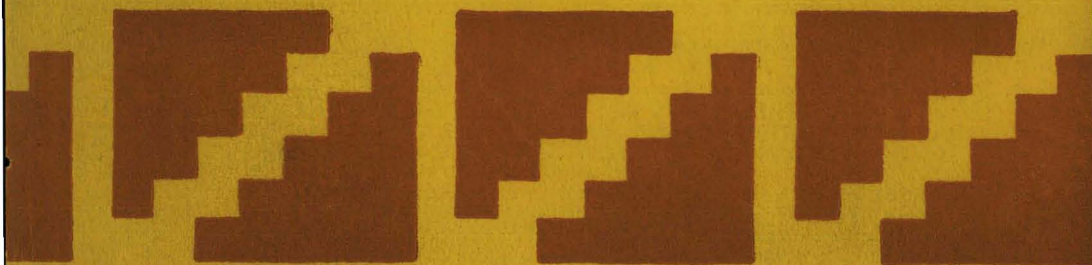


J.N. DURRIE
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The University of New Mexico



BULLETIN

1952-53 CATALOG ISSUE

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Art	Head of the Department of Art
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The
**UNIVERSITY OF
 NEW MEXICO**

Bulletin



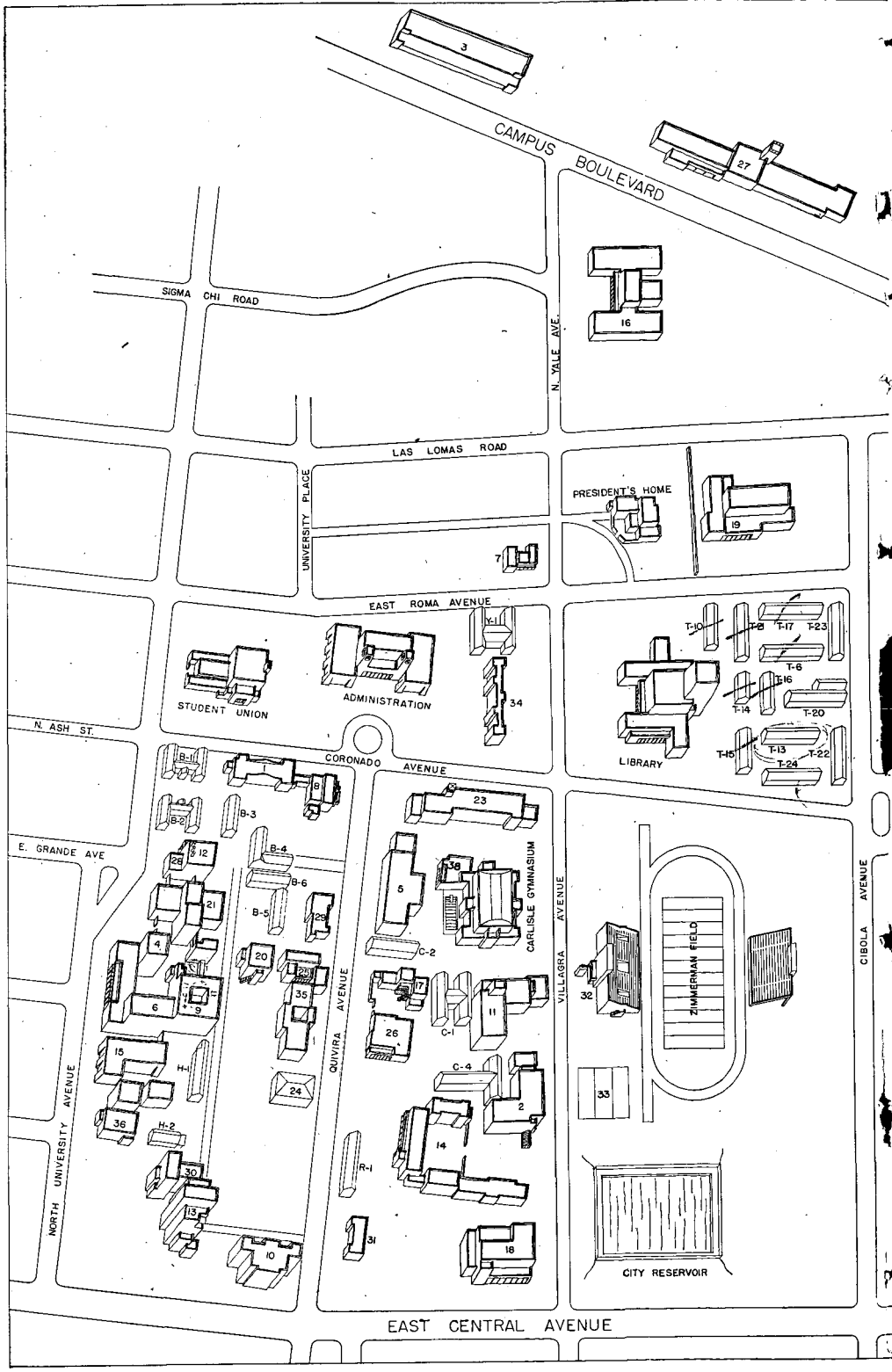
**SIXTY-FIRST CATALOG
 ISSUE . . . 1952-53**

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THE UNIVERSITY OF NEW MEXICO PRESS, 1952

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EAST CENTRAL AVENUE

CITY RESERVOIR

ZIMMERMAN FIELD

VILLAGRA AVENUE

CIBOLA AVENUE

QUIVIRA AVENUE

CORONADO AVENUE

EAST ROMA AVENUE

LAS LOMAS ROAD

SIGMA CHI ROAD

CAMPUS BOULEVARD

STUDENT UNION

ADMINISTRATION

PRESIDENT'S HOME

LIBRARY

CARLISLE GYMNASIUM

NORTH UNIVERSITY AVENUE

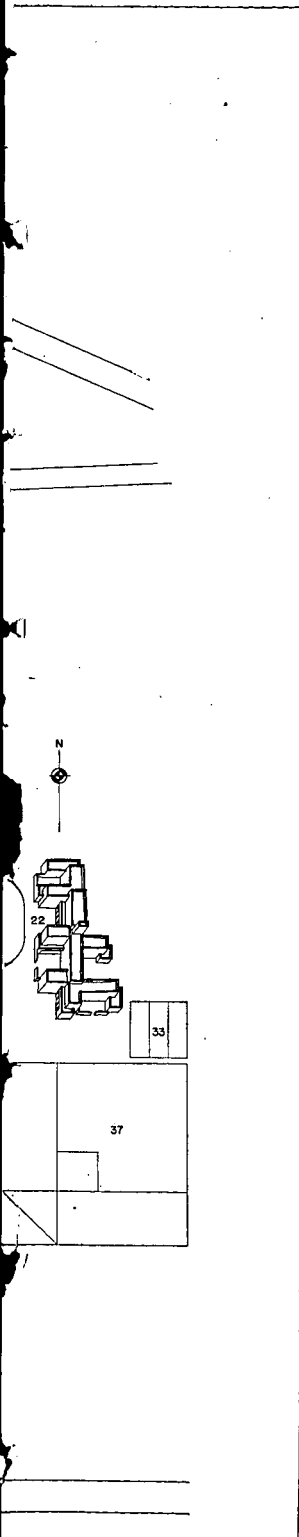
E. GRANDE AVE

N. ASH ST

CAMPUS OF THE UNIVERSITY OF NEW MEXICO

Legend

1. Bandelier Hall (Women's Dormitory)
2. Biology Building
3. Buildings & Grounds (Maintenance Department)
4. Chemical Engineering Building
5. Chemistry Building
6. Civil Engineering Building
7. Clark Hall (Business Research)
8. Dining Hall
9. ~~Electrical Engineering Building~~
10. Fine Arts Building
11. Geology Building
12. Heat Plant
13. Hodgin Hall
14. Hokona-Marron Hall (Women's Dormitory)
15. Industrial Arts Shop
16. Infirmary
17. Inter-American Affairs
18. Journalism Building
19. Law Building
20. Lecture Hall
21. Mechanical Engineering Building
22. Mesa Vista Dormitory (Men's Dormitory)
23. Mitchell Hall (Classrooms)
24. Music Building
25. Parsons Hall
26. Pharmacy Building
27. Physics-Meteoritics Building
28. Police Department
29. Public Health Laboratory
30. Rodey Hall
31. Sara Raynolds Hall (Home Economics)
32. Stadium Building (NROTC)
33. Tennis Courts
34. Yatoka Hall
35. (Old Chemistry Building)
36. Department of Dramatic Art
37. Baseball Diamond
38. Counseling & Testing
- Y-1. AFROTC



CALENDAR OF THE UNIVERSITY

1952	
JANUARY	JULY
S M T W T F S	S M T W T F S
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27 28 29 30 31	27 28 29 30 31
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16 17 18 19 20 21 22	21 22 23 24 25 26 27
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APRIL	OCTOBER
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MAY	NOVEMBER
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	30
JUNE	DECEMBER
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15 16 17 18 19 20 21	14 15 16 17 18 19 20
22 23 24 25 26 27 28	21 22 23 24 25 26 27
29 30	28 29 30 31

SUMMER SESSION, 1952

New Students, Tests and Instructions
 Thursday-Friday, June 5-6
 Registration Saturday, June 7
 Instruction Begins; Late Registration Fee Applies Monday, June 9
 Registration Closes; Last Day for Additions to Programs of Study; Change of Program Fee Applies Saturday, June 14
 End of Second Week; Last Day for Withdrawal from Course without Grade Saturday, June 21
 Independence Day, Holiday Friday, July 4
 Session Ends Saturday, August 2, 10:00 p. m.

FIELD SESSIONS, 1952

ANTHROPOLOGY:
 General Field Session; Advanced Field Session; Field Research Session
 Friday-Saturday, June 6-July 19

ART:
 Taos Field Session
 Saturday-Saturday, June 7-August 2
 Taos Art Craft Session
 Monday-Saturday, August 4-30

SEMESTER I, 1952-53

New students in and around Albuquerque are urged to take tests on Wednesday, September 3, 8:30 a. m., Science Lecture Hall
 Pre-registration Processing (supplies and records) for all A.F.R.O.T.C. Students, both old and new, Building Y-1
 Monday-Thursday, September 8-11
 Assembly for all New Students, Carlisle Gymnasium, 7:30 p. m.
 Monday, September 8
 New Students, Tests and Instructions, Carlisle Gymnasium, 8:00 a. m.
 Tuesday-Wednesday, September 9-10
 Advisement for Freshmen and New Students Thursday, September 11
 Registration Friday, September 12
 Late Registration Fee Applies Saturday, September 13
 Instruction Begins Monday, September 15
 Registration Closes; Last Day for Additions to Programs of Study; Change of Program Fee Applies Saturday, September 27
 End of Fourth Week; Last Day for Withdrawal from Course without Grade Saturday, October 11
 Homecoming, Holiday Saturday, November 1
 Mid-semester Saturday, November 8
 Thanksgiving Recess Begins, 10:00 p. m. Wednesday, November 26
 Classes Resume, 7:00 a. m. Monday, December 1
 End of Twelfth Week; Last Day for Removal of Incomplete Grades Saturday, December 6
 Christmas Recess Begins, 10:00 p. m. Saturday, December 20
 Classes Resume, 7:00 a. m. Monday, January 5
 Closed Week (Pre-examination Week) Monday-Monday, January 12-19
 Semester Final Examinations Monday-Saturday, January 19-24
 Semester Ends, 10:00 p. m. Saturday, January 24

CALENDAR OF THE UNIVERSITY

SEMESTER II, 1952-53

Pre-registration Processing (Supplies and Records) for all A.F.R.O.T.C. Students, both old and new, Building Y-1

Monday-Thursday, January 26-29
Assembly of All New Students, Carlisle
Gymnasium, 7:30 p. m.

Monday, January 26
New Students, Tests and Instructions, Science Lecture Hall. 8:00 a.m.

Tuesday-Wednesday, January 27-28
Advisement for Freshmen and New Students
Thursday, January 29

Registration Friday, January 30
Late Registration Fee Applies

Instruction Begins **Saturday, January 31**
Monday, February 2

Registration Closed; Last Day for Additions to Programs of Study; Change of Program Fee Applies

Saturday, February 14
End of Fourth Week; Last Day for With-
drawal from Course without Grade

Mid-semester Saturday, February 28
Easter Recess Begins 10:00 p. m. Saturday, March 28

Classes Resume 7:00 a. m.

Wednesday, April 8
End of Twelfth Week: Last Day for Re

End of Twelfth Week; Last Day for Removal of Incomplete Grades

	Friday, May 1
Fiesta Holiday	Saturday, May 2
	Sunday, May 3

Honors Assembly Wednesday, May 6
Closed Week (Pre-examination Week)

Wednesday-Tuesday, May 20-26
Semester Final Examinations

Wednesday-Tuesday, May 27-June 2
Semester Ends Tuesday, June 2

-Baccalaureate Service, 7:30 p. m.
Wednesday, June 3

Commencement Exercises, 7:30 p. m.

SUMMER SESSION 1952

SUMMER SESSION, 1953

New Students, Tests and Instructions, Science Lecture Hall, 8:00 a. m.
Thursday-Friday, June 4-5

Registration Saturday, June 6
Instruction Begins: Late Registration Fee

Instruction Begins; Late Registration Fee Applies Monday, June 8
Registration Closes: Last Day for Additions

**Registration Closes; Last Day for Additions
to Programs of Study; Change of Pro-
grams of Study; Transfer of Credits**

gram Fee Applies Saturday, June 13
End of Second Week; Last Day for With-

drawal from Course without Grade
Saturday, June 20

Independence Day, Holiday
Saturday, July 4

Session Ends, 10:00 p. m. Saturday, August 1

Saturday, August 1

1953													
JANUARY							JULY						
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APRIL							OCTOBER						
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31													
JUNE							DECEMBER						
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28	29	30					27	28	29	30	31		

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College of Business Administration

VERNON GUY SORRELL, PH.D.	<i>Dean</i>
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College of Engineering

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EDWARD FRANKLIN CASTETTER, PH.D.	<i>Dean</i>
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College of Law

ALFRED LEROY GAUSEWITZ, LL.M.	<i>Dean</i>
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College of Pharmacy

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Navy R.O.T.C. Unit

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University Press

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BARRY FOX STEVENS *Associate Editor*

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FOR THE ACADEMIC YEAR, 1951-1952

(as of -)

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

KENNETH CHAPMAN, N.A.; Chicago Art Institute; Art Students' League of New York. 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.

* MARION DARGAN, B.A., Wofford College; M.A., Columbia University; PH.D., University of Chicago. Professor Emeritus of History.

* 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.

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

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

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

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

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

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

3 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, Head of the Department of Philosophy.

