban, federal, and imperial institutions of Classical and Hellenistic Greece, with 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
Study of 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
Study of 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.
135. **THE BRITISH EMPIRE.** (3) Sacks
British possessions overseas since 1815—Canada, Australia, New Zealand, South Africa, India, Egypt, and the dependencies.
141. **INTERNATIONAL POLITICS.** (3)
(Same as Government 141.)
142. **THE ENLIGHTENMENT.** (3) Longhurst, Sacks
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 DEMOCRACY 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, Woodward
Spanish and Portuguese occupation and colonial control in the Americas.
162. **HISTORY OF LATIN AMERICA.** (3) Scholes, Woodward
Emergence of national states in Latin America.
163. **THE A. B. C. POWERS IN RECENT TIMES.** (3) Woodward
Recent political developments in South America, emphasizing the 20th century.
165. **HISTORY OF SPAIN.** (2) Longhurst, Russell
Development of Spanish population, social classes, Church, economic and political institutions through the Carthaginian, Roman, Visigothic, Mohammedan, and late medieval periods.
166. **HISTORY OF SPAIN.** (2) Longhurst, Russell
From unification under the Catholic Kings to the present.
167. **HISTORY AND CIVILIZATION OF PORTUGAL.** (3) Woodward
Emergence of Portugal as a national state; establishment and decline of the Portuguese Empire.
168. **MEXICO AND THE CARIBBEAN.** (3) Woodward
Recent political evolution in this area, with emphasis on the period since 1910.

171. THE AMERICAN COLONIES. (3) Dabney
Study of American institutions and the American character in their infancy, half of the semester being devoted to the period of the Revolution, 1763-1789.
- 173-174. AMERICAN BIOGRAPHY. (2, 2) Dabney
American history approached by a study of some of the representative persons in the fields of politics, economics, letters, the arts, pure and applied science, and education, the year 1815 being the dividing point between the semesters.
175. THE ERA OF SECTIONAL CONFLICT, 1820-1860. [The South in American History]. (3) Smith
Study of 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
History of 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
Study of the Turner frontier thesis and its critics.
183. INTELLECTUAL AND SOCIAL HISTORY OF THE UNITED STATES. (2) Dabney
Significant movements in social, intellectual, and cultural developments from the beginning to 1860.
184. INTELLECTUAL AND SOCIAL HISTORY OF THE UNITED STATES. (2) 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, Woodward
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.
202. INTRODUCTION TO HISTORICAL RESEARCH. (3) Longhurst, Woodward
Historical methods and writing with introduction to historiography.
- 251-252. PROBLEMS. (1-2 each semester) Graduate Staff
256. SEMINAR IN MEDIEVAL HISTORY. (2-3) Russell
Emphasis upon phases of medieval English or Spanish history.
257. SEMINAR IN SPANISH HISTORY. (2-3) Longhurst
Emphasis on the sixteenth century, particularly the Spanish Inquisition. Reading knowledge of Spanish required.
258. SEMINAR IN MODERN BRITISH HISTORY. (2-3) Sacks
Emphasis upon the opening decade of the twentieth century; primary materials utilized include parliamentary debates, diplomatic correspondence, memoirs, and public opinion.
261. SEMINAR IN SOUTHWEST HISTORY. (2-3) Scholes, Woodward
Southwestern colonial history.
262. SEMINAR IN SOUTHWEST HISTORY. (2-3) Reeve
Southwestern history since 1821.
265. [266]. SEMINAR IN COLONIAL LATIN-AMERICAN HISTORY. (2-3) Scholes
Emphasis upon the constitutional and cultural history of the Spanish colonies in America.
266. [267]. SEMINAR IN RECENT LATIN-AMERICAN HISTORY. (2-3) Woodward
Seminar on the national period of Latin America.

271. SEMINAR IN EARLY AMERICAN HISTORY. [Seminar in American History] (2-3) 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. [Seminar in American History] (2-3) 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. (2-3) Reeve
Topical investigation in American History since 1900.
300. THESIS. (6) Graduate Staff
400. DISSERTATION. Graduate Staff

HOME ECONOMICS

Associate Professors Elser (Chairman), Schroeder; Assistant Professor Barte; Instructor McMurray.

CURRICULUM IN EDUCATION

See p. 121.

COMBINED MAJOR IN HOME ECONOMICS EDUCATION AND DIETETICS

See p. 121.

MAJOR STUDY IN ARTS AND SCIENCES

Home Economics 1, 2L, 53L, 54L, 104, 107L, 109, 128, 132, 138L and two of the following courses; 12L, 60L, 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 of 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

Home Economics 1, 2L, 12L, and 12 hrs. in courses numbered above 50, or 20 hrs. specified by the Chairman of the Department.

MINOR STUDY IN ARTS AND SCIENCES

Home Economics 1, 2L, 53L, 54L and at least eight additional hours approved by the Chairman of the Department. At least three hours must be taken in a course numbered above 100.

GROUP REQUIREMENTS

Home Economics 53L and 54L count toward Science and Mathematics (Group IV).

1. CLOTHING SELECTION. (3) McMurray
Clothing selection from the standpoint of artistic, economic, and hygienic standards.
- 2L. CHILD DEVELOPMENT. (2) Schroeder
Child care and development; the infant. 2 lectures, 2 hrs. lab.
- 12L. CLOTHING CONSTRUCTION. (2) McMurray
Basic construction problems of clothing for the individual. Prerequisite HE I. 4 hrs. lab.

- *53L-54L. FOOD FOR THE FAMILY GROUP. (3,3)** Barte
Selection, preparation, and service of family meals. 1 lecture, 4 hrs. lab.
- 60L. TEXTILES. (3)** McMurray
Construction, identification, use and care of clothing and household textiles. 2 lectures, 2 hrs. lab.
- 63L-64L. ADVANCED CLOTHING CONSTRUCTION. (3,3)** McMurray
63L: Pattern study; construction of clothing emphasizing fitting and techniques of finishing. 64L: Adaptation of patterns; problems in designing. Prerequisites: 1, and 12L, or permission of instructor. 1 lecture, 4 hrs. lab.
- 102. HOME NURSING. (2)** Elser
Fundamentals of home care of the sick; sanitation; prevention and control of communicable diseases.
- 104. NUTRITION. (2)** Elser
The relation of nutrition to the health program; normal nutrition.
- 107L. ADVANCED FOODS. (3)** Elser
Food economics; household marketing; food laws; food preservation. Prerequisites: Home Economics 54L and Chemistry 41L, 42L. 2 lectures, 3 hrs. lab.
- 108. HOUSE PLANNING. (2)** McMurray
Use of space within the house planned for comfort, economy, and beauty. Historic styles and their relation to modern design.
- 109. HOME FURNISHINGS. (2)** McMurray
Selection, use, and care of home furnishings with emphasis on individual use.
- 127L. NUTRITION AND DIETETICS. (4)** Barte
Prerequisite: 107L. 3 lectures, 2 hrs. lab.
- 128. FAMILY RELATIONSHIPS. (3)** Schroeder
- 132. HOUSEHOLD MANAGEMENT. (3)** Schroeder
- 133L. HOME MANAGEMENT HOUSE. (3)** Schroeder
Six weeks' residence required. Pre- or co-requisite: 132. 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

The following courses are primarily for students who wish to become dietitians.

- 150L. LARGE QUANTITY COOKERY. (3)** Dining Hall Staff
Standard methods of food production in quantity; cost accounting; standardization of formulas; menu planning and table service. Prerequisites: 107L, 127L. 1 lecture, 4 hrs. lab.
- 151. DIET IN DISEASE. (3)** Barte
A study of the adaptation of diet in the treatment of impaired digestive and metabolic conditions. Prerequisites: 107L, 127L.
- 157L. QUANTITY PURCHASING. (3)** Dining Hall Staff
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)** Barte
Principles of scientific management applied to institutional administration. Experience in the food service and housing facilities on the campus. Prerequisites: 107L, 132, 157L.

* Open to second semester freshmen with the permission of the dean of the college in which the student is registered.

INDUSTRIAL ARTS

(A division of the College of Engineering)

Associate Professors Bailey, Brown; Instructors Blankley, Prevost.

CURRICULUM IN INDUSTRIAL ARTS EDUCATION

See p. 122.

When a prerequisite course number is not preceded by a department designation, "IA" is implied.

IA

1. SHOP COMPUTATIONS. (3)
Review of algebra and geometry as used in various shops. Use of the various measuring instruments.
2. SHOP COMPUTATIONS. (3)
The study of the slide rule and its use in the various shops. Trigonometry as applied to shop problems.
- 10L. GENERAL WOODWORK. [Woodwork] (1-3)
Instruction in 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.
- 14L. GENERAL SHOP I. (3)
Leather work, and bookbinding. Tooling and carving leather, lacing, sewing, dyeing, and the basic book binding procedures.
- 15L. GENERAL SHOP II. (3)
Jewelry, lapidary and art metal. Designing and construction of jewelry and art metal projects.
- 20L. MACHINE SHOP. (3)
Bench work such as filing, tapping, and simple layouts, and the operation of engine lathes, drill presses, shapers, grinders, and milling machines.
53. CONSTRUCTION MATERIALS. (2)
Characteristics and production of wood, silicate cements, glass and clay products. Manufacture and heat treatment of ferrous and nonferrous metals. Prerequisites: 10L and 20L.
- 54L-55L. GENERAL METAL. (1, 1)
Basic instruction in the fabrication of metals in the various metal areas.
- 60L. CABINET WORK. (3)
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.
- 61L. WOOD TURNING. (1-2)
The proper use and care of wood-turning tools and equipment. Spindle, faceplate, and special turning processes; kinds of woods used and their finishing.
- 80L. GENERAL ELECTRICITY. (2)
Instruction in the basic fundamentals of electrical circuits. Care and maintenance of school shop equipment.
- 102L. FORGING AND ORNAMENTAL IRON WORK. (2)
Instruction in building forge fire. Hand forging operations in drawing, upsetting, bending, welding. Construction of wrought iron work. Prerequisite: 20L.
- 105L. SHEET METAL. (1-2)
Fundamental machine and hand tool operations, care and use of sheet metal equipment. Development of patterns and layouts for sheet metal construction. Prerequisite: AE 2L.

110L. CABINET WORK. (3)

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.

156. THEORY AND ORGANIZATION OF GENERAL SHOP. (2)

An analysis of organizing and teaching under general shop conditions to be found in the modern school. Prerequisite: junior standing.

157L. FOUNDRY PRACTICE. (3)

Bench molding, core making, and sand tempering; the melting and casting of ferrous and nonferrous metals; and the cleaning of castings. Prerequisites: ME 64L or IA 163L.

159L. ARC AND ACETYLENE WELDING. (1-2)

Use of arc and oxyacetylene welding, the brazing of ferrous and non-ferrous metals and torch cutting. Prerequisite: IA 20L or ME 70L.

162L. [62L]. CARPENTRY. (3)

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.

163L. [63L]. PATTERN MAKING. (3)

Construction of patterns such as one-piece, two-piece, straight and irregular parting; core box design and construction; and the methods of marking and storage. Prerequisite: 10L.

165L. [65L]. MACHINE SHOP. (3)

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.

171L. [111L]. MACHINE SHOP. (3)

Tool and die work. A course 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.

ITALIAN

See Modern and Classical Languages.

JOURNALISM

Associate Professor Rafferty (Chairman); Assistant Professor Jermain.

MAJOR STUDY

Editorial Sequence—30 hours including 51, 52, 101, 111, 112, and 122. Six hours may be chosen from the following: English 55, 91, 166; Speech 192; Government 105.

Journalism 1 and Journalism 2 count toward the major but are not required. Journalism 1 is prerequisite to Journalism 2.

Community Newspaper Sequence (not offered as a sequence, 1954-55)—30 hours including 51, 52, 111, 122, 123, 130, and 190. Six hours may be chosen from the following: English 55, 91, Government 105.

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) Rafferty
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.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
101. HISTORY OF JOURNALISM IN THE UNITED STATES. (3) Jermain
A study of 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. NEWSPAPER DESK WORK. (3) Rafferty
Practice in the assembling and editing of news copy, in dummyping of newspaper pages, in headline writing, and in page makeup. Prerequisites: 51, 52. 2 lectures, 2 hrs. lab.
112. NEWSPAPER DESK WORK. (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.
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. (Not offered 1954-55.)
130. ADVERTISING WRITING, COPY AND LAYOUT. (4)
The writing and laying-out of display advertisements. 3 lectures, 3 hrs. lab. (Not offered 1954-55.)
132. WRITING THE MAGAZINE ARTICLE. (3) Jermain, Rafferty
Writing for professional magazine publication.
165. MANAGEMENT OF HIGH SCHOOL PUBLICATIONS. (3) Jermain, Rafferty
A survey of the problems in production of high school newspapers and yearbooks, as well as some incidental publications, including approaches to design, advertising content, the news and editorials, circulation and printing, and over-all business administration and staff management. Not open to Journalism majors. (2 hrs. credit in Summer Session.)
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: consent of instructor.

190. PROBLEMS IN LOCAL AND NATIONAL ADVERTISING. (2)
Lectures in, and discussions of, local retail and national-agency advertising problems and programs. (Not offered 1954-55.)
194. THE PRESS AS A SOCIAL FORCE. (2) Rafferty
Lectures in, and discussions of, the concept of a free press and the responsibilities and restraints laid upon the press in the handling of case problems.

LATIN

See Modern and Classical Languages.

LAW

Professors Gausewitz (Dean), Seed, Weihofen; Associate Professors Bauman, Clark, Meek, Poldervaart (Librarian); Assistant Professor Riggs; Lecturers in Law Shaprin, Smith; Supervisor of Legal Aid Dailey.

CURRICULUM

See p. 163.

(Note: First-, second-, and third-year courses are indicated by the Roman numerals I, II, and III, respectively. All first-year courses 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 second- and third-year courses are elective unless marked Required. A Required course must be passed.