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

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- CHESTER RAYMOND BROWN, B.S., M.S., Stout Institute. Assistant Professor of Industrial Arts.
- NELSON KENYON BROWN, COLONEL, U.S.M.C.; B.S., United States Naval Academy. Professor of Naval Science, Commanding Officer of the Naval ROTC Unit.
- CARLETON EUGENE BUELL, B.A., Oberlin College; M.A., Ohio State University; PH.D., Washington University. Associate Professor of Mathematics and Astronomy, Assistant Director of the Air Force Meteorological Training Program.

† On leave of absence, 1950-52.

- BAINBRIDGE BUNTING, B.S., University of Illinois. Assistant Professor of Art.
- KARL FREDERICK BURG, Conservatory at Hanover. Instructor in Music.
- LYOYD ROBERT BURLEY, B.ED., Duluth State Teachers College; M.A., PH.D., State University of Iowa. Associate Professor of Physical Education.
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- THOMAS T. CASTONGUAY, B.MET.ENGR., University of Detroit; PH.D., Iowa State College. Professor of Chemical Engineering, Head 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.
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- FRED MARTIN CHREIST, B.A., DePauw University; M.A., Northwestern University. Assistant Professor of Speech.
- § MARJORIE MINER CHRISTIANSEN, B.A., University of New Mexico. Instructor in Home Economics.
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- LENA CECILE CLAUVE, B.A., University of New Mexico; M.A., Teachers College, Columbia University. Dean of Women, Professor of Music Education.
- WOODROW WILSON CLEMENTS, B.A., New Mexico Highlands University; M.A., University of New Mexico. Assistant Professor of Physical Education.
- DOROTHY IRENE CLINE, B.A., University of Michigan; M.A., University of Chicago. Assistant Professor of Government.
- RICHARD HUDSON CLOUGH, B.S., University of New Mexico; M.S., University of Colorado; SC.D., Massachusetts Institute of Technology. Assistant Professor of Civil Engineering.
- RUBEN COBOS, B.A., M.A., University of New Mexico. Assistant Professor of Modern Languages.
- EVERTON ELLSWORTH CONGER, B.A., Montana State University; M.S., Columbia University. Assistant Professor of Journalism.
- PAUL FREDERICK COREY, B.A., Parsons College; J.D., State University of Iowa; B.B.A., University of New Mexico. Instructor in Business Administration.
- §JAMES HILL COWAN, LL.B., George Washington University. Lecturer in Law.
- BONNER M. CRAWFORD, B.A., Central Michigan College of Education; M.A., PH.D., University of Michigan. Associate Professor of Secondary Education.

* Semester I, 1951-52.

§ Semester II, 1951-52.

- MERVYN CROBAUGH, B.A., M.A., PH.D., Stanford University. Associate Professor of Economics.
- NORTON BARR CROWELL, B.S., M.A., Southern Methodist University; M.A., PH.D., Harvard University. Assistant Professor of English.
- WARREN DONALD CURTON, CAPTAIN, 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.
- ROBERT EUGENE DAHNERT, B.MUS., Cincinnati College of Music; M.MUS., Northwestern University. Assistant Professor of Music.
- MARGARET KEIFER DAILEY, B.A., DePauw University; LL.B., University of New Mexico. Supervisor of Legal Aid.
- BRADFORD EVERETT DALTON, CAPTAIN, U.S.A.F.R.; B.S., Tufts College; M.A., University of New Mexico. Assistant Professor of Air Science and Tactics.
- †JOHN A. DAMGAARD, B.A., Colorado College; M.B.A., University of Michigan. Assistant Professor of Business Administration.
- *RICHARD H. DARBEE, B.A., Alma College; M.A., University of Michigan. Instructor in English.
- GUIDO HERMAN DAUB, B.S., M.S., PH.D., University of Wisconsin. Assistant Professor of Chemistry.
- RANDALL DAVEY, N.A. Professor of Art.
- JOHN FRANKLIN DAVIS, B.A., Wabash College; M.S., Stanford University. Instructor in Electrical Engineering.
- **ROBERT MORGAN DAVIS, B.A., Colorado State College of Education. Assistant Professor of Industrial Arts.
- JOHN A. DEAR, B.S., Southwest Texas State Teachers College. Instructor in Physical Education.
- DUDLEY SARGENT DEGROOT, B.A., M.A., ED.D., Stanford University. Professor of Physical Education, Head Football Coach.
- WILLIAM FREDERICK JEKEL DEJONGH, B.A., M.A., University of Michigan; M.A., PH.D., Harvard University. Professor of Modern Languages.
- JOHN WILLIAM DIEFENDORF, B.S. IN ED., Central Missouri State College; M.A., PH.D., University of Missouri. Professor of Secondary Education, Head of the Department of Secondary Education.
- HOWARD J. DITTMER, B.A., M.A., University of New Mexico; PH.D., State University of Iowa. Associate Professor of Biology.
- THOMAS C. DONNELLY, B.A., Marshall College; M.A., PH.D., New York University. Dean of the College of Arts and Sciences and of the General College, Professor of Government.
- ‡RALPH WADDELL DOUGLASS, B.A., Monmouth College; Chicago Art Institute; Julian's Academy (Paris); Art Students' League of New York. Professor of Art.

† On leave of absence, Semester I, 1951-52.

* Semester I, 1951-52.

** On military leave.

‡ On sabbatical leave, Semester II, 1951-52.

- 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.
- JOHN W. DUNBAR, B.S., Indiana State Teachers College; M.S., Detroit Institute of Technology; C.P.A. Associate Professor of Business Administration.
- JULIAN SMITH DUNCAN, B.A., M.A., University of Mississippi; B.D., Emory University; PH.D., Columbia University. Professor of Economics, Head 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.
- 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.
- HELEN HEACOCK ELLIS, B.A., M.A., University of New Mexico; M.A., 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. Assistant Professor of Home Economics.
- WAYNE C. EUBANK, B.S., West Texas State College; M.A., PH.D., Louisiana State University. Professor of Speech, Head of the Department of Speech.
- ROBERT KRICK EVANS, B.A., Allegheny College; M.A., University of New Mexico. Associate Professor of Business Administration.
- 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.
- DONALD ROSS FELLOWS, B.A., M.A., University of Wisconsin. Professor of Business Administration.
- RICHARD LEROY FERM, B.S., M.S., PH.D., University of Kansas. Assistant Professor of Chemical Engineering.
- 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 A. 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. Head of the Department of Mechanical Engineering.

RAYMOND J. 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. Associate Professor of Music.

DAROL KENNETH FROMAN, B.S.C., M.S.C., 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.

ALFRED LEROY GAUSEWITZ, B.A., LL.B., University of Minnesota; LL.M., Stanford University. Dean of the College of Law, Professor of Law.

EZRA WOOLLEY GEDDES, B.S., M.S., Utah State Agricultural College; PH.D., Cornell University. Assistant Professor of Sociology.

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

LOUIS SAMUEL GERBER, B.S., M.B., M.D., University of Minnesota. University Physician, Assistant Professor of Health and Physical Education, Lecturer in Pharmacology.

LEONARD V. GORDON, B.A., University of California at Los Angeles; M.S., PH.D., Ohio State University. Visiting Assistant Professor of Psychology.

*CARL H. GRABO, PH.B., University of Chicago. Visiting Professor of English.

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

ANNA GIBSON GREEN, B.S., University of New Mexico; M.A., Mills College. Instructor in Chemistry.

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

HOWARD JAMES GREENE, COMMANDER, U.S.N.; B.S., United States Naval Academy. Associate Professor of Naval Science, Executive Officer of the Naval ROTC Unit.

†MERCEDES GUGISBERG, B.S., M.S., University of Minnesota. Associate Professor of Physical Education, Head of the Department of Physical Education for Women.

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

KAY REED HAFEN, B.B.A., M.A., University of New Mexico. Instructor in Business Administration.

WILLIAM EDWARD HALL, JR., B.A., University of New Mexico; M.S., Columbia University. Managing Director of the Alumni Association, Instructor in Journalism.

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

* Semester II, 1951-52.

† On sabbatical leave, Semester I, 1951-52.

§ On military leave.

- *ELDRED HARRINGTON, B.S., M.S., University of New Mexico; PH.D., University of Southern California. Instructor in Elementary Education.
- J. E. JACKSON HARRIS, M.D., Yale University. Director of the University Health Service, Associate Professor of Physical Education.
- FRANK C. HEALY, B.S., Massachusetts State College; M.S., University of Illinois. Assistant Professor of Mathematics and Astronomy.
- PAUL WILLIAM HEALY, B.A., B.S., M.S., Ohio State University; PH.D., University of Kentucky. Assistant Professor of Mathematics and Astronomy.
- JOHN JAMES HEIMERICH, B.S., M.S., Kansas State College. Professor of Architectural Engineering, Head 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 and Astronomy.
- FRANK CUMMINGS HIBBEN, B.A., Princeton University; M.S., University of New Mexico; PH.D., Harvard University. Associate Professor of Anthropology, Curator of the Museum of Anthropology.
- RICHARD CHARLES HILDNER, B.S., College of Wooster; M.A., PH.D., Ohio State University. Associate Professor of Mathematics and Astronomy.
- †WILLARD WILLIAMS HILL, B.A., University of California; PH.D., Yale University. Professor of Anthropology, Head of the Department of Anthropology.
- CLARENCE CLAYTON HOFF, B.A., Bradley University; M.S., PH.D., University of Illinois. Associate Professor of Biology.
- †ELSIE SUSAN HOFFMANN, B.S., Colorado Agricultural and Mechanical College; M.A., University of Denver. Assistant Professor of Speech.
- **HERBERT GILLETTE HOOVER, B.S.C.H.E., University of Kansas; M.S.C.H.E., Carnegie Institute of Technology. Assistant Professor of Chemical Engineering.
- §HARVEY SHEELEY HOSHOUR, A.B., LL.D., Gettysburg College; LL.B., University of Minnesota. Professor of Law.
- RALPH OSKAR HUBBE, B.A., Hamilton College; M.A., PH.D., Princeton University. Assistant Professor of Classics.
- WILLIAM HENRY HUBER, JR., B.A., LL.B., Ohio State University. Assistant Professor of Business Administration.
- RICHARD GEORGE HUZARSKI, B.S.C.E., University of Wisconsin. Assistant 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, Acting Director of the Division of Government Research.
- EVA MARGARETA ISRAEL, B.A., University of New Mexico; M.A., Syracuse University. Assistant Professor of Business Administration.
- WILSON HOWARD IVINS, B.A., Western Michigan College of Education; M.A., University of Arizona; ED.D., University of Colorado. Director of the Summer Session, Associate Professor of Secondary Education.

* Semester II, 1951-52.

† On sabbatical leave, Semester II, 1951-52.

† On leave of absence, 1951-52.

** On military leave.

§ Deceased, October 9, 1951.

- 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.
- ERIC RANDOLPH JETTE, B.S., Franklin and Marshall College; M.A., PH.D., Columbia University. Consulting Professor of Chemistry.
- GEORGE HAROLD JOHNSON, B.A., M.S., PH.D., Syracuse University. Assistant Professor of Psychology.
- LEIGHTON HENRY JOHNSON, B.A., M.A., PH.D., University of California. Assistant Professor of School Administration.
- 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, Head 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 and of the Point Four Program, Professor of Government.
- CHARLES BURNET JUDAH, B.A., M.A., PH.D., University of Illinois. Professor of Government.
- MILTON KAHN, B.S., University of California; PH.D., Washington University. Assistant Professor of Chemistry.
- ARTHUR KURTZ KEEVIL, LIEUTENANT, U.S.N.; B.S., United States Naval Academy. Assistant Professor of Naval Science.
- 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; Certificate, 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. Instructor in English, Chairman of English and Orientation in the Point Four Program.

ESTHER E. KNIGHT, B.S., Colorado Agricultural and Mechanical College; M.S., Iowa State College. Assistant Professor of Home Economics.

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

DAVID GEORGE KROFT, B.A., Bowling Green State University; M.A., Washington University. Instructor in English.

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

JOSEPH MARSHALL KUNTZ, B.A., M.A., University of New Mexico. Assistant Professor of English.

JUANITA SMITH KYTLE, B.A., M.A., University of Oklahoma. Instructor in English.

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, Head of the Department of Mathematics and Astronomy, Director of the Institute of Meteoritics.

KENNETH LASH, B.A., Yale University; M.A., University of New Mexico. Instructor in English, Editor of the *New Mexico Quarterly*.

STEPHANIE ORTH LOMBARDI, B.A., University of Kansas City; M.A., University of California at Los Angeles; PH.D., University of California. Assistant Professor of Modern Languages.

JOHN EDWARD LONGHURST, B.A., State College of Washington; M.A., Syracuse University; M.A., PH.D., University of Michigan. Assistant 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. Instructor in English, Consultant in the Point Four Program.

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

BARBARA MCCAIN MARTIN, B.S., State University of Iowa; M.A., New York University. Instructor in Physical Education.

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

LUELLA HEIMERDINGER MARTIN, B.A., Luther College; A.M.L.S., University of Michigan. Instructor in Library Science, Cataloger in the University Library.

THOMAS LYLE MARTIN, JR., B.E.E., M.E.E., Rensselaer Polytechnic Institute; PH.D., Stanford University. Associate Professor of Electrical Engineering.

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, Head of the Department of Art Education.

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

† On sabbatical leave, Semester II, 1951-52.

- JAMES H. MCBATH, B.S., M.A., PH.D., Northwestern University. Assistant Professor of Speech.
- KATHLEEN MCCANN, B.ED., Southern Illinois University; M.A., State University of Iowa; ED.D., Teachers College, Columbia University. Assistant Professor of Elementary Education, Acting Head of the Department of Elementary Education.
- JAMES ETHERIDGE 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. Associate Professor of Modern Languages.
- *VIRGINIA McMANUS, B.A., University of New Mexico; M.S., Northwestern University. Instructor in Music Education.
- HOWARD JOHNSTONE McMURRAY, B.A., M.A., PH.D., University of Wisconsin. Professor of Government, Head of the Department of Government.
- 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, Head of the Department of Music.
- JAMES HULL MILLER, B.A., Princeton University. Assistant Professor of Dramatic Art.
- MAMIE TANQUIST MILLER, B.A., Hamline University; M.A., University of Minnesota; PH.D., University of Southern California. Associate Professor of Sociology.
- GLADYS ELIZABETH MILLIKEN, B.A., Bates College; M.A., New York University. Assistant Professor of Physical Education.
- MERLE MITCHELL, B.A., Southern Methodist University; M.A., University of New Mexico. Instructor in Mathematics and Astronomy.
- ENRIQUE MONTENEGRO, B.A., University of Florida. Instructor in Art.
- ROBERT ELSWORTH MONTGOMERY, B.S., Grove City College; M.S., University of Illinois. Instructor in Mathematics and Astronomy.
- PERRY T. MORI, B.S., B.A., M.B.A., Northwestern University. Instructor in 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 School Administration, Head of the Department of School Administration.
- †MARSHALL RUTHERFORD NASON, B.A., M.A., Louisiana State University. Assistant Professor of Modern Languages.
- STANLEY NEWMAN, PH.B., M.A., University of Chicago; PH.D., Yale University. Associate Professor of Anthropology.

* Semester I, 1951-52.

† On leave of absence, 1951-52.

- 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, Head of the Department of Geology, Curator of the Geology Museum.
- JOAQUÍN ORTEGA, M.A., University of Wisconsin; LITT.D., University of New Mexico. Professor of Modern Languages.
- WILLIAM JACKSON PARISH, PH.B., Brown University; M.B.A., D.C.S.; Harvard University. Associate Professor of Business Administration.
- JOHN LOWE PARKER, COLONEL, U.S.A.F.; B.S., University of Illinois. Professor of Air Science and Tactics, Commanding Officer of the Air Force ROTC Unit.
- † 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, Head of the Department of Psychology.
- GEORGE THOMAS PETROL, B.S., Albright College; M.A., University of New Mexico. Assistant Professor of Physical Education.
- ARIE WILLIAM POLDERVAART, B.A., Coe College; M.A., State University of Iowa. Law Librarian, Associate Professor of Law.
- JOHN WESLEY POORE, B.S., M.S., University of Tennessee. Assistant Professor of Art.
- DOROTHEA POWERS, B.A., M.A., Boston University. Instructor in Modern Languages.
- ANTHONY JOSEPH RADOSEVICH, B.S. IN M.E., B.S. IN C.E., University of New Mexico. Instructor in Civil Engineering.
- KEEN RAFFERTY, B.A., University of New Mexico. Associate Professor of Journalism, Head of the Department of Journalism.
- 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*.
- * FLOYD WESLEY REEVES, B.S., Huron College; M.A., PH.D., University of Chicago. Visiting Professor of Education.
- VICTOR H. REGENER, DR.-ING., Technische Hochschule, Stuttgart. Professor of Physics, Head of the Department of Physics, Director of the Air Force Meteorological Training Program.
- JESSE TAYLOR REID, B.A., Howard Payne College; M.A., Baylor University; ED.D., Teachers College, Columbia University. Director of the Division of Extension and Adult Education, Professor of Education.
- ‡ JOHN CECIL REIFF, B.S.E.E., University of Oklahoma; M.S., Oklahoma Agricultural and Mechanical College. Instructor in Electrical Engineering.
- * FREDERICK REINES, M.E., M.S., Stevens Institute of Technology; PH.D., New York University. Lecturer in Physics.

† On sabbatical leave, Semester II, 1951-52.

* Semester II, 1951-52.

‡ On military leave.

- PAUL REITER, B.A., M.A., University of New Mexico; M.A., PH.D., Harvard University. Associate Professor of Anthropology, Director of Anthropology Field Sessions.
- VIRGINIA REVA, B.A., St. Mary's College, Notre Dame; M.A., University of Michigan. Assistant Professor of Business Administration.
- ALLAN RENE RICHARDS, B.A., M.A., University of Colorado; PH.D., University of North Carolina. Assistant Professor of Government.
- *ROBERT D. RICHTMYER, B.A., M.A., Cornell University; PH.D., Massachusetts Institute of Technology. Lecturer in Physics.
- JESSE LEROY RIEBSOMER, B.A., DePauw University; PH.D., Cornell University. Professor of Chemistry, Head of the Department of Chemistry.
- HAROLD ORVILLE RIED, B.A., Nebraska Wesleyan University; M.A., PH.D., University of Nebraska. Assistant Dean of the College of Arts and Sciences and of the General College, Associate Professor of Speech.
- 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 and Astronomy.
- RICHARD JOHN RUNGE, B.S., University of Chicago; M.S., PH.D., University of New Mexico. Assistant Professor of Physics.
- †WILLIAM BARTON RUNGE, B.S., M.ED., Colorado Agricultural and Mechanical College. Assistant Professor of Distributive Education.
- JOSIAH COX RUSSELL, B.A., Earlham College; M.A., PH.D., Harvard University. Professor of History, Head of the Department of History.
- BENJAMIN SACKS, B.A., University of New Mexico; M.A., McGill University; PH.D., Stanford University. Professor of History.
- †LYLE SAUNDERS, B.A., M.A., University of New Mexico. Assistant Professor of Sociology.
- 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.
- 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.
- FLORENCE HALL SENDER, B.A., Franklin College; M.A., Northwestern University. Assistant Professor of Modern Languages.

* Semester I, 1951-52.

‡ On leave of absence, Semester II, 1951-52.

† On leave of absence, 1951-52.

- RAMÓN JOSÉ SENDER, B.A., Instituto de Zaragoza; Lic. en Filosofía y Letras, Universidad Central de Madrid. Professor of Modern Languages.
- KATHERINE GAUSS SIMONS, B.A., Grinnell College; M.A., Columbia University. Associate Professor of English, Administrative Assistant in the Graduate School.
- ELIZABETH PARKINSON SIMPSON, B.S., University of New Mexico; M.S., Iowa State College. Professor of Home Economics, Head of the Department of Home Economics.
- 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.
- VIRGINIA BISHOP SLOAN, B.A., M.A., PH.D., University of Texas. Assistant Professor of Economics.
- 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.
- SHERMAN EVERETT SMITH, B.S., South Dakota School of Mines and Technology; PH.D., Ohio State University. Director of Student Affairs, Professor of Chemistry.
- ROBERT EDWIN SNAPP, B.A., M.A., University of New Mexico; M.F.A., Yale University. Professor of Dramatic Art, Head 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*.
- STANLEY LESLIE STANCZYK, LIEUTENANT COMMANDER, U.S.N.; B.A., Columbia University. Assistant Professor of Naval Science.
- CARSTEN CONOVER STEFFENS, B.A., Syracuse University; PH.D., California Institute of Technology. Associate Professor of Chemistry.
- CHARLES E. STONEKING, B.A., Denison University; M.ED., University of Cincinnati; B.E., University of Toledo. Associate Professor of Architectural Engineering.
- RICHARD EARL STRAHLEM, B.S., M.S., Indiana University; C.P.A. Comptroller of the University, Professor of Business Administration.

** Semester II, 1951-52.

- 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, Head of the Department of Electrical Engineering.
- *N. G. TATE, B.A., New Mexico Highlands University; M.A., University of New Mexico; PH.D., University of Southern California. Instructor in Secondary Education.
- 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.
- RUTH ELLEN TATUM, B.S., Southwestern Louisiana Institute; M.S., Texas Technological College. Instructor in Home Economics.
- ERNEST WARNOCK TEDLOCK, JR., B.A., M.A., University of Missouri; PH.D., University of Southern California. Assistant Professor of English.
- ROY THOMAS, B.S.C., University of Alberta; PH.D., University of California. Associate Professor of Physics.
- *LOYD SPENCER TIREMAN, B.A., Upper Iowa University; M.A., PH.D., State University of Iowa. Professor of Elementary Education, Head of the Department of Elementary Education.
- EDWIN TODD, B.A., Park College; M.A., State University of Iowa. Assistant Professor of Art.
- SABINE ULIBARRI, B.A., M.A., University of New Mexico. Instructor in Modern Languages.
- †ROBERT FELLOWS UTTER, B.A., PH.D., University of California at Los Angeles. Assistant Professor of Psychology.
- DAVID AMES VAN EVERA, LIEUTENANT COLONEL, U.S.M.C.; B.A., University of California. Assistant Professor of Naval Science.
- WILLIAM CHAUNCEY WAGNER, B.S. IN C.E., South Dakota School of Mines; M.S. IN C.E., Iowa State College. Professor of Civil Engineering, Head 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, Head of the Department of Sociology.
- CHARLOTTE ANDERSON WARREN, Diploma, Augustana Conservatory; American Conservatory. Instructor in Music.
- ELIZABETH WATERS, Hanya Holm School, New York City; student of the dance with Ruth St. Denis. Instructor in Physical Education.
- HENRY P. WEIHOFEN, PH.B., J.D., J.S.D., University of Chicago. Professor of Law.
- PHILIP WEINBERG, B.S.E.E., University of Denver; M.S.E.E., Stanford University. Instructor in Electrical Engineering.
- SHERMAN ALEXANDER WENGERD, B.A., College of Wooster; M.A., PH.D., Harvard University. Associate Professor of Geology.
- GEORGE WALTER WHITE, B.A., University of New Mexico. Assistant Dean of the

* Semester II, 1951-52.

* On leave of absence, 1951-53.

† On leave of absence, 1951-52.

College of Education, Professor of Education, Head of the Division of Physical Education and Health.

CECIL VIVIAN WICKER, B.A., M.A., University of Michigan; PH.D., University of Pittsburgh. Professor of English.

NATHANIEL TAYLOR WILLIAMS, JR., LIEUTENANT, U.S.N.; B.A., Milligan College. Assistant Professor of Naval Science.

NATHANIEL WOLLMAN, B.A., Pennsylvania State College; PH.D., Princeton University. Associate Professor of Economics.

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

JOSEPH EUGENE YELL, JR., B.F.A., M.F.A., Art Institute of Chicago. Assistant Professor of Dramatic Art.

*EUGENE MILTON ZWOYER, B.S. IN C.E., University of New Mexico; M.S. IN C.E., Illinois Institute of Technology. Assistant Professor of Civil Engineering.

LIBRARY STAFF

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†WARREN B. KUHN, B.A., New York University; M.S., Columbia University. Circulation Librarian.

WILLIAM HOUSTON LOWRY, B.A., University of Michigan; M.S. IN L.S., Western Reserve University. Cataloger.

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† On military leave.

* On leave of absence, 1951-52.

TEACHING ASSISTANTS

MARY ELIZABETH BROOKS, B.S., Purdue University; M.A., University of New Mexico. Department of Modern Languages.

RONALD CLOTHIER, B.A., Fresno State College; M.A., Montana State University. Department of Biology.

*BEN L. COLLINS, B.A., University of California; M.A., University of Connecticut. Department of English.

CHARLES HARLAN, B.S., Northwestern University; M.S., Western Reserve University. Department of Biology.

DONALD WARREN HERBERHOLZ, B.A., Michigan State College. Department of Art Education.

PETER LUNARDINI, B.A., M.A., University of New Mexico. Department of Modern Languages.

EDITH ANDERSON PETERSON, B.A., London University. Department of English.

GRADUATE ASSISTANTS

**JULES LOUIS ADELFGANG, B.S., University of New Mexico. Department of Chemistry.

PATRICIA ANN AINSWORTH, B.A., University of New Mexico. Department of Psychology.

DIANE LEE ALLER, B.F.A., University of New Mexico. Department of Art.

ELBERT GLEN BARNHART, B.A., Abilene Christian College. Department of Speech.

DARL LAMAR BECKHAM, B.S., Anderson College. Department of Business Administration.

**BYRON L. BEDDO, B.S., University of New Mexico. Department of Psychology.

HARRY VICTOR BERG, B.A., University of Michigan. Department of Secondary Education.

RICHARD ARTHUR BITTMAN, B.A., University of New Mexico. Department of Economics.

LOWELL ELDON BOGART, B.A., College of Wooster. Department of Geology.

ROBERT LEWIS BORTON, B.S., University of New Mexico. Department of Geology.

GERALD JOSEPH BOYLE, B.A., Colorado College. Department of Economics.

GEORGE DELBERT BRUNTON, B.S., University of Nevada. Department of Geology.

ROBERT EDWIN BURKHALTER, B.A., Pacific University. Department of Speech.

HUGH PEARCE BUSHNELL, B.S., University of New Mexico. Department of Geology.

**CLARENCE ERNEST BUTZ, B.S., University of New Mexico. Department of Civil Engineering.

*JOSEPH LEONARD COMP, B.A., Simpson College. Department of Chemistry.

DOUGLAS DERWOOD CRAFT, B.F.A., School of the Art Institute of Chicago. Department of Art.

* Semester I, 1951-52.

** Semester II, 1951-52.

- GREGORY WILLIAM DAUES, B.S., St. Louis University. Department of Chemistry.
- *ROBERT E. DEWHURST, B.A., Wagner College, Department of Government.
- PHYLLIS GILMAN DIEBENKORN, B.S., University of New Mexico. Department of Psychology.
- McLANE DOWNING, B.A., Reed College. Department of Physics.
- *GLENROY EMMONS, B.A., Louisiana Polytechnic Institute; M.A., Tulane University. Department of Modern Languages.
- FLORENTINO GARZA, B.A., University of New Mexico. Department of History.
- JOHN PATRICK GAVAHAN, B.A., University of New Mexico. Department of Anthropology.
- RICHARD JULIUS GOEHRING, B.S., Northwestern University. Department of Business Administration.
- ALBERT GOODMAN, B.S., College of the City of New York. Department of Physics.
- *DOROTHY ELLEN HAMILTON, B.S., Northwestern State College. Department of Elementary Education.
- *LAUREN CLEVELAND HARPER, B.F.A., University of New Mexico. Department of Art Education.
- PAUL CLIFFORD HASSLER, B.S., Grove City College. Department of Civil Engineering.
- RICHARD EDWARD HILBERT, B.A., University of New Mexico. Department of Sociology.
- *ROBERT HAMILTON HUMPHREYS, B.A., University of Texas. Department of Anthropology.
- RODERICK HARTIGH JELLEMA, B.A., Calvin College. Department of Philosophy.
- MARION MURDOCK KELLEY, B.A., Brown University; M.A., Columbia University. Department of History.
- JAMES FRANCIS KENNEY, B.S., Union College. Department of Physics.
- GERALD JEAN KLEINFELD, B.A., University of New Mexico. Department of Psychology.
- *NORMAN LEROY KNUDSEN, B.A., University of Omaha. Department of Chemistry.
- MIRIAM LANDEW, B.A., New Jersey State Teachers College at Montclair. Department of Biology.
- *JEROME LEVY, B.A., University of New Mexico. Department of Psychology.
- SHEPHARD LIVERANT, B.S., University of New Mexico. Department of Psychology.
- CHARLES LORAIN LONG, B.S., Kansas State Teachers College at Pittsburg. Department of Speech.
- PAUL F. LUENOW, JR., B.A., M.A., University of Washington. Department of Modern Languages.
- **HOWARD STANLEY MACLAY, B.A., University of Chicago. Department of Anthropology.
- **WARREN H. MANTOOTH, B.A., Texas College. Department of Elementary Education.

* Semester I, 1951-52.