101. CRIMINAL LAW. (3, —) Gausewitz
Casebook to be selected. Criminal law viewed as a means for the prevention of criminal behavior and a general study of criminal procedure and administration. (I)
- 103-104. CONTRACTS. (3, 3) Riggs
Patterson and Goble, *Cases on Contracts* (3d ed.). 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. (I)
105. PROPERTY I: PERSONAL PROPERTY. (2, —) Clark
Aigler, Bigelow & Powell, *Cases on Property, Vol. I* (1951). Introduction to the legal concept of property rights; possession and acquisition of ownership, finding, bailments, liens, accession and confusion, gift and fixtures. (I)
- 107-108. TORTS. (2, 3) Bauman
Smith & Prosser, *Cases on Torts* (1951). A study of the different bases of tort liability, including intentional torts, negligence, and absolute liability. During the second semester, the course includes nuisance, misrepresentation, defamation, the liability of owners and occupiers of land, and manufacturers and vendors of chattels. (I)
109. CIVIL PROCEDURE I. (3, —) Bauman
Michael, *Elements of Legal Controversy*. An introduction to the study of procedural law, particularly pleading, including a study of the code cause of action, the complaint, and negative and affirmative defenses. (I)
111. LEGAL METHOD AND BIBLIOGRAPHY. (2, —) Poldervaart
Dowling, Patterson and Powell, *Materials for Legal Method* (2d ed. by Jones, 1952). Introduction to legal skills in reading cases, using law books, and interpreting statutes. (I)
112. BRIEF AND ARGUMENT. (—, 1) Poldervaart
Poldervaart, *New Mexico Appellate Practice* (1952). An introduction to appellate practice, preparation of briefs on appeal, and oral argument. (Required) (II)

115. AGENCY AND PARTNERSHIP. (—, 3) Meek
Mathews, *Cases and Materials on Agency and Partnership* (1940). Principal and agent, master and servant, and some of the agency and entity aspects of partnerships. (I)
117. PROPERTY II: LAND TITLES. (—, 3) Seed
Aigler, Bigelow & Powell, *Cases on Property* (2d Ed.) Vols. I and II. Moynihan, *Preliminary Survey of the Law of Real Property*. Includes conveyancing at common law and under modern statutes; estates at common law and under the statute of uses. (I)
119. PROPERTY III: THE USE AND DEVELOPMENT OF LAND. (4, —) Seed
Aigler, Bigelow & Powell, *Cases on Property* (2d Ed.) Vols. I and II. Includes servitudes, natural rights, statutory regulation, waste; also agreements running with the land, estoppel by deed, recording and priorities, fixtures and emblements. (II)
121. EQUITY. (—, 3) Riggs
Cook, *Cases on Equity* (4th Ed.) A study of the jurisdiction, powers, and procedures of the equity court, injunctive relief against torts, and specific performance of contracts. (I)
122. RESTITUTION. (—, 2) Riggs
Patterson, *Cases on Restitution*. Quasi-contractual 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. (III)
123. CONSTITUTIONAL LAW. (—, 4) Weihofen
Frank, *Cases on Constitutional Law*. (1952 Ed.) 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) (II)
125. CORPORATIONS. (3, —) Meek
A. H. Frey, *Cases and Materials on Corporations and Partnerships*. The law relating to business corporations; corporations as compared with partnerships, joint stock companies, business trusts. (II)
127. FAMILY LAW AND COMMUNITY PROPERTY. (—, 3) Clark
(Casebook to be selected). Mimeographed materials on New Mexico Community Property Law. Marriage, separation and divorce; solidarity and economic relations as between husband and wife; parent and child. (III)
128. LOCAL GOVERNMENT LAW. (2, —) Riggs
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. (II)
129. OFFICE PRACTICE. (1, —) Staff
- Law office management, legal work handled from the attorney's office, practical exercises and lectures based on New Mexico practice, drafting of legal papers and examination of abstracts. (Required) (III)
131. TRUSTS. (3, —) Clark
Bogert, *Cases on Trusts* (2nd ed.). A study of 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. (II)
133. WILLS AND PROBATE. (—, 3) Poldervaart
Mechem & Atkinson, *Cases and Other Materials on Wills and Administration* (4th ed., 1954); Poldervaart, *New Mexico Probate Practice and Forms* (1954). Study of the law of descent and distribution; making, interpretation and revocation of wills; and administration of decedents' estates. (II)
135. ADMINISTRATIVE LAW. (3, —) Riggs
Gellhorn and Byse, *Administrative Laws: Cases and Comments*. 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. (III)

139. LABOR LAW. (3,—) Weihofen
Matthews, *Labor Relations and the Law*, Vols. I and II. 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. (III)
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) (II)
- 143-144. LAW AND SOCIETY. (2, 3) Weihofen
Simpson and Stone, *Law and Society*. The evolution of legal institutions; law, totalitarianism and democracy; interests pressing and secured in modern democratic society, with the interpolation of materials and cases, mostly from Public Utility Law and Trade Regulation, on government regulation of business. (II)
145. NEGOTIABLE INSTRUMENTS. (—, 3) Meek
Britton, *Cases on Bills and Notes*. A study of the Negotiable Instruments Law and cases on the formal requisites of negotiable bills and notes, execution and transfer of negotiable paper and obligations arising therefrom; holder in due course, equities; defenses, discharge. (II)
- 151-152. CIVIL PROCEDURE II. (2, 2) Bauman
Hays, *Cases and Materials on Civil Procedure*. 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. (III)
153. SECURITY. (—, 4) Seed
Hanna, *Cases on Security* (Re-edited 2d Ed.). Suretyship, guaranty, chattel and real estate mortgages, trust receipts, problems of agricultural finance. (III) (Not offered, 1954-55.)
155. UNSECURED CREDITORS' RIGHTS. (3,—) Clark
Hanna & MacLachlan, *Cases on Creditors' Rights* (4th ed.) Vol. I. An examination of the principal remedies of unsecured creditors including enforcement of judgments, attachment and garnishment, fraudulent conveyances, general assignments, creditors, agreements, and bankruptcy; acts of bankruptcy, problems of the trustee, provable claims, exemption and discharge. (III)
157. LEGISLATION. (1,—) Poldervaart
Problems in legislative drafting, with practical exercises in drafting state and federal bills and resolutions. (III)
159. EVIDENCE. (—, 4) Gausewitz
Morgan and Maguire, *Cases and Materials on Evidence* (3d Ed., 1951). 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 proposed Model Code of Evidence of the American Law Institute; 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. (II)
161. PRACTICE COURT. (—, 1) Clark
Pleadings, motion papers, trial brief, and jury trial of an issue of fact. (Required) (III)
163. WATER LAW. (2,—) Seed
Martz, *Selected Materials on Law of Natural Resources* (1951) and other selected materials. Underground and surface waters, interstate streams, irrigation, and matters of particular interest in New Mexico. (III)
165. SALES. (—, 2) Meek
Bogert, *Cases on Sales*. Transfers of property in goods and documents of title. (II)

167. **TAXATION.** (4, —) Meek
 Bruton, *Cases on Taxation* (1950); Prentice-Hall, *Students Tax Law Service and Federal Tax Handbook*. Income, death, gift and other excise taxes, with emphasis on Federal taxes. (III)
171. **LAW OF OIL AND GAS.** (2, —) Seed
 Summers' *Cases on Oil and Gas*. 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. (III)
173. **CONFLICT OF LAWS.** (—, 3) Bauman
 Cheatham, Goodrich, Griswold & Reese, *Cases on Conflict of Laws* (3d Ed.). A study of the concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and status. (III)
175. **PATENT LAW.** (2, —) * Smith
 Mimeographed materials to be supplied. 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. (III)
177. **MILITARY LAW.** (—, 2) *
 Military discipline, its purpose and enforcement. Offenses against military regulations; direction, apprehension, trial, review, and sanctions; constitution and personnel of military courts, counsel; evidence and witnesses; the Uniform Code of Military Justice and the Manual for Courts-Martial. (III)
179. **SEMINAR IN CIVIL LIBERTIES.** (—, 1) Riggs
 An intensive examination, against the background of general readings, of a selected problem of particular importance in the local community. Paper and practical work on specific cases required. Open to seniors only. No examination. (III)

LIBRARY SCIENCE

A division, offering only minor study.

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) Staff
 Introduction to library organization, and reference books essential to effective university work. For freshmen and new students.
120. **CHILDREN'S LITERATURE.** (2) McCann
 (Same as Elementary Education 120.)
125. **REFERENCE AND BIBLIOGRAPHY.** (3) Staff
 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) Staff
 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.

* 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.

129. BOOK SELECTION FOR YOUNG PEOPLE. (3)

Staff

A survey course covering tools and principles of selection of books for young people.

MATHEMATICS AND ASTRONOMY

Professor LaPaz; Associate Professors Hendrickson (Acting Chairman), Buell, Gentry; Assistant Professors Healy, Wyler; Instructors Chapman, Cortney, Hoehn, Lind, Mitchell, Rowland, Smock, Steger.

MAJOR STUDY

Mathematics 53 and 54; at least three hours from the group 115, 170, 171; at least three hours from the group 120, 122, 150, 151; at least six hours from the group 131, 132, 140, 141, 142, 143, 144, 145, 182; and six additional hours in courses in Mathematics and Astronomy numbered above 50.

MINOR STUDY

Mathematics 53 and 54 and at least six more hours in courses in Mathematics or Astronomy numbered above 50 of which three hours must be numbered above 100.

GROUP REQUIREMENTS

Courses in this department count toward Science and Mathematics (Group IV).

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 53-54: Mathematics 1, 2, 15, 16, 22.

Courses for students of Engineering, Physics majors, Chemistry majors (B.S.), Mathematics majors and other eligible students who plan to take Mathematics 53-54: the sequence Mathematics 15-16-22, or equivalent.

Other courses open to all freshmen: Astronomy 1; Mathematics 41, 42.

ASTRONOMY

1. INTRODUCTION TO ASTRONOMY AND PHYSICS. (2) LaPaz, Regener, Runge
(Same as Physics 1.) A non-technical introduction, including demonstrations; the first half devoted to Astronomy, the second half to Physics.

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. [63, 64]. 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) Staff
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) Staff
Prerequisite: 1 unit of high school algebra.
15. COLLEGE ALGEBRA. (3) Staff
Prerequisite: a satisfactory grade on placement test.
16. PLANE TRIGONOMETRY. (2) Staff
22. PLANE AND SOLID ANALYTIC GEOMETRY. (4) Staff
41. MATHEMATICS OF INVESTMENT. (3) Staff
Accepted for specific credit by the Department of Economics and the College of Business Administration. Prerequisite: Mathematics 15 or equivalent.
42. INTRODUCTION TO STATISTICAL METHODS. (3) Staff
A basic course especially for students specializing in the social sciences. Required for an Economics major. Some laboratory work required. Prerequisite: Mathematics 15 or equivalent.
- 53-54. AN INTRODUCTION TO THE CALCULUS. (4, 4) Staff
The elements of the calculus correlated with courses in physics, chemistry, mechanics, and engineering. Prerequisites: Mathematics 15, 16, and 22 or equivalent.

The courses which follow, except 131, are open only to students who have completed Mathematics 54 and who have the instructor's permission.

- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
115. THEORY OF EQUATIONS. (3) Gentry, Healy, Wyler
Solution of quadratic, cubic, and quartic equations; geometric constructability of roots; theory of determinants; resultants and discriminants; symmetric functions; approximate methods.
120. PROJECTIVE GEOMETRY. (3) Buell, Gentry
An elementary and essentially synthetic treatment of the fundamentals of projective geometry covering projectivity and perspectivity, duality, Desargue's Theorem, conics, Pascal's and Brianchon's Theorems, poles and polars, and related topics.
121. MATHEMATICS FOR SECONDARY TEACHERS. (3) SS. Hendrickson
A course designed to enable the high school teacher to re-examine the topics of elementary mathematics from an advanced point of view.
122. ADVANCED EUCLIDEAN GEOMETRY. (3) Gentry
Modern geometry of triangles, tetrahedra, circles, and spheres; geometrical constructions. Designed especially for teachers of high school geometry.
131. MATHEMATICS OF STATISTICS. (3) Buell, Healy
Algebra of probabilities; mathematical expectations; binomial, Poisson, normal, chi-square and other distributions; correlation and regression; the theory of sampling; statistical tests; theory of least squares. Prerequisites: Mathematics 42 and 53.
132. MATHEMATICAL PROBABILITY. (3) Buell, 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.
140. NUMERICAL MATHEMATICAL ANALYSIS. (3) Buell, 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) Gentry, Healy, LaPaz, Wyler, Buell
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.
143. **ORDINARY DIFFERENTIAL EQUATIONS.** (3) Gentry, Healy, Hendrickson
Methods of finding solutions of first order equations; singular solutions; solutions of n th order linear equations with constant coefficients; operational methods; second order linear equations with variable coefficients; series solutions; the fundamental existence theorem for the equation $y' = f(x, y)$; applications to physical, chemical, mechanical, and electrical problems.
144. **PARTIAL DIFFERENTIAL EQUATIONS AND ORTHOGONAL SYSTEMS.** (3) Hendrickson
Classical partial differential equations of physics; orthogonal functions; Fourier series; boundary value problems; Bessel functions; Legendre polynomials.
145. **VECTOR ANALYSIS.** (3) Buell, Hendrickson
The algebra and calculus of vectors; the integral theorems of Gauss, Green, and Stokes; partial differential operators; applications in mechanics, hydrodynamics, and electrostatics.
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.
151. **MODERN GEOMETRY.** (3) Gentry
An algebraic treatment of projective geometry. Theory of homogenous coordinates and linear transformations. Applications to curves and surfaces.
161. **HISTORY OF MATHEMATICS.** (3) Healy
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) Healy, LaPaz
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.
171. **MODERN ALGEBRAIC THEORIES.** (3) Buell, Gentry, Wyler
Algebraic systems: groups, rings, fields. Polynomials, field extensions, algebraic number fields, elementary number theory.
172. **THEORY OF MATRICES.** (3) Wyler
Matrices and determinants. Quadratic and Hermitian forms.
182. **THEORY OF FUNCTIONS OF A COMPLEX VARIABLE.** (3) Buell, LaPaz, 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.

The seminars and courses which follow are open only to qualified students and permission to register requires the consent of the Department Chairman.

- 194-195. **PRO-SEMINAR.** (2-3 hrs. each semester) Graduate Staff
Advanced study and independent reading.
201. **SEMINAR.** (3) Buell, Gentry, Healy, Hendrickson, LaPaz
Advanced reading and research. Required of all students electing to take a Master's degree under plan II.

208. ADVANCED TOPICS IN ANALYSIS. (2-3) Buell, Hendrickson, LaPaz
May be repeated up to a total of 6 hrs.
209. ADVANCED TOPICS IN GEOMETRY. (2-3) Gentry
May be repeated up to a total of 6 hrs.
210. ADVANCED TOPICS IN ALGEBRA. (2-3) Wyler
May be repeated up to a total of 6 hrs.
281. THEORY OF FUNCTIONS OF A REAL VARIABLE. (3) Hendrickson
Definition and properties of real numbers; properties of real functions and their derivatives; infinite series; interchange of order in limiting processes; implicit functions; introduction to the theory of point sets; measure; Reimann and Lebesgue integrals.
284. CALCULUS OF VARIATIONS. (3) LaPaz, Lewis
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.
300. 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, Nason, F. Sender, Smutny, Temmer; Instructors Lunardini, Scone; Teaching Assistants Edelstein, Luenow, Palley, Tomlins, Welsh; Graduate Assistants Izzo, Lamb.

GROUP REQUIREMENTS

Courses in this Department count toward Foreign Language (Group II) with the exception of Spanish 145, 146, and courses in the Folklore Division.

PHONETICS LABORATORY

The Department operates a Phonetics 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.

FOLKLORE

No major or minor study offered.

97. SOUTHWESTERN HISPANIC FOLKLORE. (2) Cobos
161. HISPANIC FOLKTALES. (2) Staff
162. HISPANIC FOLK BALLADS AND SONGS. (2) Staff

FRENCH**MAJOR STUDY**

24 hours in French in courses numbered above 50. All French majors are urged to take a minor in another modern language, or in Latin.

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 FOR HONORS. (1-3 each semester) Staff

HB. RESEARCH FOR HONORS. (1-3 each semester) Staff

101-102. ADVANCED COMPOSITION AND CONVERSATION. (3, 3) DeJongh
Composition based on a thorough review of French grammar, and conversation based on modern French plays.

105-106. FRENCH LITERATURE OF THE NINETEENTH CENTURY. (2, 2) Temmer
Representative works in poetry, drama, and fiction.

121-122. THE COMEDY OF MOLIÈRE. (2, 2) DeJongh

151-152. SURVEY OF FRENCH LITERATURE FROM THE ELEVENTH CENTURY TO THE REVOLUTION. (3, 3) DeJongh

197-198. UNDERGRADUATE PROBLEMS. (2, 2) DeJongh, Temmer

251-252. GRADUATE PROBLEMS IN FRENCH LITERATURE. (2, 2) DeJongh, Temmer

GERMAN**MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in German in courses numbered above 50.

1-2. ELEMENTARY GERMAN. (3, 3) Yr. McKenzie, Staff
Credit for 1 suspended until 2 (or more advanced course) is completed.

51-52. INTERMEDIATE GERMAN. (3, 3) McKenzie, Staff
Prerequisites: 1, 2 or the equivalent.

53-54. GERMAN CONVERSATION AND COMPOSITION. (2, 2) McKenzie
A course 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 FOR HONORS. (1-3 each semester) Staff

HB. RESEARCH FOR HONORS. (1-3 each semester) Staff

105-106. CONTEMPORARY GERMAN LITERATURE. (2, 2) McKenzie

151-152. SURVEY OF GERMAN LITERATURE. (3, 3) 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 OF THE NEW TESTAMENT.** (3, 3) Yr. Smutny
Credit suspended for 1 until 2 (or more advanced course) is completed. Alternates annually with Greek 101-102.
- HA. **READING FOR HONORS.** (1-3 each semester) Smutny
- HB. **RESEARCH FOR HONORS.** (1-3 each semester) Smutny
- 101-102. **THE GREEK NEW TESTAMENT.** (3, 3) Smutny
Close scrutiny into meanings of words. Alternates annually with Greek 1-2.
139. **COMPLETE GREEK DRAMA IN TRANSLATION.** (3) Smutny

ITALIAN

No major or minor study offered.

- 75-76. **ELEMENTARY ITALIAN.** (3, 3) Staff
Although this is an elementary course, the work is done under heavier pressure and more is achieved in reading and conversation than in the elementary language courses numbered 1, 2. It is open only to students who possess a good knowledge of the grammar of another Romance Language and to graduate students, or to those who otherwise satisfy the instructor of their fitness to do the work.

LATIN**MAJOR STUDY**

Not offered

MINOR STUDY

A minor may possibly be worked out if sufficient demand arises.

- 1-2. **ELEMENTARY LATIN.** (3, 3) Yr. Smutny
Credit suspended for 1 until 2 (or more advanced course) is completed.
- 51-52. **INTERMEDIATE LATIN.** (3, 3) Smutny
Prerequisites: 1, 2 or the equivalent.
- 91-92. **READINGS IN LATIN LITERATURE.** (3, 3) Yr. Smutny
A course 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 FOR HONORS.** (1-3 each semester) Smutny
- HB. **RESEARCH FOR HONORS.** (1-3 each semester) Smutny
- 101-102. **LATIN FOR LANGUAGE STUDENTS.** (3, 3) Smutny
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) Smutny

PORTUGUESE**MAJOR STUDY**

Not offered

MINOR STUDY

12 hours in Portuguese in courses numbered above 50.

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| 1-2. ELEMENTARY PORTUGUESE. (3, 3) Yr. | Lopes, Staff |
| Credit for 1 suspended until 2 (or more advanced course) is completed. | |
| 51-52. INTERMEDIATE PORTUGUESE. (3, 3) | Lopes, Staff |
| Prerequisites: 1 and 2 or equivalent. | |
| HA. READING FOR HONORS. (1-3 each semester) | Staff |
| HB. RESEARCH FOR HONORS. (1-3 each semester) | Staff |
| 101-102. ADVANCED COMPOSITION AND CONVERSATION. (3, 3) | Lopes |
| 151. SURVEY OF PORTUGUESE LITERATURE. (3) | Lopes |
| 157. SURVEY OF BRAZILIAN LITERATURE. (3) | Lopes |
| 165. CAMÕES. (3) | Lopes |
| 166. GIL VICENTE. (3) | Lopes |
| 197-198. UNDERGRADUATE PROBLEMS. (2, 2) | Lopes |
| 251-252. GRADUATE PROBLEMS. (2, 2) | Lopes |
| For M.A. candidates. | |
| 351-352. GRADUATE PROBLEMS. (2, 2) | Lopes |
| For Ph.D. candidates. | |

RUSSIAN

No major or minor study offered.

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| 1-2. ELEMENTARY RUSSIAN. (3, 3) Yr. | McKenzie |
| Credit suspended for 1 until 2 (or more advanced course) is completed. Alternates annually with Russian 51-52. | |
| 51-52. INTERMEDIATE RUSSIAN. (3, 3) | McKenzie |
| Offered in alternate years. Alternates annually with Russian 1-2. | |

SPANISH**MAJOR STUDY**

30 hours in Spanish in courses numbered above 50, including 101-102, 151, 152, and 153; and two years of college work in another modern language or Latin. (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.

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| 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 Phonetics Laboratory. | |
| 51-52. INTERMEDIATE SPANISH. (3, 3) | Duncan, Staff |
| 51 and 52 offered every semester. | |
| 54. ELEMENTARY SPANISH CONVERSATION. (3) | Staff |
| This is a course 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) Nason, 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 FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
- 101-102. ADVANCED COMPOSITION AND CONVERSATION. (3, 3) Cobos, Staff
Prerequisite: 54 or 56 or the equivalent.

Spanish 92 or the equivalent is prerequisite for all literature courses listed below.

- 105-106. CONTEMPORARY SPANISH LITERATURE. (2, 2) Sender
107. EARLY SPANISH NOVEL. (2) Sender
Origins, development of the realistic and other types of prose fiction.
108. MODERN SPANISH NOVEL. (2) Kercheville, Sender
The Spanish novel from 1700 to 1900.
- 121-122. MODERN SPANISH DRAMA. (2, 2) 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
163. MEXICAN LITERATURE. (2) Lopes
Prerequisites: 157, 158 or the equivalent.
164. THE LITERATURES OF ARGENTINA, URUGUAY, AND CHILE. (2) Lopes
Prerequisites: 157, 158 or the equivalent.
166. SPANISH DRAMA FROM THE BEGINNING THROUGH THE 17TH CENTURY. (3) MacCurdy
175. CERVANTES: *The Quixote*. (3) MacCurdy
A detailed analysis of the *Quixote* and treatment of its place in world literature.
176. CERVANTES: OTHER WORKS. (3) MacCurdy
Study of works other than the *Quixote* with emphasis on the *Novelas Ejemplares* and the theatre.
- 197-198. UNDERGRADUATE PROBLEMS. (2, 2) Staff
- 201-202. HISTORY OF THE SPANISH LANGUAGE. (2, 2) Duncan
A study of the phonological, morphological, and semantic evolution of Spanish from Latin. Intensive reading of selected texts to acquaint the student with the language of the period. Required of all candidates for a graduate degree.
203. SEMINAR: MEDIEVAL SPANISH LITERATURE. (2) Duncan
A study of works in all the different genres from the earliest monuments of Spanish literature to the Renaissance.
205. INTRODUCTION TO RESEARCH METHODS. (1) Duncan
Required of all candidates for a graduate degree.
206. SPANISH BIBLIOGRAPHY. (1) Duncan
Required of all candidates for the Ph.D. degree.

252 MODERN AND CLASSICAL LANGUAGES-MUSIC

- 207-208. SEMINAR: SPANISH NOVEL TO 1868. (2, 2) Kercheville
 241. SEMINAR: AMERICAN SPANISH. (2) Duncan
 A study of the diffusion of the Spanish language in the Americas, with emphasis on phonological, lexical, and other dialectal peculiarities.
 251-252. GRADUATE PROBLEMS. (2, 2) Graduate Staff
 For M.A. candidates.
 263-264. SEMINAR: SPANISH-AMERICAN LITERATURE. (2, 2) Lopes
 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 PICAESQUE NOVEL. (2) MacCurdy
 291-292. SEMINAR: PÉREZ GALDÓS AND THE MODERN SPANISH NOVEL. (2, 2) Kercheville
 300. THESIS. (6) Graduate Staff
 351-352. GRADUATE PROBLEMS. (2, 2) Graduate Staff
 For Ph.D. candidates.
 400. DISSERTATION. Graduate Staff

MUSIC

Professors Miller (Chairman), Frederick, Robb; Associate Professors Ancona, Keller, Robert; Assistant Professors Rhoads, Schoenfeld, Snow, Stephenson; Instructor Warren.

Applied music faculty:

Piano	Ancona, Keller, Robert, Schoenfeld
Organ	Ancona
Violin and Viola	Frederick
Cello	Stephenson
Wind Instruments	Rhoads
Voice	Snow, Warren

MAJOR STUDY

For curricula leading to the B.F.A. in Music, see pp. 145-147.

For purposes of Combined Curriculum in Fine Arts (see p. 137): 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: 16 hours of theoretical courses (including 5, 6) and 4 hours of applied music. Combined Curriculum in Fine Arts: 25 hours including 39, 40, 5 and 6, and 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) 21-22, 23-24, 25-26, 43-44, 121-122, 123-124, 125-126, 143-144; (instrumental) 27-28, 33-34, 37-38, 41-42, 127-128, 131-132, 133-134, 137-138, 141-142, 195-196.

All music majors except string majors must have at least two semesters of chorus; all voice majors must have at least four 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 one to three hours each week at the option of the instructor.

The following courses come under the heading of "Historical Music Literature": 81, 82, 83, 84, 93, 161, 172, 175, 178, 180, 193, HA, HB.

Prerequisites: 61, 62, except for courses numbered below 100.

APPLIED MUSIC (PRIVATE INSTRUCTION)

Applied music is offered in the following areas: piano, voice, string instruments, wind instruments, percussion, and organ.

One half-hour lesson per week earns two hours' credit per semester. 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 four years.

Students electing applied music as a field of concentration who have had no previous training in piano will be required to enroll in the secondary course in piano.

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 two half-hour lessons per week. The secondary courses are 19-20, 69-70, 119-120, 169-170, and carry 1 hour credit each for one half-hour lesson a week.

REQUIREMENTS IN THE FIELDS OF APPLIED MUSIC

Piano. Entrance requirements for Piano majors: an ability to play major and minor scales correctly in moderately rapid tempo, also broken chords in octave position in all keys; studies such as Czerny's School of Velocity; Bach, Little Preludes; a few Bach Two-Part Inventions; and compositions corresponding in difficulty to Mozart, Sonata C Major (K.545), Beethoven, Sonata Op. 49, No. 2, Schubert, Impromptu, Op. 142, No. 2, Scherzo in B Flat.

At the end of the second year (Music 1, 2 and 51, 52) the student should have acquired a technique sufficient to play scales in parallel and contrary motion and in thirds, sixths, and tenths, and arpeggi and octaves in rapid tempo. He should have studied compositions of at least the following grades of difficulty: Bach, at least one complete French Suite; Beethoven, sonatas or movements from sonatas such as Op. 2, No. 1, Op. 10, No. 1, Op. 10, No. 2, Op. 14, No. 2; Haydn, Sonata E Flat, No. 3; Mozart, Sonata F. Major (K.332), Fantasia in D Minor; Mendelssohn, Song Without Words; Chopin, Polonaise C Sharp Minor, Valse in A Minor; Schumann, Novelette, Op. 21, No. 1; and some compositions by standard modern composers. The student should demonstrate his ability to read at sight accompaniments and compositions of modern difficulty.

At the end of the fourth year (Music 101, 102 and 151, 152), the candidate must have acquired the principles of tone production and velocity and their application to scales, arpeggi, chords, octaves, and double notes. He must have a repertory comprising the principal classics and romantic and modern compositions, such works, for example, as: Bach, several preludes and fugues from the Well-Tempered Clavichord, Italian Concerto, Chromatic Fantasia and Fugue, and English Suite or Partita; Mozart, Sonata A Major (K.331), a concerto; Scarlatti, Sonatas; Beethoven, sonatas such as Op. 31, No. 3, Op. 53, Op. 57; Schumann, Carnaval; and the more difficult compositions of Brahms, Chopin, and Liszt; compositions by standard modern composers such as Debussy, Ravel, Rachmaninoff, Scriabin, Hindemith, Bartok, etc.

Candidates are required to give a junior and senior recital and they must have considerable experience in ensemble and as accompanists.

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 four-year degree course in voice, a student must be able to sing standard songs in English, displaying good phrasing and musical intelligence.

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.

- 2 Operatic arias.
- 2 Recitatives and 2 arias from Oratorios, suited to the individual voice.
- 6 French songs from the 19th and 20th centuries.
- 6 German songs from the 19th and 20th centuries.
- 4 Songs by modern composers in English.
- Junior recital (all songs and arias to be done in original language).
- Total—20 songs

151-152.

- 2 additional arias from Oratorios.
- 2 Operatic arias in Italian, German, French, or English.
- 1 Bach aria from a cantata or oratorio.
- 4 French songs from the 19th and 20th centuries.
- 4 German songs from the 19th and 20th centuries.
- 4 Contemporary English songs.
- 4 additional songs.
- Senior recital (all songs and arias to be done in original language).
- Total—21 songs

A total repertoire of 81 songs must be completed by the end of the four years of voice study. A list of such repertoire must be compiled each semester and a copy submitted to the Chairman of the Music Department. 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. Correct diction in English, Italian, French, and German should be mastered during the study of the above repertoire. A poised stage manner and a pleasing personality should be thoroughly acquired. Voice pupils are called upon to sing in music assemblies beginning with the freshman year.

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.

1-2. APPLIED MUSIC. FRESHMAN COURSE. (2 or 4 hours each semester)

5-6. ELEMENTARY HARMONY. (3, 3)

Keller, Robert, Schoenfeld

Fundamentals of music theory: notation, rhythm, intervals, and chord construction; applied traditional diatonic harmony. Elementary ear-training, sight-singing, dictation, and keyboard harmony.

11-12. PIANO CLASS. (1-1)

Ancona

Open to all beginners in piano exclusive of music majors. Normally no class larger than four.

19-20. APPLIED MUSIC. FRESHMAN COURSE. (1, 1)

*21-22. MEN'S GLEE CLUB. (1, 1)

Frederick

*23-24. WOMEN'S GLEE CLUB. (1, 1)

Frederick

*25-26. VOCAL QUARTET. (1, 1)

Snow

Ensembles of solo voices, such as men's, women's, and mixed quartets and trios, will be formed.

*27-28. WIND ENSEMBLE. (1, 1)

Rhoads

Various ensembles of solo wind instruments will be formed.

*33-34. SYMPHONY ORCHESTRA. (1, 1)

Frederick

Study and public performance of symphonic literature.

*37-38. PIANO ENSEMBLE. (1, 1)

Robert, Ancona, Schoenfeld, Keller

Study and performance of literature for two pianos; selected from all periods including the contemporary. Open to qualified piano students with consent of instructor.

39-40. MUSIC APPRECIATION. (2, 2)

Ancona

Designed for the general student who wishes to supplement his academic training with an introduction to music literature. Listening periods are provided.

*41-42. UNIVERSITY BAND. (1, 1)

Rhoads

Study and performance of marches and concert band literature. Appearance and performance in uniform at football games, Commencement, and other University functions.

* May be repeated without duplication of credit to the limit of 8 hours' credit for students of the College of Fine Arts, 4 hours for others.

- *43-44. UNIVERSITY MIXED CHORUS. (1,1) Frederick
- 49-50. PIANO REPERTORY. (1,1) Keller, Robert
One hour a week each semester; required of all piano majors. A survey of important and representative literature for piano.
- 51-52. APPLIED MUSIC. SOPHOMORE COURSE. (2 or 4 hours each semester)
- *55-56. ORCHESTRAL INSTRUMENTS. (1,1) Frederick, Rhoads, Stephenson
Group instruction in the playing of woodwind, brass, percussion, and string instruments. 2 class hrs. a week plus 1 hr. of supervised practice and 3 one-half hour periods of individual practice.
- 61-62. SURVEY OF MUSIC HISTORY. (3,3) Miller
The history of music from ancient Greece to the present. Emphasis is placed upon the development of forms, styles, schools, and principal composers, and upon the study of musical scores and phonograph records. 61: from antiquity through the Baroque; 62: from the Classical Period through the contemporary scene.
- 63-64. CHORAL CONDUCTING AND ORGANIZATION. (1,1) Stephenson
Basic conducting techniques, choral organization, teaching materials, and laboratory experience in choral conducting.
- 65-66. ADVANCED HARMONY. (3,3) Robert
Modulation, chromatic harmony, and contemporary musical materials. Advanced ear-training, sight-singing, and dictation. Prerequisites: 5, 6.
- 69-70. APPLIED MUSIC. SOPHOMORE COURSE. (1,1)
79. PIANO LITERATURE. (2) SS.
81. JOHANN SEBASTIAN BACH. (2) Schoenfeld
A comprehensive study of the forms, styles, and historical significance of Bach's music. Prerequisites: 61, 62.
82. LUDWIG VAN BEETHOVEN. (2) Ancona
A comprehensive study of the forms, styles, and historical significance of Beethoven's music. No prerequisite.
83. EIGHTEENTH- AND NINETEENTH-CENTURY OPERA. (2) Robb
A survey of operatic developments in style and form in Italy, France, Germany, and Russia. Scores and recordings are provided for special detailed study of certain operas. No prerequisite.
84. THE ROMANTIC PERIOD. (2) Staff
A comprehensive study of the musical forms, styles, principal composers, and general historical and cultural background of the nineteenth century. No prerequisite.
93. FOLK MUSIC OF THE SOUTHWEST. (2) Robb
A detailed study of examples of the indigenous Anglo-American, Spanish-American, and Indian folk music of the Southwest. Prerequisites: 61, 62.
- 95-96. COUNTERPOINT. (3,3) Frederick
95 deals with the analysis and techniques of writing in the contrapuntal forms and styles of the sixteenth century. 96 deals with the analysis and techniques of writing in the contrapuntal forms and styles of the period of Bach. Some attention is also given to the study of the twentieth century contrapuntal idioms. Prerequisites: 5, 6 or equivalent.
- HA. READING FOR HONORS. (1-3 each semester) Staff
Upon the recommendation of the Chairman of the Department.
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
May include projects in composition. Upon the recommendation of the Chairman of the Department.
- 101-102. APPLIED MUSIC. JUNIOR COURSE. (2 or 4 hrs. each semester)
- 109-110. FORM ANALYSIS. (2,2) Keller
Analysis of the structural elements of music from Gregorian Chant to the present. Prerequisites: 65, 66.