** Semester II, 1951-52.

- TONY ARTURO MARTINEZ, B.A., University of New Mexico. School of Inter-American Affairs.
- CHARLES WILLIAM MATLACK, B.A., Haverford College; M.A., Middlebury College. Department of Modern Languages.
- CHARLES HENRY MAXWELL, B.S., University of New Mexico. Department of Geology.
- ALAN HAMILTON MCKERROW, B.F.A., University of New Mexico. Department of Music.
- WILLIAM ASHLEY MCQUEEN, B.A., Vanderbilt University. Department of English.
- MERCEDES MERNER, B.S., M.S., University of New Mexico. Department of Physics.
- *MEDARD THOMAS MITCHELL, B.A., University of New Mexico. Department of Sociology.
- FREDERICK MARTIN MYERS, B.A., Indiana University. Department of School Administration.
- JAMES VERNON NEELY, B.S., University of New Mexico. Department of Mechanical Engineering.
- HENRY GEORGE NOWAK, B.S., Canisius College; M.S., University of Houston. Department of Chemistry.
- MYRON GUSTAV OCHSHORN, B.A., New School for Social Research. Department of English.
- RAYMOND HERBERT OPPERMAN, B.S., University of New Mexico. Department of Physics.
- DWAIN WILLIAM PARRACK, B.A., Texas Technological College. Department of Biology.
- *JAMES WINTON PATTON, B.S., University of New Mexico. Department of Chemistry.
- **PATRICIA VERONICA PETERSEN, B.A., College of St. Francis. Department of Modern Languages.
- WILLIAM PROCACCI, B.A., Gettysburg College. Department of Government.
- *ELMO LEE PURLEE, B.S., Ball State Teachers College. Department of Chemistry.
- DONALD RICHARD RICHMOND, B.A., New Jersey State Teachers College at Montclair. Department of Biology.
- ANNE MARGARET RILEY, B.A., M.A., University of New Mexico. Department of History.
- JAMES McDONALD ROMINGER, B.S., Eastern Illinois State College. Department of Biology.
- NICHOLAS DOUGLAS SIMON, B.A., University of New Mexico. Department of Government.
- GEORGE ARTHUR SMALL, B.A., University of New Mexico. Department of English.
- LYMAN FRANCIS SMART, B.A., Idaho State College. Department of English.
- ALFRED HUMPHREY SPANO, B.S., Queens College. Department of Physics.

* Semester I, 1951-52.

** Semester II, 1951-52.

- **NORMA JEANNINE STAFFORD, B.A., University of New Mexico. Department of Government.
- JACK EDWARD TOMLINS, B.A., University of New Mexico. Department of Modern Languages.
- JAMES FRANCIS TRIBBY, B.S., Indiana University; M.S., University of New Mexico. Department of Physics.
- **MARY MERCER WHITE, B.A., Sarah Lawrence College. Department of Art Education.
- WILLIAM RICHARD WIDNER, B.A., Eastern New Mexico College; M.S., University of New Mexico. Department of Biology.
- **ROBERT EDWARD WILLIAMS, B.A., DePauw University. Department of Chemistry.
- ROSCOE HALL WILMETH, JR., B.A., University of New Mexico. Department of Anthropology.

AIR FORCE METEOROLOGICAL TRAINING PROGRAM

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

JOHN G. BREILAND, B.A., Luther College; M.S., State University of Iowa. Assistant Professor of Physics, Assistant Director.

CARLETON EUGENE BUELL, B.A., Oberlin College; M.A., Ohio State University, PH.D., Washington University. Associate Professor of Mathematics and Astronomy, Assistant Director.

BRUCE B. CLARK, CAPTAIN, U.S.A.F.; B.S., University of New Mexico; M.A., Oberlin College. Commanding Officer.

DALE L. HARRINGTON, LIEUTENANT, U.S.A.F. Adjutant.

WILLIAM ARNOLD BOLAND, B.S., University of Michigan. Lecturer in Meteorology.

FRANCIS NORBERT BUCK, B.S. IN ED., Missouri State College. Lecturer in Meteorology, Administrative Assistant.

MARSHALL S. CROFT, B.S., Sul Ross State Teachers College. Lecturer in Meteorology.

EUGENE MERRILL DARLING, JR., B.A., Harvard University. Lecturer in Meteorology.

DONALD ROBERT DICKSON, B.S., M.S., University of Utah. Lecturer in Meteorology.

BERNARD C. DRESCHER, B.S., University of California. Lecturer in Meteorology.

THOMAS EDWARD HOFFER, B.S., M.S., University of Utah. Lecturer in Meteorology.

JOSEPH LEVINE, B.A., Harvard University; M.S., Massachusetts Institute of Technology. Lecturer in Meteorology.

HAROLD STUART PORTER, B.A., M.A., University of Southern California. Lecturer in Meteorology.

** Semester II, 1951-52.

GEORGE ROBERT TENERY, B.S., University of New Mexico. Lecturer in Meteorology.

JOHN R. ZIMMERMAN, B.S., College of the City of New York. Lecturer in Meteorology.

POINT FOUR INTENSIVE ENGLISH AND ORIENTATION PROGRAM

MIGUEL JORRÍN, B.A., Colegio "De la Salle"; DR. PUB. AND CIV. LAW, Universidad de la Habana. Director of the School of Inter-American Affairs and of the Point Four Program, Professor of Government.

JANE KLUCKHOHN, B.A., University of Wisconsin; M.A., University of New Mexico. Instructor in English, Chairman of English and Orientation in the Point Four Program.

WILLIAM TODD DAWKINS, B.A., Franklin and Marshall College; M.A., University of Pennsylvania. Instructor in English in the Point Four Program.

EDWARD GEORGE LUEDERS, B.A., Hanover College; M.A., Northwestern University. Instructor in English, Consultant in the Point Four Program.

GENERAL INFORMATION

THE PURPOSE of higher education and of the University of New Mexico is the preparation of youth in body and mind for useful, intelligent, and noble living in a world which seeks as its ultimate goal the dignity and freedom of mankind. Through the media of instruction, research, and original investigation, the University endeavors to place the resources of higher education of the state at the disposal of its citizens.

ACCREDITING

The University has been a member of the North Central Association of Colleges and Secondary Schools since 1922. 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. The College of Law was provisionally 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 100,000 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-three 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 45 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 and Extension Division, 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 Governmental 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. 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.

CAMPUS AND BUILDINGS

The campus of the University of New Mexico is in the eastern section of the city of Albuquerque. It covers over 400 acres, landscaped with grass, giant cottonwoods, elms, and mountain evergreens. The 45 permanent buildings all follow the University's unusual architectural style—low spreading structures adapted from the Pueblo Indian adobe dwellings, featuring buttressed corners, patios, peeled log balconies, vigas, and flagstone walks. Within easy walking distance of the campus center of administrative and classroom buildings are the dormitories, an excellent 27-hole golf course, swimming pool, tennis courts, campus theatre, faculty residences, and sorority and fraternity houses.

The buildings include: Hodgin Hall, housing the College of Education; Yatoka Hall (College of Business Administration and College of Law); the old Maintenance Shop; residential halls: Hokona, Marron, Bandelier, and Mesa Vista; Rodey Hall (the campus theatre); Music Building; Chemistry Building; Hadley Hall (engineering); Sara Raynolds Hall (home economics); Counseling and Testing Building; Fine Arts Building; Parsons Hall (biology); Lecture Hall; Carlisle Gymnasium; President's home; Dining Hall; Stadium Building (housing also the Naval ROTC); Administration Building; State Public Health Laboratory; Student Union Building; Mechanical Engineering Building; Central Heating Plant; the Library; Inter-American Affairs Building; Aeronautical Laboratory; Pharmacy Building; Chemical Engineering Building; Civil Engineering Building; new Maintenance Warehouse; Clark Hall (Bureau of Business Research); faculty apartments; Journalism Building; Mitchell Hall (classroom building); Infirmary; and several temporary structures housing a U. S. Branch Post Office, the Air-Force ROTC, classrooms, laboratories, and offices.

New structures now being completed include the College of Law building, new Chemistry building, a new Biology building, and a Physics-Meteoritics building. A Geology building is under construction.

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 193,949 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 26,875 volumes and is being augmented by approximately 250 volumes each month. The library includes comprehensive collections of British, Federal and state court reports, including special and annotated series, session laws, current state and Federal statutes, legal treatises, periodicals, encyclopedias and digests, administrative reports, and other classes of legal materials.

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 Fridays; from 8:00 a.m. to 5:00 p.m., Saturdays; and Sundays, from 1:30 to 5:30 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 such as the Print Makers of New Mexico, the Faculty exhibition, and the 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

(Administration 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 and sedimentary rocks. Other notable features are a type collection of New Mexico meteorites, an exhibit illustrating how fossils are preserved, displays of strategic minerals and of polished ores, and an unusually fine fluorescence-phosphorescence exhibit.

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 an exceptionally fine collection of phonograph recordings consisting of well over 250 albums in addition to 1658 twelve-inch discs in the Carnegie and Columbia collections. 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.

RESEARCH ACTIVITIES

THE BUREAU OF BUSINESS RESEARCH

Ralph L. Edgel, Associate Professor of Business Administration, Director; Alan D. Carey, Assistant Professor of Business Administration, Statistician; Robert G. Conway, Research Associate.

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: Thomas T. Castonguay, Professor of Chemical Engineering, Chairman; Raymond N. Castle, Associate Professor of Pharmaceutical Chemistry; G. H. Daub, Assistant Professor of Chemistry; R. L. Edgel, Director of Bureau of Business Research (ex-officio); Richard E. Strahlem, Comptroller; W. C. Wagner, Head of the Department 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 of 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 coordinate research activities involving more than one department when such coordination 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 Government Department, 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 full-

ness 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 thirty 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, Pentagon 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 Adelaide, 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 Institute 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 météors, 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 systematic use of instrumental surveys and by arousing in the general public critical interest in these bodies which fall so remote from one another in time and space that a necessary prerequisite for their recovery is a widely distributed multitude of interested and instructed voluntary observers; to provide means for the preservation, the public exhibition *without charge*, and the intensive scientific study of both meteorites and terrestrial materials, metamorphosed by meteoritic impact; to enable nuclear physicists, ballisticians, aerodynamisticians, and other investigators engaged in research of value to the development of meteoritics to secure *without cost* meteoritical specimens in such amounts as they may require for experimental purposes, thus enabling scientists to escape from a state of affairs which has led two prominent mineralogists to complain that "Meteorites are held at such an artificially high value by dealers and collectors as to make it difficult to secure any large quantity of any fall"; to advance not only such *pure* sciences as meteorics, but also to stimulate the use of 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.

Pending construction of permanent quarters, the Institute of Meteoritics has been assigned temporary quarters in Building T-10. In addition to offices for the staff of the Institute, these quarters provide 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 dark-room with complete Leica equipment for photo-micrography 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 sub-region 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 coöperat-

ing with such military organizations as the Air Technical Service Command, the Operations Analysis Division and the Research and Development Board, 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 testing and installing instrumental equipment for use in teaching observational and navigational astronomy and is collaborating with the Department of Mathematics and Astronomy in the development of courses in astronomy and meteoritics.

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

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 are exempt from a part of the course, depending upon their previous training. Students may select one of four Career Training Options depending upon the academic curriculum being pursued. In general, students in all colleges may select the Flight Operations Option which is preparatory for later air-crew training in commissioned grade. The Administration and Logistics Option prefers a specialization in Business Administration, but students in any baccalaureate degree program are accepted. The Communications and General Technical Options require appropriate technical academic courses. Upon completion of the Air Force ROTC course, cadets are commissioned as second lieutenants in the Air Force Reserve. Students retain their civilian status during their training and while they are commissioned in the Air Force Reserve, unless they elect to go on active duty, or are called to active duty in the event of a national emergency. 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 Navy or Marine Corps, provided they so request and the Navy Department approves.

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. The City operates a public beach and a winter sports area, the latter in coöperation with the U. S. Forest Service.

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 the previous regular semester is required to file an application for readmission. 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 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 certain non-credit courses designed to correct such weaknesses.

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

ADMISSION BY CERTIFICATE

High schools accredited by regional accrediting associations, state departments of education, or state universities are accredited 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), such units to be distributed as outlined in the following paragraphs. 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.

Section I. Basic Requirements—7 units:

English—3 units

Social Studies—1 unit U. S. History

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 majoring in Mathematics, Physics, Chemistry, Geology, Premedic or Pre dental 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. (See Removal of Entrance Deficiencies, p. 46.)

Section II. Restricted Electives—4 units must be elected from the groups A-F below with no more than 2 units accepted from Group F:

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

Group F.—Home Economics, Agriculture

Section III. Free Electives—4 units:

Any units accepted towards graduation from accredited high schools may be used as free electives.

NOTE: In the admission of graduates of senior high schools, no attention will be paid to work done in the junior high school except as that work is related to the requirements of Section I and Section II.

The case of any student applying for admission with less than a C average in his previous academic work 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 the written recommendation of his principal or superintendent.

ADMISSION WITH ENTRANCE DEFICIENCIES

If a student has been graduated from an accredited high school but does not meet all the entrance requirements as outlined above, he may be admitted to the University upon specific agreement to remove his deficiencies within twelve months from the date of his first enrollment.

Graduates of unaccredited or partially accredited high schools are expected, prior to registration, to take the University high school level entrance examinations. The student who successfully passes these examinations will be considered to have validated the unaccredited high school record, except that any subject deficiencies must be removed according to the regulations outlined below under "Removal of Entrance Deficiencies."

REMOVAL OF ENTRANCE DEFICIENCIES

Students may make up deficiencies in entrance requirements:

- (1) by establishing high school credits in the courses concerned;
- (2) by counting part of the work done during their first year in college toward entrance requirements;
- (3) by meeting such equivalency requirements as the Committee on Entrance and Credits may designate in each individual case.

If a deficiency is removed by college credit, such credit must be earned in the field in which the deficiency occurs. Three semester hours count as one unit for all entrance deficiencies except those in Laboratory Sciences in which 4 semester hours will be required for one unit. Course credit counted towards entrance requirements is not accepted towards a degree in the University.

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 reenter there.

(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 case of any student applying for admission with less than a C average in his previous academic work 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.

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. If, during

his absence from the University, he has attended another collegiate institution, or has taken college level courses by correspondence or extension, complete official transcripts of such studies are required. No evaluation fee is required of students who have formerly attended the University in regular status.

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

SPECIAL STUDENTS

Persons over twenty-one years of age who cannot meet the regular entrance requirements may be admitted as special students, provided they secure the permission of the instructors whose work they desire to take and the approval of the Dean of the college concerned. Students over 21 who do not wish to work toward degrees at the University of New Mexico may also be admitted as special students under the same conditions, provided they are not under scholarship suspension from any other college or university. Applicants coming direct from high school will not be permitted to enter as special students. By virtue of his classification, the special student is not eligible for any degree, but may become a candidate ultimately by clearing his admission status to the satisfaction of the Committee on Entrance and Credits. (See Removal of Entrance Deficiencies.)

The student entering as a special should make application on the University's application for admission form. If he intends to establish regular status here, he should present official transcripts of any high school or college credit which he may have earned previously. *He may retain the classification of special student until he has accumulated 30 semester hours, after which he must declare himself, in writing, as a degree candidate, or a continuing special student. In the first case, he must attain regular status prior to his next registration; in the second, he will be allowed to register in courses as an auditor only, receiving no credit.*

UNCLASSIFIED STUDENTS

Students transferring from unaccredited or partially accredited institutions are unclassified until they have validated credit in accordance with the University regulations. Students who are temporarily absent during a regular semester from other institutions are also registered as unclassified. In such cases statements of honorable dismissal, including scholastic status and classification, are required from the last institutions attended.