* May be repeated without duplication of credit to the limit of 8 hours' credit for students of the College of Fine Arts, 4 hours for others.

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 promotion techniques, and laboratory experience in orchestral conducting.
- 119-120. **APPLIED MUSIC. JUNIOR COURSE.** (1, 1)
- *121-122. **MEN'S GLEE CLUB.** (1, 1) Frederick
- *123-124. **WOMEN'S GLEE CLUB.** (1, 1) Frederick
- *125-126. **VOCAL QUARTET.** (1; 1) Snow
See description of 25, 26.
- *127-128. **WIND ENSEMBLE.** (1, 1) Rhoads
See description of 27, 28.
- 129-130. **OPERA WORKSHOP.** (2, 2) Snow
Designed to give singers the fundamentals in practical operatic experience. Works to be presented will be portions of or entire operas chosen from the standard literature. Students will be required to participate in performances. Instructor may limit enrollment to qualified students.
- *131-132. **CHAMBER MUSIC.** (1, 1) Frederick
The practice, performance, and study of chamber music in various ensemble groups.
- *133-134. **SYMPHONY ORCHESTRA.** (1, 1) Frederick
See description of 33, 34.
- 135-136. **BEGINNING COMPOSITION.** (2, 2) Robb
Prerequisite: approval of instructor.
- *137-138. **ADVANCED PIANO ENSEMBLE.** (1, 1) Keller, Robert, Schoenfeld
See description of 37, 38.
- *141-142. **UNIVERSITY BAND.** (1, 1) Rhoads
See description of 41, 42.
- *143-144. **UNIVERSITY MIXED CHORUS.** (1, 1) Frederick
- 147-148. **VOCAL REPERTORY.** (1, 1) Snow
One hour a week each semester; required of all voice majors. A survey of important and representative literature for solo voice.
- 151-152. **APPLIED MUSIC. SENIOR COURSE.** (2 or 4 hrs. each semester)
- 153-154. **ORCHESTRATION.** (2, 2) Rhoads
Properties and limitations of orchestral instruments; the orchestral score; detailed score study of orchestral techniques from the past and present. Scoring of complete works carrying through to completion of projects for actual performance. Prerequisites: 55, 56, 95, 96.
- *155-156. **ORCHESTRAL INSTRUMENTS.** (1, 1) Frederick, Rhoads, Stephenson
Group instruction in the playing of woodwind, brass, percussion, and string instruments. 2 class hours a week plus 1 hr. of supervised practice and 3 one-half hour periods of individual practice. Prerequisites: 55, 56.
157. **ADVANCED CHORAL CONDUCTING.** [Choral Conducting] (2) 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 ORCHESTRAL CONDUCTING.** [Orchestral Conducting and Score Reading] (2) Frederick
Historical background and advanced techniques for conducting band and orchestra and studying scores. Prerequisites: 55 in woodwinds, strings, and brass; 63, 110; and piano proficiency to be determined by the instructor.
161. **THE BAROQUE.** (2) Keller
A comprehensive study of the musical forms, styles, schools, principal composers, and general historical background of the period roughly from 1600 to 1750. Prerequisites: 61, 62.

* May be repeated without duplication of credit to the limit of 8 hours' credit for students of the College of Fine Arts, 4 hours for others.

- 163-164. **BAND ARRANGING.** (2, 2) Rhoads
Arranging for concert and football bands; techniques and management of football shows. Students will make band arrangements for various ensembles from piano, organ, and chamber music, and symphonic scores and learn the techniques of adapting commercial arrangements for a specific band ensemble.
- 169-170. **APPLIED MUSIC. SENIOR COURSE.** (1, 1)
171. **INTRODUCTION TO MUSICOLOGY.** (2) Miller
A survey of the fields of musical research. Attention given to bibliographical methods, examination of important reference works in music, periodical literature, important musicological works, editions and collections. Emphasis upon historical musicology.
172. **CONTEMPORARY MUSIC LITERATURE.** (2) Robb
Stylistic tendencies of the twentieth century and the study of representative works of the most important composers. Prerequisites: 61, 62.
175. **SYMPHONIC LITERATURE.** (2) Miller
A survey of the developments in orchestral music from Bach to the present. Certain important and representative works will be studied in detail. Trends of form and style are observed. Assignments in listening and score study will be made. Prerequisites: 61, 62.
178. **THE HISTORY OF THE STRING QUARTET.** (2) Miller
A survey of the field of string quartet music from Haydn to the present. Attention will be paid to formal and stylistic developments. Assignments in listening and score study will be made. Prerequisites: 61, 62.
180. **THE RENAISSANCE.** (2) Keller
A comprehensive study of the musical forms, styles, schools, principal composers, and general historical and cultural background of the period roughly from 1450 to 1600. Prerequisites: 61, 62.
- 185-186. **SECOND-YEAR COMPOSITION.** (2, 2) Robb
Prerequisite: approval of instructor.
- 187-188-189-190. **VOCAL COACHING.** (1, 1, 1, 1) Robert
One half-hour of private instruction per week. Required of all senior voice students and open to juniors with consent of instructor.
193. **COMPOSERS OF THE UNITED STATES.** (2) Robb
A study of the creative trends in the art music of the United States from the eighteenth century to the present. Special emphasis upon the style and contributions of the most important composers. Prerequisites: 61, 62.
- *195-196. **ACCOMPANYING.** (1, 1) Keller, Robert, Schoenfeld
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.
- 197-198. **SYSTEMATIC STYLE CRITICISM.** (2, 2) Miller
The technical approach to the analysis of musical elements; application of technique to representative music of historical periods, schools, media, and individual composers.
- 201-202. **APPLIED MUSIC. GRADUATE COURSE.** (2 or 4 each semester)
- 203-204. **SEMINAR IN MUSICOLOGY.** (2, 2) Miller
Individual problems in research and documentary examination of the entire field.
- 205-206. **ADVANCED COMPOSITION.** (2, 2) Robb
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. Prerequisites: 185, 186.
- 207-208. **ADVANCED COUNTERPOINT.** (2, 2) Frederick
Advanced studies in applied counterpoint, canon, and fugue. Prerequisites: 95, 96.
- 209-210. **ADVANCED ORCHESTRATION.** (2, 2) Frederick
Applied study of the resources of the modern orchestra. Prerequisites: 153, 154.

* May be repeated without duplication of credit to the limit of 8 hours' credit for students of the College of Fine Arts, 4 hours for others.

- 251-252. PROBLEMS IN MUSIC HISTORY. (2, 2) Miller
 One or more special problems in music history, selected by the student and approved by the instructor. Culmination of work represented by full-length written report by student.
- 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. THESIS. (6) Keller, Miller, Robb

MUSIC EDUCATION

See Education, Music

NAVAL SCIENCE

Colonel Brown, U.S.M.C. (Chairman), Professor; Commander Luther, U.S.N., Associate Professor; Major Spuhler, U.S.M.C., Assistant Professor; Lieutenant Commander Duncan, U.S.N., Assistant Professor; Lieutenant Commander Yeich, U.S.N., Assistant Professor; Lieutenant McClintock, U.S.N., Assistant Professor; Lieutenant Ryder, U.S.N., Assistant Professor.

CURRICULUM

See p. 170.

- 11-12. NAVAL ORIENTATION. (3, 3)
 51-52. NAVAL WEAPONS. (3, 3)
 101-102. NAVIGATION. (3, 3)
 101M. EVOLUTION OF THE ART OF WAR. (3)
 102M. MODERN BASIC STRATEGY AND TACTICS. (3)
 151. NAVAL MACHINERY AND DIESEL ENGINES. (3)
 151M. AMPHIBIOUS WARFARE. PART I. (3)
 152. SHIP STABILITY, LEADERSHIP, AND MILITARY JUSTICE. (3)
 152M. AMPHIBIOUS WARFARE PART II, LEADERSHIP, AND MILITARY JUSTICE. (3)

PHARMACEUTICAL CHEMISTRY

PHARMACOGNOSY

PHARMACOLOGY

See Pharmacy

PHARMACY

Professor Cataline, (Dean); Associate Professor Castle; Assistant Professors Baker, Ferguson, McDavid.

CURRICULUM

See p. 168.

- 1L. **INTRODUCTORY PHARMACY.** (3) McDavid
A beginning course in the fundamental principles and processes of pharmacy, including background material in pharmaceutical history, literature, and terminology. 2 lectures, 3 hrs. lab.
2. **PHARMACEUTICAL CALCULATIONS.** (2) Staff
Metrology: a study of the systems of measurements and various calculations used in the practice of pharmacy. Prerequisite: 1L or concurrent registration.
61. **HISTORY OF PHARMACY.** (2) Ferguson
A study of the historical development of Pharmacy with emphasis on its history in North America. Prerequisite: 1L.
122. **PHARMACEUTICAL LAW.** (2) Cataline
A study of 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) Yr. McDavid
The classification of pharmaceutical products; a survey of the official preparations by class; principles of compounding; special topics in pharmaceutical processes. Prerequisites: Pharmacy 1L and 2; Pharmacognosy 72L; Pharmaceutical Chemistry 132L (or concurrent registration); Chemistry 102 and 104L. Credit suspended until Pharmacy 152L is completed. 2 lectures, 6 hrs. lab.
- 152L. **PHARMACEUTICAL PREPARATIONS II.** (4) McDavid
A continuation of 151L. 2 lectures, 6 hrs. lab.
155. **DRUG STORE MANAGEMENT.** (2) Cataline
Management of retail pharmacies including a description and analysis of the operating problems encountered in the successful conduct of a retail store, professional shop and hospital pharmacy. Prerequisites: Business Administration 5, Economics 51 or concurrent registration; junior or senior standing.
158. **VETERINARY PHARMACY.** (2) Ferguson
A study of medicinal substances used in the treatment of diseases in animals. Prerequisite: 152L.
- 181L. **DISPENSING PHARMACY I.** (5) Yr. 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. A study of the compounding and dispensing of prescriptions, including incompatibilities. 3 lectures, 6 hrs. lab.
- 197-198. **PROBLEMS IN PHARMACY.** (1-3 hrs. each semester) Staff
Experimental and library problems in some phases of pharmacy. Prerequisites: permission of the instructor and the Dean.

PHARMACEUTICAL CHEMISTRY

- 106L. **ORGANIC PREPARATIONS.** (2-4) Castle
(Same as Chemistry 106L.) The synthesis of organic medicinal compounds, utilizing the usual preparative reactions such as Grignard, Friedel-Crafts, etc. Prerequisites: Chemistry 102 and 104L and permission of the instructor. 6 to 12 hrs. lab.
107. **THE CHEMISTRY OF THE ALKALOIDS.** (2) Castle
(Same as Chemistry 107.) A study of the chemistry involved in the isolation, proof of structure, and synthesis of typical representatives of the different classes of alkaloids. Prerequisites: Chemistry 102 and 104L.
110. **THE CHEMISTRY OF THE HETEROCYCLIC COMPOUNDS.** (3) Castle
(Same as Chemistry 110.) A study of the chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisites: Chemistry 102 and 104L.

- 132L. INORGANIC MEDICINALS. (3) Baker
A study of 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. 2 lectures, 3 hrs. lab.
- 163L. ORGANIC MEDICINALS I. (5) Castle
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, and 104L; Pharmaceutical Chemistry 132L; and senior standing. 3 lectures, 6 hrs. lab.
- 164L. ORGANIC MEDICINALS II. (4) Castle
A continuation of Pharmaceutical Chemistry 163L. 2 lectures, 6 hrs. lab.
- 197-198. PROBLEMS IN PHARMACEUTICAL CHEMISTRY. (1-3 hrs. each semester) Castle
Experimental and library problems in some phases of pharmaceutical chemistry. Prerequisite: permission of the instructor and the Dean.

PHARMACOGNOSY

- 72L. GENERAL PHARMACOGNOSY. (4) Ferguson
A study of the history, sources, cultivation, collection, preparation, geographical distribution, commerce, identification, composition, morphology and histology, purity, usage, and preservation of phanerogam drugs. Corequisites: Biology 2L, and Chemistry 102 and 104L. 3 lectures, 3 hrs. lab.
- 191-192. PHARMACOGNOSY PROBLEMS. (1-3 hrs. each semester) Ferguson
Experimental and library problems in some phases of pharmacognosy. Prerequisite: permission of instructor and the Dean.

PHARMACOLOGY

- 195L. PHARMACOLOGY I. (4) Ferguson
A study of the effects produced by drugs on the healthy organism (pharmacodynamics) and the mechanisms whereby these effects are produced. The course 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) Ferguson
A continuation of 195L. 4 lectures, 3 hrs. lab.
- 197-198. PHARMACOLOGY PROBLEMS. (1-3 hrs. each semester) Ferguson
Experimental and library problems in some phases of pharmacology. Prerequisite: permission of instructor and the Dean.

PHILOSOPHY

Professors Alexander (Chairman), Bahm.

MAJOR STUDY

Philosophy 45, 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 or 56, 141, 142 and additional hours to a total of 18.

GROUP REQUIREMENTS

Courses in this department count toward Social Science (Group III).

- 1-2. HUMANITIES. (3, 3) Alexander, Bahm
Perspectives of world cultures with particular reference to their religious, intellectual, ethical, and artistic developments.
45. THOUGHT AND EXPRESSION. (3) Alexander
The processes of logical thought as reflected in linguistic structure.
51. INTRODUCTION TO PHILOSOPHY. (3) Bahm
Main philosophical problems and major types of solutions.
53. ETHICS. (3) Bahm
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?
56. LOGIC. (3) Alexander
Rules and fallacies of deductive and inductive reasoning. Prerequisite: 45 or permission of instructor.
64. PHILOSOPHY OF RELIGION. (3) Bahm
A study of the major religions, the nature of religion, and some problems of religion.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
102. AESTHETICS. (3) Alexander
An introduction to the philosophy of art and beauty.
115. PHILOSOPHY OF SCIENCE. (3) Bahm
Scientific attitudes, methods, problems, fundamental concepts, and social consequences. Prerequisite: 3 hours of philosophy or permission of instructor. (Offered 1954-55 and alternate years.)
123. HISPANIC THOUGHT. (2) Alexander
Major philosophical influences in Spanish culture. (Offered 1955-56 and alternate years.)
132. AMERICAN THOUGHT. (3) Bahm
The development of philosophical and religious concepts inherent in the American way of life.
- 141-142. HISTORY OF IDEAS. (3, 3) Alexander
Introduction to the history of Western philosophy. 141: Ancient and medieval philosophy; 142: Renaissance and modern philosophy.
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.)
185. ORIENTAL PHILOSOPHY. (3) Bahm
Introduction to major philosophical concepts and movements in Oriental cultures.
187. METAPHYSICS. (2) Bahm
Study of time, space, change, cause, relations, purpose, plurality, continuity, quality, novelty, and value. Prerequisite: 3 hours of philosophy. (Offered 1955-56 and alternate years.)
191. PHILOSOPHY OF LANGUAGE. (2) Alexander
The study of theories of semantics and symbolism. (Offered 1954-55 and alternate years.)
- 241-242. PERIODS OF SPECIAL PHILOSOPHICAL SIGNIFICANCE. (2, 2) Alexander, Bahm
Plato, Aristotle; Descartes; Spinoza, Leibnitz; Locke, Berkeley, Hume; or others to be chosen by the group. Prerequisites: 141, 142.
- 251-252. PROBLEMS. (1-3 each semester) Graduate Staff
300. THESIS. (6) Graduate Staff

PHYSICAL EDUCATION

See Health, Physical Education and Recreation

PHYSICS

Professors Regener (Chairman), Thomas; Consulting Professor Froman; Assistant Professors Breiland, Brown, Green; Lecturers Argo, Buck, Dickinson, Landshoff, Mayer; Research Associate Bowen; Teaching Assistant Levine; Graduate Assistants Downing, Greider, Hall, Kistler.

MAJOR STUDY IN PHYSICS

Required courses: Physics 51L, 52L, 101, 102, 103, 104, 105, 106, 101L, 102L, 106L, 107L; Mathematics 53, 54, and two of the four courses 141, 142, 143, 144; Astronomy 123; Chemistry 1L and 2L; Architectural Engineering 1L; Industrial Arts 10L and 20L, or other drawing and shop experience approved by the Department Chairman; at least six additional hours taken from the following list of recommended courses: Physics 121, 131, 161, 166, 191, 192; Mathematics 141, 142, 143, 144; Chemistry 53L, 70, 101, 102, 103L, 104L.

MINOR STUDY IN PHYSICS

Physics 51L, 52L, 101, 102, 103, 105, and one of the laboratory courses numbered above 100; Mathematics 53, 54, 141.

MAJOR STUDY IN METEOROLOGY

Required courses: Physics 51L, 52L, 127, 128, 129, 129L, 130, 130L, 131, 132, 133; Mathematics 53, 54; at least five additional hours selected from courses in mathematics and physics numbered above 100.

GRADUATE STUDY

Physics 101 through 107L do not carry graduate credit for students working toward an M.S. or a Ph.D. degree in Physics. Prerequisite for all courses numbered 200 and above: an undergraduate major in Physics equivalent to that outlined above.

GROUP REQUIREMENTS

Courses in this department count toward Science and Mathematics (Group IV). Special attention is drawn to Physics 1 and Physics 3.

1. INTRODUCTION TO ASTRONOMY AND PHYSICS. (2) LaPaz, Brown
(Same as Astronomy 1.) A non-technical introduction, including demonstrations; the first half devoted to Astronomy, the second half to Physics.
3. INTRODUCTORY TO WEATHER AND CLIMATE. (3) Breiland
A non-technical introductory course dealing with the fundamental principles and methods of the study of weather and climate. Open to all students; no prerequisites.
- 11L. GENERAL PHYSICS. (4) Breiland, Green, Thomas
Mechanics, heat, sound. Required of premedical, pre dental, and preoptometry students, also of ROTC students in A & S, and of pharmacy students. Prerequisites: Mathematics 15 and 16. 3 lectures, 3 hrs. lab.

- 12L. GENERAL PHYSICS. (4) Breiland, Green, Thomas
Electricity and magnetism, optics. Required of premedical, pre dental, and preoptometry students, also of ROTC students in A & S, and of pharmacy students. Prerequisites: Physics 11L, Mathematics 15 and 16. 3 lectures, 3 hrs. lab.
- 51L. GENERAL PHYSICS. (4) Green, Regener, Thomas
Mechanics, heat, sound. Required of students planning to major in certain sciences and in engineering. Pre- or corequisite: Mathematics 53. 3 lectures, 3 hrs. lab.
- 52L. GENERAL PHYSICS. (4) Green, Regener, Thomas
Electricity and magnetism, optics. Required of students planning to major in certain sciences and in engineering. Prerequisites: Physics 51L and Mathematics 53. Pre- or corequisite: Mathematics 54. 3 lectures, 3 hrs. lab.
101. HEAT AND THERMODYNAMICS. (3) Thomas
Kinetic theory; specific heats; conduction, convection, radiation; change of state; classical thermodynamics. (Offered 1955-56 (I) and alternate years.)
- 101L. HEAT LABORATORY. (2) Brown, Green
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. (Offered 1955-56 (II) and alternate years.)
102. PHYSICAL OPTICS. (3) Green
Wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion; absorption and scattering; black-body radiation. (Offered 1954-55 (I) and alternate years.)
- 102L. OPTICS LABORATORY AND GEOMETRICAL OPTICS. (2) Brown, Green
Interference and diffraction phenomena; spectroscopic and spectrographic methods with visible and ultra-violet light; scientific photography; photoelectric densitometry. 1 lecture, 3 hrs. lab. (Offered 1955-56 (I) and alternate years.)
- 103-104. ANALYTICAL MECHANICS. (3, 3) Green, Thomas
Statics and dynamics of particles and rigid bodies; introduction to Lagrange's method; hydrodynamics. Pre- or corequisites: Mathematics 141, 142. (Offered 1954-55 and alternate years.)
- 105-106. ELECTRICITY AND MAGNETISM. (3, 3) Green, Regener
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 141, 142. (Offered 1955-56 and alternate years.)
- 106L. ELECTRICITY LABORATORY. (2) Brown, Green
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power: resonance. 1 lecture, 3 hrs. lab. (Offered in Sem. I every year.)
- 107L. ELECTRONICS LABORATORY AND ELECTRON PHYSICS. (3) Brown, Green
Characteristics of vacuum tubes; amplifiers; oscillators; oscilloscopes; rectifiers; photoelectric cells; pulsing and scaling circuits. 2 lectures, 3 hrs. lab. (Offered 1954-55 (II) and alternate years.)
121. GENERAL METEOROLOGY. (3) Breiland
Instruments and observations; thermodynamics and statics; precipitation; radiation; wind; air masses; fronts and cyclones; forecasting techniques. (Offered occasionally.)
- 127-128. DYNAMIC METEOROLOGY. (3, 3) Breiland
Thermodynamics of dry and moist air; stability of hydrostatic equilibrium; atmospheric kinematics and dynamics. (Offered every year.)
129. SYNOPTIC METEOROLOGY. (3) Buck
Weather analysis and forecasting. (Offered in Sem. I every year.)
- 129L. SYNOPTIC METEOROLOGY LABORATORY. (3) Buck
Weather codes; plotting of data from surface and upper air observations; analysis of selected series of weather charts. 9 hrs. lab. (Offered in Sem. I every year.)
130. SYNOPTIC METEOROLOGY. (3) Buck
Weather analysis and forecasting. (Offered in Sem. II every year.)
- 130L. SYNOPTIC METEOROLOGY LABORATORY. (5) Buck
Practice in the analysis of weather charts using surface and upper air data; weather forecasting. 15 hrs. lab. (Offered in Sem. II every year.)

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. (Offered in Sem. II every year.)
- 132L. INSTRUMENTS AND OBSERVATIONS. [Meteorological Instruments] (3) Buck
Lectures and laboratory exercises dealing with various meteorological instruments; practice in the taking of observations; computation, encoding of data. 2 lectures, 3 hrs. lab. (Offered in Sem. I every year.)
133. CLIMATOLOGY. (3) Breiland
A general introductory course in climatology. Methods of evaluating climatological data; climate classification; regional climatology; applications to forecasting. (Offered in Sem. I every year.)
- 161-162-163-164. EXPERIMENTAL RESEARCH METHODS. (2 hrs. each semester) Brown, Green, Regener
Advanced laboratory work. Prerequisite: approval of instructor.
166. METHODS OF THEORETICAL PHYSICS. (3) Thomas
Problems in diffusion, heat conduction, wave motion and potential theory. Prerequisite: approval of instructor. (Offered in Sem. II every year.)
190. INTRODUCTION TO CONTEMPORARY PHYSICS. (3) Staff
Occasionally offered during the summer session.
191. CONTEMPORARY PHYSICS. (3) Brown, Green, Regener, 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) Brown, Green, Regener, Thomas
An introduction to wave mechanics, to nuclear physics and to cosmic radiation. (Offered every year.)
199. SEMINAR. (1 hr. each semester) Brown, Green, Regener, Thomas
201. STATISTICAL MECHANICS AND THERMODYNAMICS. (3) Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Offered 1955-56 (I) and alternate years.)
203. ADVANCED MECHANICS. (3) Brown, Green
Variational methods of treating dynamical problems; application of Lagrangian and Hamiltonian formalism to general physical systems. (Offered 1955-56 (I) and alternate years.)
- 211-212. ELECTRODYNAMICS. (3, 3) Thomas
Maxwell's equations applied to radiation, scattering, micro-waves; Lorentz invariance. (Offered 1954-55 and alternate years.) 211 is prerequisite for 212.
- 221-222. QUANTUM MECHANICS. (3, 3) Thomas
Uncertainty principle; potential wells and barriers; perturbation theory; relativistic wave equation; quantization of the radiation field. (221 offered in Sem. I every year; 222 offered in Sem. II, 1955-56 and alternate years.)
231. ATOMIC STRUCTURE. (3) Regener, Thomas
Relativistic corrections; Zeeman and Stark effects; calculations for many-electron systems. Prerequisite: 221. (Offered 1955-56 (II) and alternate years.)
241. NUCLEAR PHYSICS. (3) Thomas
Binding energies; scattering; photo-disintegration; compound nuclei; beta-decay; alpha-decay; nuclear forces. Prerequisite: 221. (Offered 1954-55 (II) and alternate years.)
- 251-252. PROBLEMS. (2-4 each semester) Green, Regener, Thomas
299. ADVANCED SEMINAR. (1-3 each semester) Brown, Green, Regener, Thomas
300. THESIS. (6) Froman, Green, Regener, Thomas
350. RESEARCH. (6-12) Regener, Thomas
400. DISSERTATION. Froman, Regener, Thomas

PORTUGUESE

See Modern and Classical Languages

PSYCHOLOGY

Professor Peterson (Chairman); Associate Professor Norman; Assistant Professors Benedetti, Keston, Utter, Weldon; Graduate Assistants Amedeo, Leiding, Madans, Steputis.

MAJOR STUDY

For the degree of Bachelor of Arts: 30 hours in Psychology, including 80 and 198. 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 in *either* 121L and 122L *or* 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.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

- 1L-2L. GENERAL PSYCHOLOGY. (3, 3) Yr. Staff
Credit suspended for 1L until 2L is completed. 1L is prerequisite to 2L. 2 lectures, 2 hrs. lab.
51. GENERAL PSYCHOLOGY. (3) Staff
An introductory course. Not open to those who have credit for 2L.
54. EDUCATIONAL PSYCHOLOGY. (3) Keston, Weldon
An introductory course, primarily for sophomores. Prerequisite: 2L or 51.
58. INDUSTRIAL PSYCHOLOGY. (3) Utter
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) Utter
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
101. SOCIAL PSYCHOLOGY. (3) Weldon
The behavior of individuals as influenced by other human beings. Prerequisite: 2L or 51.
102. PSYCHOLOGY OF PERSONALITY. (3) Benedetti, 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 consent of instructor.
110. EDUCATIONAL PSYCHOLOGY. (3) Keston, Utter, Weldon
Advanced course. Not open to those who have credit for 54. Prerequisite: 2L or 51.

111. CHILD PSYCHOLOGY. (3) Keston
The principles of human behavior in infancy and childhood. Prerequisite: 2L or 51.
112. ADOLESCENT PSYCHOLOGY. (3) Keston
Development and problems during the adolescent period. Prerequisite: 2L or 51.
113. THE PSYCHOLOGY OF EXCEPTIONAL CHILDREN. (3) Keston, Norman
Prerequisite: 2L or 51.
- 121L. EXPERIMENTAL PSYCHOLOGY. (3) Utter
Sensory and perceptual processes will be stressed. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- 122L. EXPERIMENTAL PSYCHOLOGY. (3) Utter
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.
- 132L. INDIVIDUAL MENTAL TESTING. (3) Norman
Practical laboratory study and discussion of Binet and Wechsler tests.
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 hrs. per semester to a maximum of 6). Staff
Independent reading in a particular field of psychology, accompanied by conference and followed by an integrated report covering material read. Prerequisite: 2L or 51.
198. HISTORY OF PSYCHOLOGY. (3) Peterson
Prerequisite: 2L or 51.
199. UNDERGRADUATE PROBLEMS. (1-3) Staff
Prerequisite: 2L or 51.
221. GRADUATE SEMINAR. (1-3) Peterson
222. GRADUATE SEMINAR. (1-3) Keston
240. CLINICAL PSYCHOLOGY. (3) Norman
Theory and problems in clinical psychology.
- 251-252. PROBLEMS. (2-3 each semester) Graduate Staff
300. THESIS. (6) Graduate Staff

RUSSIAN

See Modern and Classical Languages

SCHOOL ADMINISTRATION

See Education, School Administration

SECONDARY EDUCATION

See Education, Secondary

SOCIOLOGY

Professor Walter (Chairman); Assistant Professors Ellis, Geddes, Scott; Graduate Assistant DeWolf.

MAJOR STUDY

Sociology: 24 hours in Sociology courses numbered above 50, including 18 above 100.

Social Work: Combined major and minor; *see* Social Work Curriculum.

MINOR STUDY

12 hours in Sociology courses numbered above 100.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

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| 1-2. INTRODUCTION TO SOCIAL SCIENCE. (3, 3) Yr.
(Same as Economics 1, 2 and Government 1, 2.) Credit suspended until both semesters are completed. | Staff |
| 51. THE FAMILY. (3) | Geddes |
| 55. PRINCIPLES OF SOCIOLOGY. (3)
Prerequisite to most advanced courses in the department. | Scott |
| 66. SOCIAL CHANGE. (3) | Geddes |
| 71. SOCIAL CONTROL. (3)
Agencies and processes by which groups regulate their members. Prerequisite: 55 or equivalent. | Walter. |
| 72. SOCIAL PATHOLOGY. (3)
Social problems as they impinge upon individual welfare. Prerequisite: 55 or equivalent. | Geddes |
| 73. INTRODUCTION TO LATIN AMERICA. (3)
(Same as Anthropology 73, Economics 73, and Government 73.) Does not give credit toward a Sociology major or minor. | Jorrrin |
| 82. URBAN AND RURAL SOCIOLOGY. (3) | Geddes |
| HA. READING FOR HONORS. (1-3 each semester) | Staff |
| HB. RESEARCH FOR HONORS. (1-3 each semester) | Staff |
| 101. SOCIAL PSYCHOLOGY. (3)
(Same as Psychology 101.) | |
| 102. COLLECTIVE BEHAVIOR. (3)
Sociological approach to the analysis of human behavior. Prerequisite: 55 or equivalent. | Scott |
| 109. CRIMINOLOGY. (3)
Crime as a social phenomenon. Prerequisite: 71 or equivalent. | Walter |
| 110. JUVENILE DELINQUENCY. (2)
Prerequisite: 55 or equivalent. | Walter |
| 111. SOCIAL PROBLEMS OF LATIN AMERICA. (3)
Does not give credit toward a Sociology major or minor. Prerequisite: 73 or equivalent. | Jorrrin |
| 117. SOCIAL PROBLEMS OF NEW MEXICO. (3) | Geddes |
| 140. ECONOMIC SECURITY. (3)
(Same as Economics 140.) | |
| 151-152. INTRODUCTION TO SOCIAL SERVICE. (3, 3)
Survey of the fields of social welfare. Problems of individual and family relationships as affected by socio-economic and psycho-cultural forces. Prerequisite: 51 or equivalent. | Ellis |
| 154. RACE AND CULTURE RELATIONS. (3) | Scott |
| 160. SOCIOLOGY OF INDUSTRIAL RELATIONS. (3)
The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 82 or equivalent. | Walter |

163. HISTORY OF SOCIAL THOUGHT. (3) Prerequisite: 55 or equivalent.	Walter
166. METHODS IN SOCIOLOGY. (3) Prerequisite: 55 or equivalent.	Staff
170. ORGANIZATION AND ADMINISTRATION OF SOCIAL WELFARE. (3) (Same as Government 170.)	Ellis
195. POPULATION PROBLEMS. (3) Prerequisite: 82 or equivalent.	Walter
197. FIELD OBSERVATION AND PARTICIPATION. (3) Prerequisites: 151, 152, or student may take 152 concurrently.	Ellis
241. SEMINAR: SOCIAL ORGANIZATION. (3)	Graduate Staff
242. SEMINAR: SOCIAL PROCESSES. (3)	Graduate Staff
300. THESIS. (6)	Graduate Staff

SPANISH

See Modern and Classical Languages

SPEECH

Professor Eubank (Chairman); Associate Professor Owens; Assistant Professors, Chreist, St. Onge.