AUDITORS

Mature students may attend classes as auditors, without credit, with the permission of the instructors concerned and of the Dean of

the college in which most of the audited courses lie. Auditors are required to pay fees at the same rate as if enrolled for credit. They must, upon registration, declare themselves as auditors and may not change to a credit basis after the first two weeks of the semester. A student enrolled for credit in a course may not change to an auditing basis in the same course after the first two weeks of the semester.

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.

GRADUATE STUDENTS

Refer to "Graduate School."

LAW STUDENTS

Refer to "College of Law."

EVENING CREDIT STUDENTS

NON-DEGREE STATUS. A high school graduate, or a mature student 21 years of age or more, may register for evening credit courses at the undergraduate level in non-degree status. In this status, the student is not required to file a formal application for admission to the University. He is, however, subject to all University regulations governing registration, attendance and academic standing. Credit earned in non-degree status is recorded on the student's permanent academic record and may be applied in a degree program when the student has satisfactorily established regular status by meeting all the entrance requirements of the University.

DEGREE STATUS. An evening credit student working toward a degree in this University should follow the procedures outlined in this catalog for regular admission.

GRADUATE STUDENTS. Evening credit students desiring to study at the graduate level are referred to the *Graduate Bulletin* for regulations regarding admission.

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 on the days of registration.

FEE PAYMENTS

Registration fees, or the first installment thereof, 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, or initial installment, in advance of registration. New or re-admitted 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.

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."

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 reexamined 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 can be paid in full at the time of registration or they can be paid in four installments per semester, as follows:

Installments

- a. Students who elect to pay their fees or room and board on the installment basis will be charged a \$2.00 deferred payment fee, per semester.
- b. 30% (or more) of fees or room and board may be paid at registration time and the remaining charges may be paid in equal installments (or better) on or before the 15th of each of the three succeeding months in any semester.

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 of \$10.00 (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*	\$ 91.50
Activities fee ¹	8.50
<hr/>	
Total <i>resident</i> registration fees	\$100.00

* 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).

<i>Non-resident students, add tuition differential</i>	100.00
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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 *master's thesis* or *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 master's thesis or doctoral dissertation. (See Special Fees.) Graduate students enrolling in any one semester for thesis or dissertation only will pay the proper special fee (unless previously paid) and \$5.00 tuition.

OTHER FEES FOR SPECIAL SERVICES

Change in program after end of second week, except upon written request of an instructor

\$1.00

Late registration fee

5.00

Late physical examination fee

1.00

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

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

10.00

Master's thesis fee

30.00

Doctor's dissertation fee

65.00

Equitation, 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
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Each additional hour per day, per semester	2.00
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Individual music instruction, except vocal coaching (offered for a minimum of 2 hours credit for one-half hour lesson

per week) per credit hour	11.25
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Piano Class, per person, per semester	11.25
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*Vocal coaching, per credit hour	22.50
*Accompanying, per credit hour	22.50
Piano ensemble (one-half hour lesson per week; one credit hour) in group of 2 students, per student	11.25

For Master Classes in piano and other instruments (or private instruction by visiting instructors) the University reserves the right to charge special fees for instruction or use of practice rooms.

RESIDENCY FOR TUITION PURPOSES. To be eligible as a resident for tuition purposes, a student, his parents, or his guardian must have resided in the State of New Mexico for a period of one year before the student's enrollment in a New Mexico college or university. Normally, the residency of a minor follows the residency of his parents or guardian.

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:

80%	refund during the first 2 weeks
60%	refund during the 3rd week
40%	refund during the 4th week
20%	refund during the 5th week

* Any student who takes vocal coaching may arrange with a student who takes accompanying to take their lessons at the same hour, in which case the fee payable by each student will be only \$11.25 per credit hour.

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

Students should have at least \$175.00 at the beginning of any semester and be prepared to pay the monthly installments on fees, board, and room thereafter.

Non-resident students must add \$100.00 per semester to the above 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. 63.

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 Men's Housing Manager will in-

form 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 Men's Housing Manager, 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 Men's Housing Manager, 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 Office of the Dean of Women or the Men's Housing Manager not later than two weeks before the first day of registration. One-half of the advance deposit is automatically forfeited if application is cancelled 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 given 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 four 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:

WOMEN'S RESIDENTIAL HALLS. Charges for room and board per semester (payable in 4 installments):

Hokona Hall (North and South Halls)

Single rooms	\$327.00
Double rooms, per person	315.00
3 or 4 to a 3-room suite, per person	309.00

Hokona Hall (Center Hall)

Single rooms	312.00
3 or 4 to a 3-room suite, per person	300.00

Marron Hall

Single rooms	\$327.00
Double rooms, per person	315.00

Bandelier Hall

Double rooms, per person	315.00
3 or 4 to a room, per person	306.00

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

Double rooms, per person	\$321.00
3 or 4 to a room, per person	315.00

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 four installments.

The first installment of at least 30% on room and board (or board only) 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 and fourth installments are due and payable on the 15th day of the three succeeding months 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 intelligence, placement, and achievement tests. A medical examination is also required for each student. 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.

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 guidance 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, in-service training for teaching assistants in charge of the classes, 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.

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 graduates and undergraduates in finding suitable and satisfactory employment in permanent and part-time positions respectively.

The Bureau acts as a general clearance house for registrants seeking employment, and for employers seeking college-trained personnel. Students interested in obtaining part-time work on and off campus during semesters as well as seniors and alumni seeking permanent employment are urged to register with the Bureau, Room 116, Counseling and Testing Bldg.

Keeping on file a complete record of each registrant's scholarship, employment experience, activities, and personal qualifications, the Bureau attempts proper placement commensurate with the registrant's 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 requiring 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 the basis of selection of candidates: (1) the establishment of the actual need of the student; (2) scholarship; (3) reemployment to be based on satisfactory service and scholarship.

No fee is charged for services rendered students seeking part-time work. For graduate placement a charge of \$1.00 is made to cover the cost of photographs when data sheets are made up 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. 56-59). 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, and 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, Delta Sigma Pi, Kappa Mu Epsilon, Kappa Omicron Phi, Kappa Psi, Khatali, 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 Tau, Spurs, Tau Kappa Alpha, 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

All athletic activities are under the direction of the Athletic Council, and are subject to the approval of the faculty and the President of the University. The University also sponsors an intramural program, 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.

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, LaCrosse and softball.

STUDENT PUBLICATIONS

The *New Mexico Lobo*, the campus newspaper, is published three times each week, and *The Mirage* is the campus yearbook issued at the end of the spring semester each year.

The Thunderbird is a literary magazine issued twice during each semester and carries literary contributions submitted by the students on the campus.

All of the above 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 60 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 and his staff. 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 each spring, 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.

Two other loan funds are available for small, short-term loans: the Mortar Board Loan Fund and the Khatali-Vigilante Loan Fund. These two 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; and Zonta Club of Albuquerque.

VOCATIONAL REHABILITATION

(For the Physically Handicapped Civilian)

Through the New Mexico Vocational Rehabilitation Service which operates under the supervision of the State Board for Voca-

tional 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 service 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 North Tenth Street 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.

Those students who are eligible for tuition scholarships will be notified of this fact prior to their high school graduation and will be sent an application blank for scholarship aid. 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.

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 Head 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 \$50 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 SCHOLARSHIP. A scholarship of \$50 awarded annually to a student selected by the Dean of the College of Law.

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 NACIO HERB BROWN MUSIC SCHOLARSHIP. An annual scholarship of \$100 is awarded by vote of the music faculty to that music major who for the current academic year has set the most inspiring example in respect to his studies and his services to the student body and to the University.

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

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

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 sophomore 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. Fifty 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 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 GRUNSFELD MEMORIAL SCHOLARSHIPS. The income from a trust fund of \$5,000 provides two scholarships for men. These are awarded at the same time as the Miriam N. Grunsfeld Scholarships and are governed by the same general conditions.

THE MIRIAM N. GRUNSFELD SCHOLARSHIPS. The income from a \$5,000 trust fund provides two scholarships 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 by the superintendent of the Albuquerque schools and by the University. They will be paid in two installments upon registration in each of the two terms of the freshman year, contingent upon enrollment for a full course of study and successful scholastic work.

KHATALI SCHOLARSHIP. In 1950, Khatali, Senior Men's Honor Society, awarded a scholarship of \$300 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 LAURA MACARTHUR MEMORIAL SCHOLARSHIP. An annual scholarship of \$200 has been established by Mrs. George W. Savage as a memorial to her mother, Mrs. Laura MacArthur. The scholarship is awarded on the basis of need to a male student who is a resident of New Mexico.

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 PHRATERES CLUB TUITION SCHOLARSHIP. A cash award of \$30 is given to a sophomore member of Phrateres by the Phrateres Mothers' Club on the basis of the highest scholastic average for the first one and one-half years of course work. She must have carried a minimum schedule of 15 hours of study.

THE RHODES SCHOLARSHIPS. The trustees of the will of Cecil Rhodes have modified the manner of selection of the Rhodes scholars to 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 SOROPTOMIST SCHOLARSHIP AWARD. The Soroptomist Club of Albuquerque has established an annual scholarship of \$200 to be awarded to a woman student in the College of Law.

SPUR SOPHOMORE SCHOLARSHIP. Fifty dollars provided by Spur, 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 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.

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 BRISTOL LABORATORIES AWARD IN PHARMACY. An annual prize consisting of a copy of Howard's *Modern Drug Encyclopedia* is presented to the junior Pharmacy student who has the highest grade-point average for three years of study.

THE NATHAN BURKAN MEMORIAL COMPETITION. Prizes of \$150 and \$50 provided by A.S.C.A.P. are awarded annually to seniors in the College of Law for papers in copyright law.

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 WILLIAM A. MCCARTHY PRIZE. Twenty dollars is given for the best research paper on the history of New Mexico. This award is made on the recommendation of the Department of History.

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. A prize of \$50 is offered by the Department of Philosophy for 1951-52 only for the best essay on the subject, "Is Philosophy Fulfilling Its Responsibilities?"

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 PRIZE IN MUSIC. An annual prize of \$50 provided by the alumnae of Sigma Alpha Iota, national music fraternity, is awarded to the student 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 THUNDERBIRD AWARD. A sum of \$10, made possible by the original Katherine Mather Simms Endowment, is awarded each year for the outstanding article or poem dealing with Southwestern material which has been printed in *The Thunderbird*, student literary magazine of the University.

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.

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 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

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, dis-

sertation, 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.

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 Head 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, 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.

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.

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

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 dismissal is necessary. Whether he completes a semester, or withdraws with permission before the end of the semester, a student is entitled to honorable dismissal provided that he has the necessary scholastic status; and is in good standing regarding conduct and financial obligations. Honorable dismissal implies that the University will permit the student to re-register in the next session.

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 immediately reported 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. 82.

ADDITIONAL COLLEGE REGULATIONS. College of Education: It is the opinion of the faculty of the College of Education that candi-

dates 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 not 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."

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. 84.

NATIONAL TEACHERS EXAMINATION. See p. 84.

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 entrance 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.

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 Head 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 Head 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, he must graduate under the catalog in effect at the time of his readmission.

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 last 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. As many as 40 semester hours in University extension and correspondence 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.

Credit will be allowed for extension and correspondence courses completed in institutions which are on the approved list of the National University Extension Association, of which the University is a member. Credit for extension and correspondence courses completed in institutions which are not on the approved list of the N. U. E. A. will not be allowed until the student has successfully passed a validating examination covering each course.

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 a 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 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 receive the recognition "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.

(4) 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. For information on the degree of Bachelor of Science in Naval Science, consult the Dean of the College.

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.*

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 I 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

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

in the student's being required to report to the English Workshop for English remedial help.

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 Head 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 head 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 prac-

† For approved courses, see Departments 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.

tice 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.

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.

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

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

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, 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 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. 95.

FOR STUDENTS WHO PLAN TO STUDY LAW. See "College of Law."

CURRICULUM PREPARATORY TO MEDICAL TECHNOLOGY. Besides regular requirements and prerequisites, a three-year curriculum has been arranged. Candidates are urged to complete a major in either biology or chemistry. A year's work in more technical subjects and a year of practical hospital experience are also required for the professional degree. For more detailed information, students should consult the Department of Biology.

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 virtually impossible to gain admission to an accredited medical school 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	3-5
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

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 virtually impossible 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 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.

CURRICULA PREPARATORY TO MILITARY SCIENCE.

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

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

First Year		Second Year	
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

PREPROFESSIONAL CURRICULUM FOR SOCIAL WORK

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

REQUIREMENTS FOR DEGREE

Candidates for the Bachelor of Arts degree must fulfill lower division requirements of the College of Arts and Sciences. The basic curriculum is designed to provide a broad background in the social, economic, and governmental fields. The student should consult the Director of the Program in order that his individual needs may be met. Those who plan to work in New Mexico, for example, should have Spanish as a foreign language. In 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)

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

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

Government 51, 52	American Govt. & Pol: Nat'l & State	(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	Personality and 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 foods 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.*

* 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.

The School is a coördinating administrating unit operating under the College of Arts and Sciences and the Graduate School.

The offerings in the field of Inter-American Affairs have been coördinated 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. 97.)

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 1952-53, 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 1952-53 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 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
	—
	12

12 additional hours selected from the following courses:

Economics 121. <i>Economics and Trade of Latin America</i> .	(3)
Government 141. <i>International Relations</i>	(3)
Government 155. <i>Governments of Latin America</i>	(3)
Sociology 111. <i>Social Problems of Latin America</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 24

(B). SPANISH REQUIREMENTS:

The required courses in the junior and senior years are:

Spanish 91, 92. <i>Introduction to Spanish Literature</i>	6
Spanish 101, 102. <i>Advanced Composition and Conversation</i> ..	6
Spanish 157, 158. <i>Survey of Spanish-American Literature</i>	6

TOTAL 18

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*.

COLLEGE OF ARTS AND SCIENCES

DEPARTMENTS OF INSTRUCTION

Courses numbered from 1-49, lower division, 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.

ANTHROPOLOGY

Professors Hill (Head), Spier; Associate Professors Ellis, Hibben, Newman, Reiter; Faculty Fellow Anderson; Graduate Assistants Gavahan, Maclay, Wilmeth.

GROUP REQUIREMENTS

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

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 Head 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.