MAJOR STUDY

35 hours including 1 and 2 (or equivalent), 51, 60, 91, 101, 120, 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. Students who have speech and/or voice defects must take Speech 3 and possibly further work, without credit, in the Speech Laboratory.

MINOR STUDY

20 hours completed in the Department of Speech, including 1, 2, 57, 60, 120 and 170.

SPEECH LABORATORY

Every freshman and transfer student entering the University is required to take speech, voice, and hearing tests in the Speech Laboratory. If these tests show significant defects, the student may be required to take work in the Speech Laboratory. In case of severe stuttering, stammering, lisping, speech blockage, lack of rhythm, etc., the student may be required to take Speech 3, and to do additional work in the Speech Laboratory, under faculty direction.

FORENSICS

The Forensics Society, an extra-curricular organization, sponsors work in debate, extempore and impromptu speaking, oratory, radio production, and other forensic activities. Students interested in these activities should join the Forensics 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) Staff
The preparation and delivery of original and practical extempore speeches, including a study of rhetorical principles, audience psychology, methods of presentation, and the basic principles of the physiology of speech and voice.
3. **REMEDIAL SPEECH.** (3) Chreist, St. Onge
Primarily for students needing speech correction. Emphasis upon the speech process and its daily use. The more common types of speech disorders, their causes, and theories of treatment are discussed as they relate to the needs of the students in the class. 2 lectures, 2 hrs. lab.
5. **SPEECH FOR FOREIGN LANGUAGE STUDENTS.** (3) Chreist, St. Onge
A course 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) Staff
Study and practice of the rules governing the proceedings of groups and deliberating assemblies.
51. **INTRODUCTION TO RADIO.** (3) Staff
A study of the history of the field of broadcasting, requirements and opportunities in the various phases of the profession. Study and practice of vocal considerations in using the microphone. Prerequisite: 1 or 55.
55. **SPEECH FOR BUSINESS AND PROFESSIONS.** (3) Staff
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
A course for students interested in debate and intercollegiate forensics. Prerequisite: consent of instructor.
78. **ARGUMENTATION AND DEBATE.** (3) Owens
A continuation of 77. This course stresses the practical problems of debate. Prerequisite: 77.
90. **RADIO PRODUCTION.** (3) Staff
A beginning course in the nature and production of radio speech, techniques, direction, and production (excluding radio drama).
91. **HISTORY OF THE ENGLISH LANGUAGE.** (2) Albrecht
(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.

120. SCIENTIFIC BASES OF SPEECH. (3) Chreist, St. Onge
A study of the bases of the speech process as presented in the scientific materials of such related fields as physics, physiology, psychology, and linguistics. Consideration of these principles of science as they influence normal and deviate speech patterns. Prerequisite: 101 or consent of instructor.
121. PATHOLOGIES OF SPEECH AND HEARING. (3) Chreist, St. Onge
A survey of pathological problems in the areas of speech and hearing and the resulting adjustment problems which develop. Scientific investigations conducted in each of the various fields are studied in order to assemble a group of principles for diagnosis and rehabilitation. Prerequisite: 120 or consent 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.
135. ARTICULATORY PROBLEMS IN SPEECH CORRECTION. (3) Chreist, St. Onge
Sound substitutions, distortions, omissions, delayed speech, and speech problems of the acoustically handicapped will be considered. Laboratory work using subjects from the University student body and from the Out-Patient Clinic will be required.
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.
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: consent of instructor.
190. ADVANCED RADIO PRODUCTION. (3) Staff
An advanced lecture and workshop course using radio as a resource for modern living or classroom teaching. Utilization of network and station programs, transcriptions, recordings and equipment maintenance. The writing, directing, and production of various programs will be required of each student. Prerequisites: 1 and 2 or 6 hours of Journalism.
192. RADIO WRITING. (3) Staff
Literature of radio, with considerable practice in writing scripts and radio journalism. Prerequisites: 1 and/or 2 and 9 hours of English composition or 6 hours of Journalism.
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 consent 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 consent 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: consent of instructor.
200. INTRODUCTION TO GRADUATE STUDY. (3) Eubank, Owens
A study of 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 RADIO. (3) Staff
An advanced course in radio broadcasting and production, with research emphases on the educational and cultural aspects of the field. A research paper is required.

230. **ADVANCED SPEECH PATHOLOGY.** (3) Chreist, St. Onge
A course of study in 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, Eubank, Owens, St. Onge
300. **THESIS.** (6) Chreist, Eubank, Owens, St. Onge

DEGREES AND AWARDS

DEGREES CONFERRED

June Fourth, Nineteen Hundred Fifty-three

COLLEGE OF ARTS AND SCIENCES

BACHELOR OF ARTS

Name	Major	Minor
Bud M. Adams	Government	Sociology
Richard Edward Wood Adams	Anthropology	English
* Diana Amsden	Anthropology	Art
Gordian Lee Armstrong	Anthropology	Sociology
Ronald J. Benelli	Journalism	History
Jack C. Bolander	Government	Naval Science
James L. Bonham	Anthropology	History
Zorro Allen Bradley	Anthropology	Biology
Patricia E. Brewer	Home Economics	English
Bernard F. Brown	History	Latin
Robert Edway Bruner	English	Anthropology
Dolores Smith Butt	Psychology	Speech
Mary Claire Cadwell	Home Economics	Library Science
Louis Watt Cantelou, Jr.	Sociology, Psychology	-----
† James Stiness Cogswell	Government	Mathematics
Burton Robison Corbus, Jr.	Sociology	Anthropology
Dudley Emerson Cornell, III	Geology	Engineering
Grace Ida Cunningham	Anthropology	English, History
Robert Warren Dash	Anthropology	English
Robert DelMar	Government, Geology	-----
Earle William Deneau	Chemistry	Mathematics
Lawrence Alva Edwards	Social Work	-----
‡ Floyd Wesley Emanuel	Speech	Psychology, Naval Science
Gloria Frances Marie Fischer	English	Library Science
Joyce Susanne Fitzpatrick	Speech	English
Dena Patricia Gelfman	Anthropology	French
Sarah Stark Gilbert	History	English
* Frieda Flook Goodner	Spanish	English
Jack Wayne Goodner	Economics	Business Administration
Mike B. Gormley, Jr.	English, Psychology	-----
Barbara Jean Goss	Inter-American Affairs	-----
Geoffrey Hand Goss	Inter-American Affairs	-----
* Richard Edward Greenleaf	Government	History
Donald Frank Hall	English	Naval Science
Jim Jean Hester	Anthropology	Air Science
Ellen Juanita Hill	Journalism	English, Spanish
Mary Katherine Huenefeld	History	Psychology
John Phillip Hungerford	Social Work	History
Carolyn Kelley Hunsley	Journalism	English
George Millard Hunsley	Journalism	English
Victor Keith Jensen	Sociology	Psychology
Chester Henry Johnson	Geology	Biology
Everett Jay Jones, Jr.	Government	Naval Science
Grace Dorcas Knudsen	Sociology	Psychology
Helen Marie Kohr	Inter-American Affairs	-----
§ Edward Joseph Lahart	Social Work	Government, German
* With University Honors		
‡ With Honors in Speech		
† With Honors in Government		
§ With Distinction		

Name	Major	Minor
Leon Verdin Langan, Jr.	Geology	Anthropology
Joanne Vance Lash	English	Philosophy
Mary Ann Phillips Long	History	English
Peter Ernest Lopez	Spanish	French
Ernest Temple Love, Jr.	Economics	English
Palemon Raymond Martinez	Inter-American Affairs	-----
John Theodore McConville	Anthropology	Biology
Benjamin Lincoln McCoy	Art	English
George Edward Meacham	Psychology	English
Alfred Henry Miller, Jr.	Inter-American Affairs	-----
Wick R. Miller	Anthropology	Sociology
Charles Allen Moya	Inter-American Affairs	-----
§ Robert Gordon Norfleet, III	Chemistry	Biology
Eric Maxwell Odendahl	Journalism	Air Science
James Alvin Parsons	Psychology	Air Science
Joseph Paull	Psychology	Anthropology
Mary Elizabeth Pilkington	History	English
James Walter Pinkerton, Jr.	Journalism	Psychology, History
* Georgina Victoria Radosevich	Government, English	-----
x Donald Edmund Rady	History	Anthropology
Christine Ann Randolph	Sociology	Psychology, Art
Austin Evans Roberts	Government	English
Hugo Dubuque Rockett	History	Government
Richard Stanley Rounds	Philosophy	English
William Burwell Sample, Jr.	Geology	Economics
Annabelle Sanchez	Social Work	Spanish
§ Alma Van Wetering Scott	English	Biology
Billie Dean Simpkins	English	Naval Science
John Hurlburt Slate	Anthropology	Naval Science, English
Clint Ernest Smith	Journalism	Naval Science
x Arthur Peter Sorensen, Jr.	Anthropology	Spanish
§ Noel C. Sorrell	Chemistry	Biology
Gretchen Leah Spear	History	English
Robert Henry Stuart	Government	Air Science
* Harold Victor Talley	Government	Psychology
Edward Louis Tixier	Geology	Mathematics
Milton A. Toppino, Jr.	Journalism	English
§ Albert Edgar Utton	Geology	Biology
Joanne S. Wall	Government	Sociology
Sinclair Stephen Wall	Social Work	Economics
John Pliny Wallis	Chemistry	Psychology, German, Naval Science
James A. Wiley, Jr.	Government	English
Luz Maria Wong Montes de Oca	Inter-American Affairs	-----
Caroline Mitchell Woods	Spanish	History
Eleanor Pearl Wynne	Social Work	-----

BACHELOR OF SCIENCE

Allwyn Lee Allott	Mathematics	Air Science
Augustus Keathly Armstrong	Geology	Air Science
Melbourn Louis Bernstein	Biology	Psychology
Howard Allen Boyd, Jr.	Biology	Chemistry
Richard Allen Brett	Mathematics	History
Farrell Baron Brumley	Physics	Mathematics
* Ernest Atherton Bryant	Chemistry	Mathematics

§ With Honors in Chemistry

* With University Honors

x With Honors in History

§ With Distinction

Name	Major	Minor
David M. Buschman	Geology	Engineering
Robert F. Ciesiel	Geology	Air Science
* John Clatworthy	Mathematics	History, Naval Science
Donald Murray DePriest	Geology	Biology
Jack Domm	Geology	Mathematics
George Leonard Downing	Mathematics	Naval Science
Mary Cyrus Elliott	Biology	Chemistry, Psychology
§ David Donald Evans	Chemistry	Air Science
John Fredrick Fallis, Jr.	Geology	Engineering
Glade Williams Fife	Physics	Mathematics
Ruben Chavez Gomez	Physics	Mathematics
Bruce Howe Henderson	Biology	Anthropology
Patricia Ann Highleyman	Dietetics	Chemistry
William Charles Horton	Geology	Engineering
Robert Clow Hyland, Jr.	Biology	Chemistry
Gordon Frederick Jacobus	Physics	Mathematics
Mary Catherine Jones	Biology	History
Jack Gerald Jordan	Geology	Engineering
Milton Wayne Klassen	Geology	Engineering
Felipe Uvaldo Martinez	Biology	Chemistry
Frank Eliot McCulloch, Jr.	Biology	Chemistry, Philosophy
Lily Kyle McDonald	Dietetics	Chemistry
William Sai Mensah-Dapaa	Biology	Chemistry
Joseph A. Murray	Mathematics, History	Naval Science
Leonard Harris Pratt	Biology	Psychology
James Charles Pulte	Physics	Mathematics
§ Charles Bryan Reynolds	Geology	Mathematics
James Lester Sands	Biology	Anthropology
Robert Peck Schooley	Biology	Business Administration
Frank Ludwig Schrempf	Geology	Mathematics
Frances Ruth Stewart	Dietetics	Biology
Dan R. Zalog	Geology	Engineering

COLLEGE OF ENGINEERING

BACHELOR OF SCIENCE IN ARCHITECTURAL ENGINEERING

Joseph Frederick Boehning	Joseph Robert Litteken
William Louis Bohannon	Raoul Lloyd Maes
Wallace Lentz Bond	Charles Carlyle Scott, Jr.
Richard Shaw Clark	Danny Robert Swain
Clifford Livingston Crader	Michael Porter Wallner

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Ernest Barthel Ackermann	Herbert Boyd Ford
David Frazer Agnew	Roger Walter Gilbert
Glenn Nelson Campbell	Alfred William Grohe
Phillip Michael Ciofalo	Edward Joseph Muren
Milton Cohen	David K. Ong
Dudley Emerson Cornell, III	Marion Frank Pearce, Jr.
Eugene Dimitruk	Walter Stanley Shurkin

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Guy R. Beck	Jerry Ray Bohannon
H. Allen Berkheimer, Jr.	§ John Philip Boyd
Carlyle Gordon Blumenthal	Herbert George Campbell

* With University Honors

§ With Honors in Chemistry

§ With Distinction

Daniel Emmet Connolly
 Edward Lowe Cottingham
 Darrell Eugene Davidson
 Irving Melbourne Davis
 Scott Mills Freeman
 Charles William Gay
 Zane Mark Goodwin
 John Anderson Heagy, Jr.
 John Charles Hines
 Ernest Richard Hoffman
 Randolph Errett Holt
 John Conrad Ice
 Kent Steele Kaser
 Leonard Edward Lee

Jesse Vernon Lunsford
 Robert Earl Mitchell
 Kenneth Woodward Mount
 Henry Patrick Nugent
 William David O'Donnell
 Joseph Reynolds Raub
 Herbert Henry Renwick
 John Bee Robert
 Joseph Benonie Sarvis
 § Louis Gaylor Sleeper
 David Russell Snow
 Boyd Richard Whitson
 Donald Vernon Wigal

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

W. Aubrey Dunaway
 Edward Paul Errante
 James John Errante
 Pete Chrisologo Hernandez
 Hugh Worthington Hilleary
 Charles Robert Kennedy
 William Keith Klatt
 Robert Partee Matthews

Melvin Thomas Mattison
 Leroy Alton Meador
 Lawrence Clifton Menasco
 § James Ronald Park
 Thomas Edward Stone
 Warren Donald Wells
 Francis Richard Zemke

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Howard S. Bluestein
 Noel Clive Broome
 Anthony Wm. Elliott
 David Henry Goltermann
 Thomas Keith Hill

Leonard John Lapka
 Harry James McCracken
 Charles Vowell Metz
 David Lewis Reynolds
 Herbert Louis Seligman

BACHELOR OF SCIENCE IN INDUSTRIAL ARTS

Allen Wilson Hubinger
 John Edward Mhoon
 John Joseph Murphy

Ralph Jefferson Rainey, Jr.
 "S" "L" Storseth
 Robert Elde Wickham

COLLEGE OF EDUCATION

BACHELOR OF ARTS IN EDUCATION

Name	Major	Minor	Curric.
§ Doris Fisher Anderson	English	French	H.S.
Phillip Dwight Baiaomonte	Social Studies	-----	H.S.
John T. Blackmore	Social Studies	-----	H.S.
Philbrick Bowhay	English	Naval Science	H.S.
Harold E. Brock	Speech	English	H.S.
Cecilia Castillo Casaus	Spanish	Library Science	H.S.
Frank Chidichimo	Government	History	H.S.
William Glenn Cordell	English	Spanish, Sociology	H.S.
Thomas E. Cotton	History	English	H.S.
Jean Elaine Cowles	Music Education	Voice	H.S.
* Ruth Ann Davis	Speech	Library Science	H.S.
Betty Jo Dowdle	English	Journalism	H.S.
John Mitchell Drabelle, Jr.	Speech	Naval Science	H.S.
Bainard Ross Evans	History	English	H.S.
Janice Thompson Fisher	Music Education	Music, English	H.S.