1. GENERAL ANTHROPOLOGY: ORIGIN AND ANTIQUITY OF MAN. (3) Hibben, Reiter
2. GENERAL ANTHROPOLOGY: DEVELOPMENT OF CULTURE. (3) Hill, Newman, Reiter
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) Reiter
71. SURVEY OF ANTHROPOLOGY. (2) Reiter
The sub-divisions 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.
99. COMPARATIVE SOCIAL STRUCTURE. (3) Newman

General prerequisite (except for 102): 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: MOCOLLON AND HOHOKAM. (3) Ellis
156. SOUTHWESTERN ARCHAEOLOGY: PUEBLO AREA. (3) Ellis
Prerequisite: 155.
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) Reiter

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) Reiter
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

158. SOUTHWESTERN ETHNOLOGY: PUEBLO PEOPLES. (3) Ellis
 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) Reiter
 2 lectures, 2 hrs. lab.
 108L. PHYSICAL ANTHROPOLOGY: SOMATOLOGY. (3) Reiter
 Racial variation and constitution. 2 lectures, 2 hrs lab. Prerequisite: 107L.
 109. SOUTHWESTERN POTTERY. (2) Ellis
 Prehistoric development of ceramic art. Prerequisite: 155 or 156.
 144L. MATERIAL CULTURE ANALYSIS. (3) Reiter
 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 prerequisites.
 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, Reiter
 198. PRIMITIVE RELIGION. (3) Hill

Field Courses:

- 75F. GENERAL FIELD SESSION. (2-6) Staff
 Introductory summer field course in archaeology or ethnology.
 175F. ADVANCED SUMMER FIELD SESSION. (2-6) Staff
 For upper division and graduate students.
 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
209. PRESENTATION OF FIELD RESEARCH. (2) Reiter
212. SEMINAR: ETHNOLOGY. (2) Hill
- 251-252. PROBLEMS. (2, 2) Ellis, Hibben, Hill, Newman, Reiter, 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
282. SEMINAR: AMERICAN ARCHAEOLOGY. (2) Reiter
294. SEMINAR: SOUTHWESTERN ARCHAEOLOGY AND ETHNOLOGY. (2) Ellis
300. THESIS. Ellis, Hibben, Hill, Newman, Reiter, Spier
400. DISSERTATION. Ellis, Hibben, Hill, Newman, Reiter, Spier

ART

(A department of the College of Fine Arts.)

MAJOR STUDY IN ARTS AND SCIENCES

The 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, or 8.
- 8 hours Group II 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.

(For description of Art course offerings, *see* College of Fine Arts.)

If a student majors in Art in the College of Arts and Sciences, he may not count toward graduation any other hours taken outside this college.

MINOR STUDY IN ARTS AND SCIENCES

20 hours in a field of particular interest, such as Commercial Art, Sculpture, Painting, Photography, etc. 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 Head; (3) at least 6 hours shall be taken in courses numbered above 100.

ASTRONOMY

See Mathematics and Astronomy.

BIOLOGY

Professors Castetter (Head), Eversole, Koster; Consulting Professor Langham; Associate Professors Dittmer, Hoff, Johnson; Assistant Professor Fleck; Teaching Assistants Clothier, Harlan; Graduate Assistants Landew, Parrack, Richmond, Rominger, Widner.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

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, 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 Head 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.

NOTE

Credit will not be allowed for both 36-39L and 130L; or for both 48 and 109.

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

See pp. 91-92.

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.)
105. ETHNOBIOLOGY OF THE NEW WORLD. (3) Castetter
The aboriginal picture of the utilization of plants and animals of the New World. Emphasis on the Southwest. Prerequisite: 4 hrs. of biology.
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
Structures, 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. Prerequisite: Chemistry 101 and 103L or 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 AND ANATOMY. (4) Fleck and Assistants
The functions and structures of the animal body with emphasis on the mammals. Prerequisites: 1L and 2L, Chemistry 1L and 2L. 3 lectures, 3 hrs. lab.
- 143L. COMPARATIVE PHYSIOLOGY. [General Cellular Physiology] (4) Eversole
A comparison of the general physiology of various groups of invertebrates, approached from a cellular standpoint. Prerequisites: 71L, 72L, Chemistry 1L and 2L. Organic Chemistry recommended. 3 lectures, 3 hrs. lab.
- 144L. COMPARATIVE PHYSIOLOGY. [General Physiology of Organs] (4) Eversole
Continuation of 143L but devoted entirely to a comparison of the general physiology of the vertebrate groups. 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 physiological biochemistry including considerations of the quantitative enzymatic interconversion and synthesis of organic matter in the cell. Prerequisites: 123L and 130L.
- 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.)
- 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. (3) Hoff, Koster
A study of fresh-water habitats; aquatic invertebrates with special reference to problems of productivity. Field trips. Prerequisites: 1L and 2L. 2 lectures, 3 hrs. lab. (Offered in alternate years.)
- 185L. GENERAL VERTEBRATE ZOOLOGY. (4) Koster
Natural history, classification, behavior, ecology, and speciation of the vertebrates exclusive of the birds. Prerequisites: 1L and 2L. 3 lectures, 3 hrs. lab.
- 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. MAMMALOLOGY. (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) Hoff
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 Head 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. [Experimental Embryology] (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.

Graduate Staff

400. DISSERTATION.

Graduate Staff

BUSINESS ADMINISTRATION

Not a department of the College of Arts and Sciences. (*See College of Business Administration.*) No major offered in the College of Arts and Sciences.

MINOR STUDY

Majors in Economics must have the permission of the Economics department Head to minor in Business Administration.

Economics 51 and 111, Mathematics 42, Business Administration 5 or 105, and 6 additional hours chosen from the following Business Administration courses: 6 or 63, 106, 108, 110, 131, 134, and 143. (For Business Administration course offerings, *see College of Business Administration.*)

CHEMISTRY

Professors Riebsomer (Head), Smith; Consulting Professors Jette, Spence; Associate Professors Castle, Martin, Steffens, Suttle; Assistant Professors Daub, Kahn; Instructors Green, Searcy; Graduate Assistants Comp, Daues, Knudsen, Nowak, Patton, Purlee; Research Associate Freedman; Research Assistants Barker, Bentley, Bronaugh, Drumhiller, Robinson; Research Fellows Cox, Strickland, Williams.

The program of the Department of Chemistry conforms to the standards prescribed by the American Chemical Society.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV.)

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 or 4L, 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.

- 1L. GENERAL CHEMISTRY. (4) Yr. Staff
Introduction to the chemical and physical behavior of matter. Credit suspended until 2L or 4L is completed: 3 lectures, 3 hrs. lab.
- 2L. GENERAL CHEMISTRY. (4) Staff
Continuation of 1L and including qualitative analysis. 3 lectures, 3 hrs. lab. Prerequisites: 1L or permission of instructor.
- 4L. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. (5) Staff
Continuation of 1L, with special emphasis on qualitative analysis. 3 lectures, 6 hrs. lab. Prerequisite: 1L or 5L and 6L.
- 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. (5) Martin
Theory and techniques of volumetric and gravimetric analysis. Prerequisites: 1L and either 2L or 4L or 6L and Chemical Engineering 51. 2 lectures, 9 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) Steffens
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: 1L and either 2L or 4L 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, Steffens
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
(Same as Pharmaceutical Chemistry 110.) A study of the chemical properties and syn-

- thesis of representative members of the various classes of the heterocyclic compounds.
Prerequisite: 104L.
- 111-112. PHYSICAL CHEMISTRY. (3, 3) Kahn, Steffens
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) Steffens
Theoretical and descriptive treatment of the principal types of colloids. Prerequisites: 104L and 111. 2 lectures, 3 hrs. lab.
131. INORGANIC CHEMISTRY. (3) Suttle, Martin
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. [152L] 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 measurement. Prerequisites: 53L and 112. 2 lectures, 6 hrs. lab.
- 171-172. ADVANCED PHYSICAL CHEMISTRY. (3, 3) Kahn, Steffens
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, Steffens
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 Head. Prerequisite: 112 or permission of instructor.

213. RADIOCHEMISTRY. (3) Kahn
Elementary nuclear theory. Radiations and their interactions with matter. Detection of radiation. Prerequisites: 112 and 115 or permission of instructor.
214. [214L] 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. Graduate Staff
400. DISSERTATION. Graduate Staff

ECONOMICS

Professor Duncan (Head); Associate Professors Crobaugh, Wollman; Assistant Professors Hamilton, Sloan; Graduate Assistants Bittman, Boyle.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

MAJOR STUDY

30 hours including Economics 51, 52, Mathematics 42, Business Administration 5 or Business Administration 105, Economics 111, 161, 163, and one of the following courses in Government: 51, 105, 106, 111, 122; and 6 additional hours from upper division Economics courses. Majors in Economics must have the permission of the Head 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 be taken by students minoring in Economics.

- 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.
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.

- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
103. CONSUMER ECONOMICS. (3) Sloan
This is a non-technical course in economics intended primarily for non-majors and non-minors in Economics. The course is designed for those whose chief contact with the economic system will be as consumers. It is especially recommended for students in education and home economics and others who expect to take only one course in Economics. There is no prerequisite.
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.
140. ECONOMIC SECURITY. (3) Sloan
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.
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.
163. [80] RISE OF MODERN INDUSTRY. [Economic History] (3) Sloan
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.
165. PUBLIC UTILITIES. (3) Parish
(Same as Business Administration 165.)
180. GOVERNMENT CONTROL OF BUSINESS. (3) Duncan
Governmental and social controls over business enterprise. Prerequisite: 51, or consent of instructor.
181. [119] 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.
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. [251] MONOPOLISTIC COMPETITION, GENERAL EQUILIBRIUM, AND ECONOMIC DYNAMICS. (3) Crobaugh
 240. [252] MONETARY THEORY AND NATIONAL INCOME ANALYSIS. (3) Wollman
 300. THESIS. Graduate Staff

ENGLISH

Professors Arms (Chairman), Pearce, Smith, Wicker; Visiting Professor Grabo; Associate Professors Albrecht, Jacobs, Keleher, Simons; Assistant Professors Baughman, Crowell, Kuntz, Tedlock; Instructors Burlingame, Darbee, Dawkins, Fleming, Kluckhohn, Kroft, Kytte, Lash, Lueders; Teaching Assistants Collins, Peterson; Graduate Assistants McQueen, Ochshorn, Small, Smart.

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, Introduction to Rhetoric (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.

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. In the upper division, for students with general literary interests, the following courses without prerequisites are recommended: 135, 141, 142, 168, 185, and 186.

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 High Schools. A comprehensive examination in English literature and language (see English 198) is required of majors. Six hours in either Journalism or Speech may count toward 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 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.

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| 1W. INTRODUCTION TO RHETORIC (WORKSHOP). (3) | Kroft, Staff |
| Remedial work in reading, grammar, punctuation and vocabulary, plus expository writing. 3 lectures, 2 hrs. of tutoring. | |
| 1. INTRODUCTION TO RHETORIC. (3) | Crowell, Staff |
| Expository writing, paragraph methods, and readings. | |
| 2. 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. | |
| SOPHOMORE PROFICIENCY IN ENGLISH. (0) | |
| A non-credit tutoring course for referral students who failed the Sophomore Proficiency examination in English. (See graduation requirements in the several Colleges.) | |
| 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. | |
| 55. VOCABULARY BUILDING. (3) | Kluckhohn, Staff |
| Study of Latin and Greek word roots; introduction to etymology and semantics. | |
| 57. SURVEY OF MODERN FICTION AND DRAMA. (3) | Simons, Staff |
| Readings in British and American writers from 1890 to the present. | |
| 58. SURVEY OF MODERN POETRY AND NON-FICTIONAL PROSE. (3) | Simons, Staff |
| Readings in British and American writers from 1890 to the present. | |

61. [63] EXPOSITION. [Creative Writing] (3) Keleher, Lash
An intermediate course with emphasis on the types, structure, and style of expository writing.
62. [63] DESCRIPTION AND NARRATION. [Creative Writing] (3) Keleher, Lash
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.
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.
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.
91. HISTORY OF THE ENGLISH LANGUAGE. (2) Albrecht, Pearce
The etymology, morphology, phonetics, and semantics of English; the relation between linguistic and cultural change.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
101. PHONETICS. (3)
(Same as Speech 101.)
121. CREATIVE WRITING. (3) Keleher
An examination of various approaches to advanced writing with frequent writing contributions from the student. Prerequisite: English 61 and 62 or permission of the instructor.
132. CONTEMPORARY POETRY. (3) Arms, Jacobs
A study of the leading figures in contemporary poetry with analysis of style and critical theory. Prerequisite: 3 credit hours in literature.
135. CONTEMPORARY FICTION. (3) 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)
(Same as Greek 139.)
140. LATIN LITERATURE IN TRANSLATION. (3)
(Same as Latin 140.)
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
A detailed study of the *Canterbury Tales* with some attention to Chaucer's other works.
154. MIDDLE-ENGLISH LITERATURE. [Middle English] (3) Albrecht
A general survey of the types of thirteenth- and fourteenth-century literature. Prerequisite: 6 credit hours in literature.
- 155c. THE TEACHING OF ENGLISH IN HIGH SCHOOL. (3) Kuntz
(Same as Education 155c.)
157. ELIZABETHAN NON-DRAMATIC LITERATURE. (3) Pearce, Simons
Development of humanism, new poetry, literature of courtesy. Prerequisite: 3 credit hours in literature.
161. THE FOLK TALE 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, Grabo
Major critical attitudes toward literature. Prerequisite: 6 credit hours in literature.
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.
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) Grabo, 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) Grabo, Wicker
From the beginnings through Jane Austen.
186. LATER ENGLISH NOVEL. (3) Grabo, Wicker
From Scott to 1910.
198. REVIEW SEMINAR. (1) Staff
Senior English majors are advised to take this course in preparation for the comprehensive examination.
- 203-204. STUDIES IN THE LITERATURE OF COLONIAL AND REVOLUTIONARY AMERICA (1600-1800). (3, 3)
The Connecticut Wits; early influences of the Frontier in literature, to 1840; or other subjects.
- 206-207. STUDIES IN EARLY NINETEENTH-CENTURY AMERICAN LITERATURE (1800-1855). (3, 3) Arms
Emerson and Thoreau; Hawthorne, Melville, and Poe; or others.
- 209-210. STUDIES IN LATE NINETEENTH-CENTURY AMERICAN LITERATURE (1800-1855). (3-3) Arms
Whitman, Lanier, and Dickinson; Howells, James and Clemens; or others.
215. OLD ENGLISH. (3) Albrecht
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.

223. STUDIES IN THE ENGLISH RENAISSANCE (1500-1616). (3) Pearce
Specific problems of the Shakespearean canon and relationships of Shakespeare with writers and currents of his age.
225. STUDIES IN THE SEVENTEENTH CENTURY (1600-1660). (3) Crowell
Prose writers, metaphysical poets, or Milton.
230. STUDIES IN THE RESTORATION AND EIGHTEENTH CENTURY (1660-1780). (3) Smith
Dryden, Pope, or Johnson.
233. STUDIES IN THE RESTORATION AND EIGHTEENTH CENTURY (1660-1780). (3) Smith
Fielding and other novelists or the playwrights. Crowell, Smith
240. STUDIES IN THE ROMANTIC PERIOD: POETRY (1780-1832). (3) Grabo, 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.
251. LITERARY PROBLEMS FOR THE MASTER'S DEGREE. (1-2 each semester)
Studies in literature and philology. Graduate Staff
253. STUDIES IN THE VICTORIAN PERIOD: POETRY (1832-1900). (3) Crowell, Wicker
Tennyson, Browning, or other poets.
255. STUDIES IN THE VICTORIAN PERIOD: PROSE (1832-1900). (3) Jacobs
Dickens, Pater, Ruskin, Carlyle, Arnold, or other prose writers.
270. LANGUAGE SEMINAR. (3) Pearce
Phonology of English speech, linguistic structure, elements of vocabulary.
273. LANGUAGE SEMINAR. (3) Pearce
American dialect and regional vocabulary.
300. THESIS. Graduate Staff
351. SEMINAR PROBLEMS FOR THE DOCTOR'S DEGREE. (1-2 each semester)
Graduate Staff
400. DISSERTATION. Graduate Staff

FRENCH

See Modern and Classical Languages.