§ With Distinction

* With University Honors

Name	Major	Minor	Curric.
Majel Lee Fritz	Art Education	-----	Art Ed.
Wilfred Frank Garcia	Spanish	Economics	H.S.
Paul Kenneth Halter	Social Science	Economics, Biology, Physical Educ.	H.S.
Zohrab Hanisian	Psychology	Biology	H.S.
Frederick H. Hannah	Speech	Psychology	H.S.
Johnson Davis Healy	Art Education	-----	Art Ed.
Joe Hilario Herrera	Art Education	-----	Art Ed.
§ Murray Jacob Isaacs	History	Business Education	H.S.
Charlotte Owen Krampitz	Art	Sociology	Elem.
Sally Lane	English	Psychology, Library Science	H.S.
Samuel David Leonard	Psychology	Mathematics	H.S.
Nancy Gass Lewis	Journalism, English	-----	H.S.
Stuart Joseph Malone	Government	Economics	H.S.
Margaret J. McLaughlin	Social Studies	Home Economics	H.S.
Marguerite J. Miera	Art Education	-----	Art Ed.
Mrs. Bertha Keller Moran	Social Studies	-----	Elem.
Henry Filson Parkinson	Speech	English	H.S.
Mary Jane Pendleton	History	Government	H.S.
Lillian Sturgeon Pendley	English	Music	H.S.
Richard James Powers	Government	English	H.S.
Ellen Pauline Sekavec	Social Studies	-----	H.S.
Joseph Arthur Soultz	Social Studies	-----	H.S.
James A. Squyres	Speech	History	H.S.
George Louis Thomas	English	French	H.S.
Corinne Gloria Tufte	English	History	H.S.
Nicholas Turi	Music Education	English	H.S.
Gladys Eileen Wenslay	English	Home Economics	Elem.
Carol Wilkins Whenry	Speech	Psychology, Math.	H.S.
Jack Leroy Whenry	Speech	English	H.S.

BACHELOR OF SCIENCE IN EDUCATION

Natalie Jane Adams	Elementary Ed	-----	Elem.
Josephine Bunton Archer	Elementary Ed	-----	Elem.
Dennis C. Baca	Elementary Ed	-----	Elem.
§ Patricia Jeanne Baird	Elementary Ed	-----	Elem.
Marian Marquita Barreras	Elementary Ed	-----	Elem.
Marjorie Musson Bass	Home Economics	-----	H.S.
Louella Jones Begay	Business Education	English	H.S.
Elizabeth Josephine Block	Elementary Ed	-----	Elem.
Betty Cunningham Bresett	Elementary Ed	-----	Elem.
Mary Owsley Brewington	Elementary Ed	-----	Elem.
Viola Louise Briggs	Elementary Ed	-----	Elem.
Margaret Cordelia Carter	General Science	Chemistry	H.S.
Patricia Ruth Casey	Business Education	-----	H.S.
Rudolfo V. Castillo	Business Education	Sociology	H.S.
Norma Lee Chapman	Home Economics	-----	H.S.
Aye Cho	School Administration	Elem Educ	Sch. Adm.
Dorothy Irene Cohen	Business Education	-----	H.S.
Lois D. Colvard	Elementary Ed	-----	Elem.
Carl LeRoy Crawford	Science	History	H.S.
Sara Jane Cudabac	Elementary Ed	-----	Elem.
Rita Mary Cummins	Business Education	-----	H.S.
Loraine May Dannevik	School Administration	-----	Sch. Adm.
Robert Carl Davee	General Science	-----	H.S.

§ With Distinction

Name	Major	Minor	Curric.
Jo Ann Drake	Business Education	-----	H.S.
Russell M. Ervin, Jr.	Elementary Ed	-----	Elem.
Sally Harrison Fogg	Elementary Ed	-----	Elem.
Loyce Clyde Gossage	Business Education	-----	H.S.
§ Blanche Virginia Griscom	Home Economics	Mathematics	H.S.
Helen Guzulis	Home Economics	-----	H.S.
Nicholas Thomas Hallick	Science	Biology	H.S.
Nancy Marsh Hart	Elementary Ed	-----	Elem.
Dorothy Lee Hawkins	Elementary Ed	-----	Elem.
Frances Helen Jordan	Elementary Ed	-----	Elem.
Martha Jean Kern	Home Economics	-----	H.S.
Patsy Ann Lee	Elementary Ed	-----	Elem.
Mary Jean Reid Loudon	Elementary Ed	-----	Elem.
Jeanne Margaret Marchand	Elementary Ed	-----	Elem.
Yvonne Theresa Marko	Elementary Ed	-----	Elem.
Maxine Grace Martin	Elementary Ed	-----	Elem.
Sharon Belle McBride	Elementary Ed	-----	Elem.
Jack D. Mellott	Business Education	-----	H.S.
Anita Michaels	Elementary Ed	-----	Elem.
Barbara Michaels	Elementary Ed	-----	Elem.
Nona Killen Moore	Elementary Ed	-----	Elem.
Ruby Velasquez Ortiz	Elementary Ed	-----	Elem.
Reba Rhea Peterson	Elementary Ed	-----	Elem.
Mary Ann Ramos	Elementary Ed	-----	Elem.
Eleanor Silbo	Elementary Ed	-----	Elem.
Gwen Ruth Wagar Singer	School Administration	Sociology	Sch. Adm.
Ann Elizabeth Thomas	Elementary Ed	-----	Elem.
Sally Mather Trangmar	Home Economics	-----	H.S.
Barbara Griffith Volk	Elementary Ed	-----	Elem.
Alice Welch	Elementary Ed	-----	Elem.
Patricia Wilson White	Elementary Ed	-----	Elem.
Doris Gwendolyn Williams	Business Education	-----	H.S.
Marilyn Lucile Willits	Elementary Ed	-----	Elem.

BACHELOR OF SCIENCE IN HEALTH AND PHYSICAL EDUCATION

Robert Lee Arnett	Health & P. E.	-----	H&PE
Albert M. Baca	Health & P. E.	-----	H&PE
Frank Sloan Blair	Health & P. E.	-----	H&PE
Charles Dear	Health & P. E.	-----	H&PE
Alma Margaret Dismuke	Health & P. E.	Biology	H&PE
Aaron Eschol Duran	Health & P. E.	Biology	H&PE
Carl Olen Gentry	Health & P. E.	-----	H&PE
Thomas Joseph Hail	Health & P. E.	-----	H&PE
Marilyn Joyce Hutchins	Health & P. E.	Recreation	H&PE
Joan Marie Lewis	Health & P. E.	Art	H&PE
Grant Clayton Logan	Health & P. E.	-----	H&PE
Ramon Ramiro Martinez	Health & P. E.	-----	H&PE
Clifford Vernon Mitchell	Health & P. E.	-----	H&PE
Joann Nicks	Health & P. E.	History	H&PE
Abedon Roldan Paiz	Health & P. E.	-----	H&PE
Michael Prokopiak	Health & P. E.	-----	H&PE
Robert Ernest Roseen	Health & P. E.	-----	H&PE
Carolyn Y. Setzler	Health & P. E.	-----	H&PE
Edward Joseph Smith	Health & P. E.	-----	H&PE
Theron Luther Smith	Health & P. E.	-----	H&PE
Melba Lois Thompson	Health & P. E.	Recreation	H&PE
Alvin Threlkeld	Health & P. E.	-----	H&PE

§ With Distinction

BACHELOR OF SCIENCE IN INDUSTRIAL ARTS EDUCATION

Roy Cochrane Clarke
Harold Albert Conroe
Elmer Joseph Kuhn
James M. Morris

Christopher G. Ogaz
Raymond Leslie Warren
Paul Miller Wighamam

COLLEGE OF FINE ARTS

BACHELOR OF ARTS IN FINE ART

Benjamin Lincoln McCoy

BACHELOR OF FINE ARTS IN ART

Narcisco P. Abeyta
Eugene Raymond Roman Alesch
Carl Von Badinski
Walter Fite Bowron
Mary Landwehr Caird
Pat Ware Carroll
Carl David Coker
Mary Locke Davis
Clara Lasina Grotta
Charles Edmund Halley

James Vincent Intravia
Joan Catherine Jelinek
Elizabeth Evans Long
Charlotte Mary Maginnis
Barbara Lucille Matkin
Shirley F. P. Merrill
Joan McKeown Oppenheimer
Joan Ann Pettitt
Edgar Christian Svenningsen

BACHELOR OF FINE ARTS IN DRAMATIC ART

Nancy Rhodes Box
James M. Campbell, Jr.
John Raymond Fisher

John Fadner Keefe
Terese Rae McCanna
Mary McKittrick

BACHELOR OF FINE ARTS IN MUSIC

George Ward Fenley
† Suzanne Hernandez Kurman
John Willard Large
William Milton Letcher, Jr.

Laura Ann Rodrick
Wilma Tapp
Barbara Lee Weaver

COLLEGE OF PHARMACY

BACHELOR OF SCIENCE IN PHARMACY

Duane Leo Aldous
William Edward Barker, III
§ William Ashby Brown
Victor Javier Castillo
Tom Hadley Chapman
Joe Miller Crawford
Olen D. Dansby
Roger Walter David
Richard Leon Gates
William David Gluth
Charles Lambert Gross
Minette Hall
Catherine Beulah Henderson
Martin Scott Jones

James Charles King
Joan G. Kopko
§ Henry John Mack, Jr.
Sally Anne Masury
Joseph Thomas McMahon
§ Gertrude Cartright Michael
Joseph Phillip Miller, Jr.
Charles Pray
Alan Rowen
Aaron Schechter
Leonard Herman Stein
Jack White
James Franklin Wood

† With Honors.

§ With Distinction.

COLLEGE OF BUSINESS ADMINISTRATION

BACHELOR OF BUSINESS ADMINISTRATION

Name	Concentration
William Albert Alfano	Accounting
Henry Arnold Anderson	Finance
Albert John Barbieri	Accounting
Arthur Leon Bernstein	Industrial Admin, Accounting
Ralph Junior Birkelo	Industrial Administration
Kenneth Gordon Boffin	Marketing
Stanley Jerold Brasher	General Business
Billy Dale Brown	Accounting
Darlene Brown	General Business
Betty Jeane Byerly	Marketing
Edward George Connelly	Industrial Administration
Alfred Maurice Crow	Finance
Dan Walter Darrow	Marketing
Jack Donlon Davis	Accounting
William Richard Dawe	Marketing
Eugene Charles DeDea	General Business
George Wells Dolen	Finance
William Edgar Gardner, Jr.	Accounting
Ross Thomson Gault	Finance
John Thomas Giblin	General Business
George Washington Edward Grewe, Jr.	Accounting
Peggy Lou Grove	Secretarial Office Management
Wilfred Henry Gulowsen	General Business
Bob Roland Handley	General Business
James Erwin Hare	General Business
Jim Frank Heath	Finance
James Donald Holliman	Finance
Andrew Jacob Hulette, Jr.	Accounting
Marvin Lee Ivy, Jr.	Industrial Administration
John Andrew Keahey	Accounting
Richard McCabe Kelly	Marketing
Philip H. Kenley	Marketing
John Bradley Kidd	General Business
Rudolph Frederick Kleinschmidt, Jr.	General Business
William Louis Klenck	General Business
Leslie M. Korpela	Accounting
Philip Harper Landes	Industrial Administration
Howard Kenneth Martin	Finance
Joann Katherine McNay	Secretarial Office Management
Richard Allen Mergy	Finance
Robert Warren Meyer	General Business
Thomas Emerson Montgomery, Jr.	Secretarial Office Management
Richard Allen Neff	Accounting
Eugene Willard Peirce, Jr.	Finance
Jesse Willard Proctor	Accounting
Stephen Donald Ratcliff	Finance
Leonard Ross	General Business
Robert Gerald Scanlon	Accounting
John A. Schnedar	Finance
Walter Russell Scott	Accounting
Reuben John Smith	Accounting
Eugene Charles Steinberg	Finance
John William Taul, Jr.	Industrial Administration
Betty Charlene Thompson	Secretarial Office Management
James Edward Tomberlin	General Business
Donald Abram Wallace	Finance
Virginia Kay Westfall	General Business

Name

Georgia Lenore White
 Thomas Howard Williams, Jr.
 Grover Cleveland Wright
 Barbara Dean Zander

Concentration

Secretarial Office Management
 Finance
 Accounting
 Secretarial Office Management

COLLEGE OF LAW

BACHELOR OF LAWS

Edmund Raymond Aleksey
 Santiago E. Campos
 Charlie W. Chavez
 Oliver Burton Cohen
 Ralph James Denney
 Terrance L. Dolan
 Heister Hower Drum
 Jack Ennis
 Julian S. Ertz
 Monroe Lewis Fox

Oscar Edward Halsell
 James H. Heberling
 Benjamin Kennedy Horton
 Florenceruth Mary Jones
 Louis B. Ogden
 George Franklin Stevens
 Ruth C. Streeter
 Frederick George Von Huben
 Morgan S. White

GRADUATE SCHOOL

MASTER OF ARTS

Name

Patricia Ann Ainsworth
 Harold Everett Alexander
 John Sebastian Aragon
 Kenneth Shelby Armstrong
 Barbara Jane Bailey
 Robert Currie Barnard
 Elbert Glen Barnhart
 Mabel Downer Bennet
 Harry Victor Berg
 Thomas Arthur Bridges
 John Milton Brown
 Robert Edwin Burkhalter
 Burtram B. Butler
 Joseph Casados
 Eugene Joseph Casella
 Alfred D. Chavez
 Laura Irene Collins
 Rutilio C. Cordova
 Lowell C. Cozzens
 Douglas Derwood Craft
 Kenneth Kipling Crites
 Robert M. Daugherty, Jr.
 Dudley Edward DeGroot
 Faye Darnall Depenbrink
 Arthur Leon DeVolder
 Lois McGlade DeWaide
 Peter John Emslie
 Robert Allan Figge
 Ora Fitzgerald
 Kenneth Hendricks Freberg
 Emily Ann Fuhs
 Gerald Sterman Gatewood
 Hermance Marie de Graeff
 Elaine Gerald Greenspan
 Leonard Martin Greenspan

Major

Psychology
 School Administration
 School Administration
 Philosophy
 Art Education
 Inter-American Affairs
 Speech
 Secondary Education
 Secondary Education
 School Administration
 School Administration
 Speech
 School Administration
 Physical Education
 Inter-American Affairs
 School Administration
 Secondary Education
 School Administration
 School Administration
 Art
 School Administration
 School Administration
 Sociology
 Elementary Education
 Government
 English
 Elementary Education
 History
 Elementary Education
 School Administration
 Secondary Education
 Elementary Education
 Government
 English
 School Administration