GEOGRAPHY

A division, offering only minor study.

Assistant Professor Kelley.

GROUP REQUIREMENTS

Geography 1 counts toward Science and Mathematics (Group IV)—non-laboratory; all other Geography courses count toward Social Science (Group III).

MINOR STUDY

Geography 1, 2, 63, 103, 111, and 6 additional hours. Students minoring in geography are urged to take Geology 1 and Physics 3. The minor program in geography with a major in another field meets the educational requirement for a position of geographer in the United States Civil Service.

1. GENERAL GEOGRAPHY. (3)

World patterns of climate, landforms, natural vegetation and animal life, and soils.
2 lectures, 2 hrs. map study

2. GENERAL GEOGRAPHY. (3)
World population, settlement types, and economic regions, with special attention to areas of major importance in current affairs.
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, and the Caribbean.
103. [54] NORTH AMERICA. (3)
Regional geography of Alaska, Canada, and the United States.
111. LAND UTILIZATION. (3)
Analysis of rural and urban land use in selected areas. Field mapping in Albuquerque and vicinity. Field trips.
130. [188] CULTURAL GEOGRAPHY: OLD WORLD. (3)
Settlement and cultural landscapes of Europe, Africa, and Asia.
189. CULTURAL GEOGRAPHY OF LATIN AMERICA. (3)

GEOLOGY

Professors Northrop (Head), Kelley; Associate Professors Beck, Wengerd; Assistant Professor Fitzsimmons; Graduate Assistants Bogart, Borton, Brunton, Bushnell, Maxwell.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

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. *Minor in Engineering*: 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, 110L, 120, 184; Mechanical Engineering 53, 101, 105, 175, 181, 182. Observe prerequisites.

MINOR STUDY

Geology 1, 2, 5L, 6L, and 12 additional hours.

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) 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) 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 C. E. 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.
- 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) Beck, Fitzsimmons, Kelley, Northrop, Wengerd
- 251-252. PROBLEMS. (2-3 each semester) Beck, Fitzsimmons, Kelley, Northrop, Wengerd
300. THESIS. Beck, Fitzsimmons, Kelley, Northrop, Wengerd

GERMAN

See Modern and Classical Languages.

GOVERNMENT AND CITIZENSHIP

Professors McMurray (Head), Donnelly, Jorrín, Judah; Associate Professor Irion; Assistant Professors Cline, Richards; Graduate Assistants Dewhurst, Procacci, Simon, Stafford.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III.)

MAJOR STUDY

In addition to Government 1 and 2, 27 hours including 51, 52, 121 or 122, 141, 175, 197 or 198.

MINOR STUDY

In addition to Government 1 and 2, 15 hours including 51, 52, 121 or 122, 141, 175.

CURRICULUM FOR STUDENTS WHO PLAN TO STUDY LAW

See College of Law.

- 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 NATIONAL GOVERNMENT AND POLITICS. (3) Staff
52. AMERICAN STATE GOVERNMENT AND POLITICS. (3) Staff
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.
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) Donnelly, Judah, McMurray
The American party system, national, state, and local. Prerequisites: 1, 2.
111. LEGISLATION. (3) McMurray
The process of law-making in the United States, national, state, and local. Legislative drafting, statute law-making, legislative procedure, executive ordinances, popular law-making, judicial review. Recommended: 51, 52.
121. PUBLIC ADMINISTRATION. (3) Donnelly, Irion, McMurray, Richards
Introduction to the general problems of public administration in the modern state. Prerequisites: 51, 52.
122. THE ADMINISTRATIVE PROCESS. (3) Donnelly, 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 RELATIONS. (3) Jorrin, McMurray
The origin and nature of the problems involved in international relations. Recommended: 51, 52.
143. INTERNATIONAL LAW. (3) Jorrin
The origin, nature, and application of the rules of international law. Prerequisites: 1, 2 and 51, 52.
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, 52, or 1, 2; and 73.
161. POLITICAL THEORY FROM PLATO TO LOCKE. (3) Jorrin
162. POLITICAL THEORY FROM THE ENLIGHTENMENT TO TODAY. (3) Jorrin
168. AMERICAN POLITICAL THEORY. (3) Judah
The origin and development of political ideas in the U. S. from colonial times to the present.

169. **COMPARATIVE GOVERNMENT.** (3) Judah
A survey and comparison of the leading governments of Europe. Prerequisites: 51, 52.
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
The Constitution of the United States as it has been interpreted by the courts. Prerequisites: 51, 52.
- 197-198. **SEMINAR.** (2, 2) Graduate Staff
Open to advanced students with approved qualifications.
206. **SEMINAR IN POLITICAL PARTIES.** (3) Donnelly, Judah, McMurray
221. **SEMINAR IN PUBLIC ADMINISTRATION.** (3) Donnelly, 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.** (2) Jorrin
300. **THESIS.** Graduate Staff

GREEK

See Modern and Classical Languages.

HISTORY

Professors Russell (Head), Reeve, Sacks, Scholes, Woodward; Associate Professor Smith; Assistant Professors Dabney, Hubbe, Longhurst; Graduate Assistants Garza, Kelley, Riley.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

MAJOR STUDY

Students entered before June, 1948, may choose either of the following programs: those entered in June, 1948, or later must follow program (a): (a) 33 hours in History including 12 hours from courses 1, 2, and 11, 12 or 51, 52, and at least 15 hours numbered above 100; (b) 30 hours in History including 12 hours from courses 1, 2, and 11, 12 or 51, 52, and at least 18 hours numbered above 100. All students who intend to take upper division courses in history are urged to acquire a reading knowledge of at least one foreign language, preferably Spanish, before reaching the junior year.

MINOR STUDY

18 hours in History including 1, 2 or 11, 12, and not less than 6 hours numbered above 100.

- 1-2. WESTERN CIVILIZATION. (3, 3) Sacks, Russell, Longhurst
European developments from the decline of Rome to the present.
- 11-12. HISTORY OF THE AMERICAS. (3, 3) Woodward
31. HISTORY OF NEW MEXICO. (2) Reeve
- 51-52. HISTORY OF THE UNITED STATES. (3, 3) Smith, Dabney
- 71-72. HISTORY OF ENGLAND. (3, 3) Russell, Sacks
- 81-82. HISTORY AND POLITICAL INSTITUTIONS OF GREECE AND ROME. (3, 3) Hubbe
85. HISTORY OF MODERN RUSSIA. (2) Sacks
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
115. GREEK POLITICAL INSTITUTIONS. (3) Hubbe
A study of urban, federal, and imperial institutions of Classical and Hellenistic Greece with emphasis upon The Athenian Constitutions.
121. POLITICAL AND ECONOMIC HISTORY OF THE MIDDLE AGES. (3) Russell
122. SOCIAL AND INTELLECTUAL HISTORY OF THE MIDDLE AGES. (3) Russell
123. THE RENAISSANCE. (3) Longhurst
124. THE REFORMATION. (3) Longhurst
131. ENGLISH CONSTITUTIONAL HISTORY. (3) Russell
132. STUART ENGLAND. (2) Russell
135. THE BRITISH EMPIRE. (3) Sacks
141. INTERNATIONAL RELATIONS. (3)
(Same as Government 141.)
142. EUROPE, 1648-1774. (3) Longhurst, Sacks
143. FRENCH REVOLUTION AND NAPOLEON. (3) Longhurst, Sacks
145. MODERN EUROPE, 1815-1914. (3) Sacks
146. DICTATORSHIPS AND DEMOCRACY IN EUROPE SINCE 1914. (3) Sacks
151. AMERICAN DIPLOMACY. (3) Smith
- 161-162. HISTORY OF LATIN AMERICA. (3, 3) Scholes, Woodward
163. THE A. B. C. POWERS IN RECENT TIMES. (3) Woodward
- 165-166. HISTORY OF SPAIN. (2, 2) Russell, Longhurst
167. HISTORY AND CIVILIZATION OF PORTUGAL. (3) Woodward
168. MEXICO AND THE CARIBBEAN. (3) Woodward
171. THE AMERICAN COLONIES. (3) Dabney
- 173-174. AMERICAN BIOGRAPHY. (2, 2) Dabney
175. THE SOUTH IN AMERICAN HISTORY, 1763-1865. (3) Staff
176. CIVIL WAR AND RECONSTRUCTION. (3) Smith
178. RECENT HISTORY OF THE UNITED STATES. (3) Reeve
179. CONSTITUTIONAL HISTORY OF THE UNITED STATES. (3) Reeve
181. HISTORY OF THE AMERICAN FRONTIER. (3) Dabney
- 183-184. INTELLECTUAL AND SOCIAL HISTORY OF THE UNITED STATES. (2, 2)
Smith, Dabney
185. ECONOMIC HISTORY OF THE UNITED STATES. (3) Smith
- 191-192. HISTORY OF THE SOUTHWEST. (3, 3) Reeve, Scholes, Woodward
202. INTRODUCTION TO HISTORICAL RESEARCH. (3) Longhurst, Woodward
- 251-252. PROBLEMS. (1-3 each semester.) Graduate Staff
256. SEMINAR IN MEDIEVAL HISTORY. (2-3) Russell

257. SEMINAR IN THE RENAISSANCE. (2-3)	Longhurst
258. SEMINAR IN MODERN BRITISH HISTORY. (2-3)	Sacks
261-262. RESEARCH IN SOUTHWEST HISTORY. (2-3 each semester)	Reeve, Scholes, Woodward
266-267. SEMINAR IN LATIN-AMERICAN HISTORY. (2-3 each semester)	Scholes, Woodward
271-272. SEMINAR IN AMERICAN HISTORY. (2-3 each semester)	Reeve, Smith, Dabney
300. THESIS.	Graduate Staff
400. DISSERTATION.	Graduate Staff

HOME ECONOMICS

(A department of the College of Education.)

GROUP REQUIREMENTS

Home Economics 53L and 54L count toward Science and Mathematics (Group IV).

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.

(For Home Economics course offerings, see College of Education.)

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 Head.

MINOR STUDY IN ARTS AND SCIENCES

Home Economics 1, 2L, 53L, 54L and at least eight additional hours approved by the Head of the Department. At least three hours must be taken in a course numbered above 100.

(For Home Economics course offerings, see College of Education.)

ITALIAN

See Modern and Classical Languages.

JOURNALISM

Associate Professor Rafferty (Head); Assistant Professor Conger; Instructor Hall.

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.

Community Newspaper Sequence—30 hours including 51, 52, 111,

122, 123, 130, and 190. Six hours may be chosen from the following: English 55, 91; Government 105.

Journalism 1 and Journalism 2 count toward the major but are not required. Journalism 1 is prerequisite to Journalism 2.

MINOR STUDY

18 hours including Journalism 51 and 52. Six hours may be chosen from the list given above 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 and a study by each student of a daily paper.
2. INTRODUCTION TO JOURNALISM. (1) Conger, Hall
Same as above, but including an introduction to copy-editing. Prerequisite: 1.
51. NEWS WRITING AND REPORTING. (3) Conger, Hall
2 lectures, 2 hrs. lab.
52. NEWS WRITING AND REPORTING. (3) Conger, Hall, Rafferty
Prerequisite: 51. 2 lectures, 2 hrs. lab.
61. NEWS PHOTOGRAPHY. (3) Conger
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) Conger
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) Conger
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) Hall
Lectures, studies, and problems relating to operation of the rural newspaper, particularly the country weekly, including general weekly newspaper management as distinguished from problems of the large dailies, and community editorial responsibilities.
130. ADVERTISING WRITING, COPY AND LAYOUT. (4) Hall
The writing and laying-out of display advertisements. 3 lectures, 3 hrs. lab.
132. WRITING THE MAGAZINE ARTICLE. (3) Rafferty, Conger, Hall
Writing for professional magazine publication.
165. MANAGEMENT OF HIGH SCHOOL PUBLICATIONS. (3) Rafferty, Conger, Hall
A survey of the problems in production of high school newspapers and yearbooks, as well as some incidental publications, including approaches to design, advertising con-

tent, 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, Hall
Two two-hour sessions each week for discussions of and work in news and interpretative coverage of matters and events of public concern. Visits to, and investigations into, community areas, city councils, state legislative sessions, meetings of civic boards, etc., during two-hour arranged session 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. Instructor's permission required.
190. **PROBLEMS IN LOCAL AND NATIONAL ADVERTISING.** (2) Hall
Lectures in, and discussions of, local retail and national-agency advertising problems and programs.
194. **SEMINAR IN PROBLEMS OF THE PRESS.** (2) Rafferty
Lectures in and discussions of the concept of a free press and the responsibilities and restraints laid upon the press within that concept.

LATIN

See Modern and Classical Languages.

LIBRARY SCIENCE

A division, offering only minor study.
Professor Kelley; Instructor Martin.

MAJOR STUDY

Not offered.

MINOR STUDY

Library Science 125; 126 or 128; 127; and 129.

10. **THE USE OF BOOKS AND LIBRARIES.** (1) Martin
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 Education 120.)
125. **REFERENCE AND BIBLIOGRAPHY.** (3) Martin
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) Martin
Principles of classification and the techniques of cataloging for libraries.
128. **SCHOOL LIBRARY ADMINISTRATION.** (3) Kelley
Practical study of the management of the school library, including the organization of the book collection, housing, equipment and maintenance.
129. **BOOK SELECTION FOR YOUNG PEOPLE.** (3) Martin
A survey course covering tools and principles of selection of books for young people.

MATHEMATICS AND ASTRONOMY

Professor LaPaz (Head); Associate Professors Buell, Gentry, Hendrickson, Hildner; Assistant Professors Beach, P. W. Healy, Frank Healy; Instructors Mitchell, Rowland.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

MAJOR STUDY

College of Arts and Sciences and College of Education: 24 hours in courses in Mathematics or Astronomy numbered above 50 (majors in Education are required to take Education 155e).

MINOR STUDY

Mathematics 15, 16, and 22 or equivalent, 53, 54, and at least 3 more hours in courses in Mathematics or Astronomy numbered above 50.