Name

Mary Ethel Groves
 Winifred Stover Haralson
 Charles Wright Harrington
 William Moyer Hemsing
 Donald Warren Herberholz
 Ronald Henes Hollander
 Clarissa Bezemek Howard
 William Vaughan Howard
 Pat Tancred Julio
 Lucille Clara Kaul
 Esther Longwood Larson
 Edwin H. Leupold, Jr.
 Frank Robert Luna, Jr.
 Howard Stanley Maclay
 Hilda Ingram Maddison
 Jean K. Madison
 Warren Harding Mantooth
 William Atlas Marcum
 William B. McLaughlin
 Edgar Alan Morris
 Charles Allen Moya
 Cone Johnson Munsey
 William Nabors
 Louise Ulibarri Nevarez
 Ray Thomas Noble
 Myron G. Ochshorn
 Maryavis Parson
 Henry William Pepin
 Patricia Veronica Petersen
 Lucille Curtis Ratliff
 Richard Roy Renner
 Mable Louise Riebe
 Donald Taylor Rippey
 Edward Sylvester Rogers
 Jean Hayes Rogers
 Jose Alvarado Salazar
 Dennis Stephens Sanchez
 Jay Sherman Saunders
 Jeanne Lumbert Schmunk
 Paul Lynn Schmunk
 Gordon Lee Scott
 Constance Schutte Sears
 Leota Fratcher Shoellhorn
 Joseph Andrew Slominski
 Elizabeth Reeder Somerville
 Richard Barber Stephenson
 Alta Lorene Ticknor
 Jack Edward Tomlins
 Charles Louis Vacanti
 Margaret Warren Walker
 James Franklin Warner
 Mozelle Patty Waters
 Martha Root Wells
 Ada Vivian Wester
 Adrienne Richards Wilda
 Frederick Wong
 Barbara Wood
 Freda Krewson Woodworth
 Vicente Trevino Ximenes
 Robert Zulin

Major

Elementary Education
 Elementary Education
 Inter-American Affairs
 School Administration
 Art Education
 School Administration
 Secondary Education
 Painting and Design
 Art History
 English
 Secondary Education
 Spanish
 School Administration
 Anthropology
 Education
 School Administration
 Elementary Education
 Psychology
 School Administration
 School Administration
 Inter-American Affairs
 School Administration
 School Administration
 Elementary Education
 School Administration
 English
 Spanish
 School Administration
 Spanish
 Elementary Education
 Inter-American Affairs
 Elementary Education
 Secondary Education
 Anthropology
 Anthropology
 Secondary Education
 Secondary Education
 School Administration
 Secondary Education
 History
 Secondary Education
 Anthropology
 Secondary Education
 Elementary Education
 Secondary Education
 Government
 School Administration
 Spanish
 School Administration
 Secondary Education
 Secondary Education
 Secondary Education
 Art Education
 Painting and Design
 English
 Art
 Art Education
 Elementary Education
 Economics
 School Administration

MASTER OF SCIENCE

Name	Major
Elmer Harold Baltz, Jr.	Geology
Lowell Eldon Bogart	Geology
Howard Theodore Bolton	Civil Engineering
Hugh Pearce Bushnell	Geology
John William Caldwell	Geology
Rufus H. Carter, Jr.	Civil Engineering
William Lyman Chenoweth	Geology
Joseph Charles Connell	Electrical Engineering
Frank Benevides Correia	Mathematics
Victor Ralph Crocco	Physical Education
John Lynwood Crone	Electrical Engineering
Gregory William Daues, Jr.	Chemistry
John Arthur Dear	Physical Education
Alan Eastman Disbrow	Geology
Omer David Hall	Civil Engineering
Paul C. Hassler, Jr.	Civil Engineering
Herbert Clinton Johnston, Jr.	Geology
James Francis Kenney	Physics
Astrid Elisabet Lindholm	Biology
John L. Lookingbill	Geology
Karl Vincent Morin	Civil Engineering
Harold Thomas Neuberger	Biology
Raymond Herbert Opperman	Physics
Robert Brett O'Sullivan	Geology
Alvin Martin Pettine	Physical Education
Anthony Joseph Radosevich	Civil Engineering
Joseph Dewey Robinson	Chemistry
Charles Roberts Schuster, Jr.	Psychology
Harold George Scott	Biology
Richard Sherwood Sears	Geology
Jo Ann Severns	Physical Education
Kenneth Denver Sharp	Geology
Fred T. Sinnott	Electrical Engineering
Alfred Humphrey Spano	Physics
James Harrison Sprouse, Jr.	Civil Engineering
Ernest Szabo	Geology
Donald Francis Toomey	Geology
Bill Wolfarth	Physical Education
Gus Tom Zorn	Physics

MASTER OF BUSINESS ADMINISTRATION

Martin Thomas Langan	Marketing
Gilbert Stephens Sanchez	Marketing

MASTER OF MUSIC

Raphael David Missal	Applied Music
James Lovic Whitlow	Applied Music

DOCTOR OF PHILOSOPHY

Hugh James Bronaugh	Chemistry
David Buchtel Cox	Chemistry
Richard H. Darbee	English
Frederic A. Giere	Biology
Myra Ellen Jenkins	History
Peter John Lunardini	Spanish
Marie Sommerville	English
Richard Dee Strickland	Chemistry
Robert Edward Williams	Chemistry
Alfred Howard Zeltmann	Chemistry

HONORARY DEGREES

Name	Degree
Norris Edwin Bradbury	Doctor of Laws
Ross Calvin	Doctor of Laws
Myrtle Greenfield	Doctor of Laws

GENERAL COLLEGE DIPLOMAS

(TWO-YEAR COURSE)

Margaret Barela	William Fred Martin
Charles Brian	William A. McConnell
Robert Dale Charlton	Gustavo Pineda
Owen R. Coats	Charles Randall
Joe M. Dominguez	Richard H. Rogers
E. Claire Faulstich	William B. Rourke
William F. J. Fortune	Harry F. Schram
Robert H. Hannifin	Howard Slutes
Daniel Hannifin	Henry J. Smith
Edward Hart	Walter Smith
Claude Lester Hinman	Freddie J. Stinson
Ralph Hunn	Ernest Suazo
Robert L. Hurd	Martin Tierney
James Gilbert Jaramillo	Neil Edward Weaver
Louis Richard Leurig	Richard West
Joseph Bruce Mackelduff	Alan Yard

AWARDS AND SCHOLARSHIPS, 1952-53

SCHOLARSHIPS

- The Albuquerque Classroom Teachers Association Scholarship—Betty Jean Bourbonia
- The American Association of University Women Scholarship—Isabel Caroline Cella
- The Anonymous Law Scholarships—Philip French Kennedy, Jr., James Allen May, James A. Tucker
- * The Laura Barclay Memorial Scholarship—Mary Ethel Cousland
- The Philo S. Bennett Scholarship—Shirley Martha Arviso
- The Clarence Milton Botts, Jr., Memorial Scholarship—Wilfred Donald Stedman
- * The Burkhart-Parsons Memorial Scholarships—Janet Lee Barnes, Mona May Christensen, Carol Louise Fegholz, Saturnino Garcia, Jack Leland Stahl, Jerold Gwayn Widdison
- The Edward C. Cabot Award in Community Journalism—Albert Ernest Johnson
- The Chi Omega Alumnae Scholarship—Edna Elise Christensen
- The *El Crepusculo* Journalism Scholarship—Harry Wallace Ransdell
- The Daughters of Penelope Memorial Scholarship—To be awarded later
- The James M. Doolittle Memorial Scholarship—Robert Romero, Donald James Davis
- The Faculty Women's Club Scholarship—Julie Dawn Carter
- * The Faculty Women's Club Special Scholarship—Patricia Ellen Fisher
- * The Freshman Forensic Scholarship—David Mall
- * The Clarissa Fuller Graduate Fellowship in History or Anthropology—Martin D. Meyer
- The Lt. John D. Gamble Memorial Law Scholarship—Patricio S. Sanchez
- The Alfred Grunsfeld Memorial Scholarships—Fred Joseph Dyer, James Lee Gober, Howard Rogovin
- The Miriam N. Grunsfeld Memorial Scholarships—Molly Drucilla Conley, Svea Martha Testman

- * New Award, 1952-53

- The Inter-American Affairs Scholarships—Shirley Ann Burton, Luis Clavijo, Maria Josefina Codda (Argentina), Stuart Coffman, Alphonso Manuel Del Llano, Alice Fetrow, Miguel Hernandez (Mexico), Miguel Alberto Marrero (Cuba), Fred Martinez, Mary Joan Rees, Antonio Silva, Priscilla E. Vigil, Penelope White (West Indies and Venezuela), Mary Catherine Wilcox
- The Ives Memorial Scholarships—Marythelma Bryant, Mary Ethel Cousland, Barbara Jane Cunningham
- The Kappa Kappa Gamma Memorial Scholarship—Gloria Rebecca Chaves
- The Frederick Herbert Kent and Christina Kent Scholarships—Charles Carley, Shirley Freeman, Rachel Sena
- The Khatali Scholarship—Joel B. Burr
- The Robert W. Korber Memorial Scholarship—Arthur M. Duran
- The Laura MacArthur Memorial Scholarship—Donald David Monaco
- The Newman Club Scholarship—William J. Schnedar
- * The New Mexico Geological Society Scholarships—Roger C. Green, Donald E. Livingston, Jack Summers White
- The Clyde Oden Memorial Scholarship—Eugene R. Cinelli, Doroteo M. Vigil
- The S. W. Papert Journalism Scholarship—David Frederick Miller, John Herman Schuelke
- * The Critchell Parsons Scholarships in Geology—Undergraduate, Mary Strode LaPaz; Graduate, John Frederick Fallis
- * The Harry Robert Parsons Scholarship in Law—Harry L. Patton
- * The Presser Foundation Scholarship in Music—Vera Rozdestvensky
- The Raton *Daily Range* Journalism Award for Women—Danna Marguerite Kusianovich
- The Rhodes Scholarship—Albert Edgar Utton
- The Dora Lewis Sanders Memorial Scholarship in Botany—Charles Carr
- The Wilma Loy Shelton International Fellowship for Women—Ursula Else Boysen
- The Soroptimist Scholarship in Law—Carol Clift
- The Spurs Scholarship—Sharon L. Yenney
- The Thomas M. Wilkerson Memorial Scholarship—Richard Hoberman
- The University Theater Training Scholarship—Mary McKittrick, Eva Kay
- The Zonta Club Scholarship in Business Administration—Semester II, 1952-53, Barbara Dean Zander; 1953-54, Dorothy Rowena Swain

PRIZES

- The Alpha Delta Pi Prize in Art—Joan D. Quist
- The George E. Breece Prize in Engineering—Louis Gaylor Sleeper
- The Chi Omega Prize in Economics—Rosa Bodenhamer
- The Charles Florus Coan Prize in History—Gretchen Spear
- The Marian Coons Prize in Home Economics—Margaret Bell Park
- The Harry L. Dougherty Memorial Prize in Engineering—John Adam Farris
- The Charles LeRoy Gibson Memorial Prize in Chemistry—Ernest A. Bryant
- The H. J. Hagerman Prize in Public Finance—No award 1953.
- The Telfair Hendon, Jr., Memorial Prize in English—Georgina Radosevich
- The H. E. Henry Award in Pharmacy—Joseph Phillip Miller
- The Kappa Kappa Gamma Memorial Prize for Poetry—Gretchen K. Steiner; Honorable Mention, Laura D. Calvert
- The College of Law Awards—The Bureau of National Affairs Award, Heister H. Drum; The Matthew Bender & Company Award, Fred Trechel; The Commerce Clearing House Award, Heister H. Drum; The Dennis & Company Award, Julian S. Ertz; The Bobbs-Merrill Company Award, Florenceruth Jones; The Michie Casebook Corporation Award, James Heberling; The Allen Smith Company Award, James Campos; The West Publishing Company Award, Monroe Fox; The Bancroft Whitney Company Award, Monroe Fox; Lawyers Co-operative Publishing Company Prizes, Ralph J. Denney (Pleading II); Heister H. Drum (Taxation); Julian Ertz and Monroe Fox (Bankruptcy); Monroe Fox (Municipal Corporations); Philip F. Kennedy

* New Award, 1952-53

- (Contracts); James A. May (Corporations); Harry L. Patton (Pleading I); Rudolph Schware (Labor Law); Robert H. Sprecher (Trusts); Ruth C. Streeter (Public Administrative Law); Arthur F. Thompson (Bailments)
- The Merck Award in Pharmacy—Gertrude C. Michael
- The New Mexico Section of the American Society of Civil Engineers Awards—John Philip Boyd, William David O'Donnell
- * The Northern New Mexico Section of the American Institute of Electrical Engineers Award—James Ronald Park
 - The Phi Kappa Phi Freshmen Prizes—Margaret Ange, Virginia Avis, Lola Patricia Israel, John Horton Morrison
 - The Phi Kappa Phi Senior Prize—Frieda Marie Goodner
 - * The Department of Philosophy Prize Essay Contest—John Berk Orr
 - * The Philosophy of Ernst Haeckel Prize Essay Contest—Leo Castillo
 - * The Public Service Competition in Architectural Engineering—First, Richard Shaw Clark; Second, Danny R. Swain; Third, Raoul Lloyd Maes
 - * The Public Service Competition in Electrical Engineering—First, Christopher Jako; Second, Edsel Eugene Overall; Third, Hugh W. Hilleary
 - The Rose Rudin Roosa Prize in Political Science—Harold V. Talley
 - The George St. Clair Memorial Prize in Dramatic Art—Benjamin Lincoln McCoy
 - The Sigma Alpha Iota Alumnae Prizes in Music—Jo Margaret Gore, Celina Sanchez
 - The Katherine Mather Simms Memorial Essay Contest—No award 1953
 - The Summer Creative Writing Contest—1952, Robert Alden Larimer; 1953, Joseph L. Fitzpatrick, M. Dan Meyer
 - The Lenna M. Todd Memorial Narrative Contest—First, Louis H. Lash; Second, Pauline Tharp; Third, Louis H. Lash; Fourth, Pauline Tharp; Fifth, Laura D. Calvert
 - The Vemco Prize in Architectural Engineering—John Douglas Balcomb
 - The *Wall Street Journal* Award in Business Administration—Alfred M. Crow

MEDALS AND CERTIFICATES

- The Alpha Kappa Psi Key in Business Administration—Walter Russell Scott
- The Delta Sigma Pi Scholarship Key in Business Administration—Walter Russell Scott
- The C. T. French Medal in the College of Arts and Sciences—Frieda Marie Goodner
- The Kappa Psi Award in Pharmacy—William Ashby Brown
- * The Lehn and Fink Medal in Pharmacy—William Ashby Brown
- The Phi Gamma Nu Scholarship Key in Business Administration—Doris G. Williams
- The Phi Sigma Certificates in Biology—Graduate, Frederic Arthur Giere; Undergraduate, Robert Gordon Norfleet

* New Award, 1952-53

ENROLLMENT STATISTICS

CLASSIFICATION OF STUDENTS

Classification of students in the various undergraduate colleges is based upon the following standards of credit hours earned toward a degree in the respective college:

	<i>Freshman</i>	<i>Sophomore</i>	<i>Junior</i>	<i>Senior</i>
Arts & Sciences	0-28	29-60	61- 94	95-
Business Administration	0-28	29-60	61- 94	95-
Education	0-28	29-60	61- 94	95-
Engineering	0-32	33-65	66-102	103-
Fine Arts	0-32	33-64	65- 97	98-
Pharmacy	0-32	33-65	66-102	103-
General	0-28	29-64		

STATISTICS FOR 1953-54

	<i>Men</i>	<i>Women</i>	<i>Total</i>
Semester I, 1953-54	2905	1258	4163
Semester II, 1953-54	2690	1129	3819
Summer Session, 1953	629	475	1104
Field Sessions, 1953	14	22	36
Correspondence courses *	171	130	301
Extension courses *	189	72	261
Non-credit courses *	1154	1306	2460
Special Services: *			
17 Conferences and Short Courses *			2465
116 Special meetings *			5319

* For the period February 1, 1953, to January 31, 1954

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