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, 12, 14, 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
(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.
- 63-64. SPHERICAL TRIGONOMETRY AND PRACTICAL ASTRONOMY, I, II. (3, 3) LaPaz
Especially concerned with the mathematical foundation of navigation, aviation, and related subjects. Prerequisite: Mathematics 16, or equivalent.

MATHEMATICS

1. COLLEGE ARITHMETIC. (2) Rowland
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.
12. ELEMENTS OF COLLEGE ALGEBRA. (3) Staff
Primarily for students of Business Administration.
14. AN INTRODUCTION TO MATHEMATICS. (3) Staff
A one-semester cultural course for students who plan to take no technical courses in mathematics, students of Education, or Fine Arts.

15. COLLEGE ALGEBRA. (3) Staff
For Premedics, Pharmacy, Chemistry (B.A.), NROTC students. Students with credit in Mathematics 12 get no additional credit for this course.
16. PLANE TRIGONOMETRY. (2) Staff
19. ALGEBRA. (5) Staff
Prerequisite: a satisfactory grade on placement test. Students making an unsatisfactory grade are required to take an additional course without credit before enrolling for Mathematics 19.
20. PLANE TRIGONOMETRY AND PLANE AND SOLID ANALYTIC GEOMETRY. (5) Staff
Prerequisites: Mathematics 19 or 15 and 16. (Mathematics 15, 16, and 20 to give a total of 9 hrs. credit.)
22. PLANE AND SOLID ANALYTIC GEOMETRY. (4) Staff
41. MATHEMATICS OF INVESTMENT. (3) Rowland
Accepted for specific credit by the Department of Economics and the College of Business Administration. Prerequisite: Mathematics 12 or equivalent.
42. INTRODUCTION TO STATISTICAL METHODS. (3) Beach
A basic course especially for students specializing in the social sciences. Required for an Economics major. Some laboratory work required. Prerequisite: Mathematics 12 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) Hildner
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.
131. MATHEMATICS OF STATISTICS. (3) Beach
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) LaPaz
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) Beach, LaPaz
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) 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; Fourier integrals; 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.
161. HISTORY OF MATHEMATICS. (3) Hildner, Beach
The historical development of mathematics; analysis of the content and interrelation of selected topics in elementary and intermediate mathematics. (Recommended for those who plan to teach mathematics in secondary schools.)
170. THEORY OF NUMBERS. (3) LaPaz
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, Hildner
Matrices, determinants, systems of equations, quadratic and Hermitian forms; linear dependence and independence; elementary divisors; introduction to matrix equations.
181. 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; Riemann and Lebesgue integrals.
182. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. (3) Buell, LaPaz
Complex algebra and calculus of analytic functions; singularities and power series expansions; geometric theory and conformal mapping; contour integration and residues; harmonic and subharmonic functions; applications in physics and engineering.
184. CALCULUS OF VARIATIONS. (3) LaPaz
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.

The seminars which follow are open only to qualified students and permission to register requires the consent of the Department Head.

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| 194-195. PRO-SEMINAR. (2-3 hrs. each semester)
Advanced study and independent reading. | Graduate Staff |
| 204, 205, 206, 207. SEMINAR. (2-3 each semester)
Advanced reading and research. | Graduate Staff |
| 300. THESIS. | Graduate Staff |

MODERN AND CLASSICAL LANGUAGES

Professors Duncan (Chairman), DeJongh, Jorrin, Kercheville, Lopes, Sr. Sender; Associate Professors MacCurdy, McKenzie; Assistant Professors Cobos, Hubbe, Lombardi, Nason, Sra. Sender; Instructors Biondi, Powers, Ulibarri; Teaching Assistants Brooks, Lunardini; Graduate Assistants Emmons, Luenow, Matlack, Petersen, Tomlins.

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.

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.

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| 1-2. [51-52] ELEMENTARY GREEK OF THE NEW TESTAMENT. (3, 3) Yr. | Hubbe |
| Credit suspended for 1 until 2 is completed. | |
| HA. READING FOR HONORS. (1-3 each semester) | Hubbe |
| HB. RESEARCH FOR HONORS. (1-3 each semester) | Hubbe |
| 101-102. THE GREEK NEW TESTAMENT. (3, 3) | Hubbe |
| Close scrutiny into meanings of words. | |
| 139. [Classics 151] COMPLETE GREEK DRAMA IN TRANSLATION. (3) | Hubbe |

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. Hubbe
Credit suspended for 1 until 2 is completed.
- 51-52. **INTERMEDIATE LATIN.** (3, 3) Hubbe
Prerequisites: 1, 2 or the equivalent.
- HA. READING FOR HONORS.** (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS.** (1-3 each semester) Staff
- 101-102. [M.L. 101-102] **LATIN FOR LANGUAGE STUDENTS.** (3, 3) McKenzie
A comparative study of Latin and its relationship to modern languages for upper division and graduate students. The reading of selected classical and medieval texts.
140. [Classics 152] **LATIN LITERATURE IN TRANSLATION.** (3) Hubbe

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) DeJongh
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
- 251-252. **GRADUATE PROBLEMS IN FRENCH LITERATURE.** (2, 2) DeJongh

GERMAN**MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in German in courses numbered above 50.

- 1-2. **ELEMENTARY GERMAN.** (3, 3) Yr. McKenzie and Staff
 Credit for 1 suspended until 2 (or more advanced course) is completed.
- 51-52. **INTERMEDIATE GERMAN.** (3, 3) McKenzie and Staff
 Prerequisites: 1, 2 or the equivalent.
- 53-54. **GERMAN CONVERSATION AND COMPOSITION.** (2, 2) Lombardi, 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 and 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

ITALIAN

No major or minor study offered.

- 75-76. **ELEMENTARY ITALIAN.** (3, 3) Biondi
 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.

PORTUGUESE**MAJOR STUDY**

Not offered.

MINOR STUDY

12 hours in Portuguese in courses numbered above 50.

- 1-2. **ELEMENTARY PORTUGUESE.** (3, 3) Yr. Lopes and Staff
 Credit for 1 suspended until 2 (or more advanced course) is completed.
- 51-52. **INTERMEDIATE PORTUGUESE.** (3, 3) Lopes and 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.

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 53-54 concurrently with 51-52.)

MINOR STUDY

18 hours in Spanish in courses numbered above 50.

- 1-2. **ELEMENTARY SPANISH** (3, 3) Yr. Lopes and 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 and Staff
51 and 52 offered every semester.
- 53-54. **ELEMENTARY SPANISH CONVERSATION**. (2, 2) 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 51-52. 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.
- 91-92. **INTRODUCTION TO SPANISH LITERATURE**. (3, 3) Nason and 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, Ulibarri
Prerequisite: two years of college Spanish or equivalent.
96. **COMMERCIAL AND INDUSTRIAL LANGUAGE PRACTICE IN HISPANIC COUNTRIES**. (2)
Prerequisite: two years of college Spanish or the equivalent. Cobos, Ulibarri
- 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 and Staff
Prerequisite: 54 or 56 or the equivalent.

Spanish 91, 92 or the equivalent are 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 to the end of the seventeenth century.
108. **MODERN SPANISH NOVEL**. (2) 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) Jorrin
- 151-152. **SURVEY OF SPANISH LITERATURE**. (3, 3) MacCurdy
Required of Spanish majors.
153. **PHONETICS**. (2) Duncan
Required of all majors. Prerequisites: three years of college Spanish or equivalent.

- 157-158. SURVEY OF SPANISH-AMERICAN LITERATURE. (3, 3) Lopes
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 Quijote*. (3) MacCurdy
A detailed analysis of the *Quijote* and treatment of its place in world literature.
176. CERVANTES: OTHER WORKS. (3) MacCurdy
Study of works other than the *Quijote* 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.
- 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.
- 251-262. 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 PICARESQUE NOVEL. (2) MacCurdy
- 291-292. SEMINAR: PÉREZ GALDÓS AND THE MODERN SPANISH NOVEL. (2, 2) Kercheville
300. THESIS. Graduate Staff
- 351-352. GRADUATE PROBLEMS. (2, 2) Graduate Staff
For Ph.D. candidates.
400. DISSERTATION. Graduate Staff

FOLKLORE

97. SOUTHWESTERN HISPANIC FOLKLORE. (2) Cobos
161. HISPANIC FOLKTALES. (2) Staff
162. HISPANIC FOLK BALLADS AND SONGS. (2) Staff

PHILOSOPHY

Professors Alexander (Head), Bahm; Graduate Assistant Jellema.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

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.

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|---|-----------------|
| 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 |
| <i>The processes of logical thought as reflected in linguistic structure.</i> | |
| 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. (Offered 1953-54 and alternate years.) | |
| 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 1952-53 and alternate years.) | |
| 123. HISPANIC THOUGHT. (2) | Alexander |
| Major philosophical influences in Spanish culture. (Offered 1953-54 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) | Jorrin |
| (Same as Government 161.) | |
| 162. POLITICAL THEORY FROM THE ENLIGHTENMENT TO TODAY. (3) | Jorrin |
| (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 1953-54 and alternate years.)
191. PHILOSOPHY OF LANGUAGE. (2) Alexander
The study of theories of semantics and symbolism. (Offered 1952-53 and alternate years.)
- 241-242. PERIODS OF SPECIAL PHILOSOPHICAL SIGNIFICANCE. (2, 2) Alexander, Bahm
Plato, Aristotle; Descartes, Spinoza, Leibniz; Locke, Berkeley, Hume; or others to be chosen by the group. Prerequisites: 141, 142.
- 251-252. PROBLEMS. (1-3 each semester) Graduate Staff
300. THESIS. Graduate Staff

PHYSICS

Professor Regener (Head); Consulting Professor Froman; Associate Professor Thomas; Assistant Professors Breiland, Green, Runge; Lecturers Reines, Richtmyer; Research Associate Bowen; Graduate Assistants Downing, Goodman, Kenney, Merner, Opperman, Spano, Tribby.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV). Special attention is drawn to Physics 1 and Physics 3.

MAJOR STUDY

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 63; Chemistry 1L and 4L (or 2L); Architectural Engineering 1L; Industrial Arts 10L and 20L, or other drawing and shop experience approved by the department Head; 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

Physics 51, 52, 101, 102, 103, 105, and one of the laboratory courses numbered above 100; Mathematics 53, 54, 141.

COMBINED MAJOR STUDY IN PHYSICS AND METEOROLOGY

Required courses: Physics 51L, 52L, 101, 101L, 103, 104, 121, 131, 125L, 126L, 127, 128; Mathematics 53, 54, and two of the four courses 141, 142, 143, 144; all other requirements are identical with those listed under major study in Physics, except for the following list of recommended courses from which the required six additional hours may be chosen: Physics 102, 102L, 105, 106L, 107L, 161; Astronomy 63; Mathematics 141, 142, 143, 144.

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 on p. 134.

1. INTRODUCTION TO ASTRONOMY AND PHYSICS. (2) LaPaz, Regener
(Same as Astronomy 1.) A non-technical introduction, including demonstrations; the first half devoted to Astronomy, the second half to Physics.
3. INTRODUCTION 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
Mechanics, heat, sound. Required of premedical, pre dental, and preoptometry students, also of ROTC students in A & S, of pharmacy students, and of students majoring in Industrial Arts in the Engineering College. Prerequisites: Mathematics 15 and 16. (For students majoring in Industrial Arts this Mathematics prerequisite is fulfilled by Industrial Arts 1 and 2.) 3 lectures, 3 hrs. lab.
- 12L. GENERAL PHYSICS. (4) Breiland, Green
Electricity and magnetism, optics. Required of premedical, pre dental and preoptometry students, also of ROTC students in A & S, of pharmacy students, and of students majoring in Industrial Arts in the Engineering College. Prerequisites: Physics 11L, Mathematics 15 and 16. 3 lectures, 3 hrs. lab.
- 51L. GENERAL PHYSICS. (4) Regener
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) Regener
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 1953-54 (I) and alternate years.)
- 101L. HEAT LABORATORY. (2) 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 1953-54 (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 1952-53 (I) and alternate years.)
- 102L. OPTICS LABORATORY AND GEOMETRICAL OPTICS. (2) 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 1953-54 (I) and alternate years.)
- 103-104. ANALYTICAL MECHANICS. (3, 3) Thomas, Green
Statics and dynamics of particles and rigid bodies; Lagrange's and Hamilton's equations; theory of vibration and sound; hydrodynamics. Pre- or corequisites: Mathematics 141, 142. (Offered 1952-53 and alternate years.)
- 105-106. ELECTRICITY AND MAGNETISM. (3, 3) Regener, Runge, Thomas
Electrostatic and electro-magnetic field theory. Direct and alternating current circuit theory. Pre- or corequisites: Mathematics 141, 142. (Offered 1953-54 and alternate years.)

- 106L. ELECTRICITY LABORATORY. (2) Green
Measurement of d.c. and a.c. circuit constants; charge; magnetic fields; power; resonance. 1 lecture, 3 hrs. lab. (Offered 1952-53 (I) and alternate years.)
- 107L. ELECTRONICS LABORATORY AND ELECTRON PHYSICS. (3) Green
Characteristics of vacuum tubes; amplifiers; oscillators; oscilloscopes; rectifiers; photo-electric cells; pulsing and scaling circuits. 2 lectures, 3 hrs. lab. (Offered 1952-53 (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.
- 125L-126L. SYNOPTIC METEOROLOGY. (3, 3) Breiland
Weather analysis and forecasting from surface and upper air data. Pre- or corequisite: 121. 2 lectures, 3 hrs. lab. (Offered in alternate years; alternates with 127, 128.)
- 127-128. DYNAMIC METEOROLOGY. (3, 3) Breiland
Thermodynamics of dry and moist air; stability of hydrostatic equilibrium; atmospheric kinematics and dynamics. Pre-or corequisite: 121. (Offered in alternate years; alternates with 125L, 126L.)
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 1953-54 (II) and alternate years.)
- 161-162-163-164. EXPERIMENTAL RESEARCH METHODS. (2 hrs. each semester)
Advanced laboratory work. Prerequisite: approval of instructor. Green, Regener
166. METHODS OF THEORETICAL PHYSICS. (3) Richtmyer, Thomas
Problems in diffusion, heat conduction, wave motion and potential theory. Prerequisite: approval of instructor. (Offered in semester II every year.)
190. INTRODUCTION TO CONTEMPORARY PHYSICS. (3) Staff
Occasionally offered during the summer session.
191. CONTEMPORARY PHYSICS. (3) Regener, Green, Thomas
The theory of special relativity; early quantum theory with applications to specific heats and to atomic and molecular spectra.
192. CONTEMPORARY PHYSICS. (3) Regener, Green, Thomas
An introduction to wave mechanics, to nuclear physics and to cosmic radiation.
199. SEMINAR. (1 hr. each semester) Breiland, Green, Regener, Thomas
201. STATISTICAL MECHANICS AND THERMODYNAMICS. (3) Thomas
Classical and quantum statistics with applications to molecules and elementary particles. (Offered 1953-54 (I) and alternate years.)
- 211-212. ELECTRODYNAMICS. (3, 3) Thomas
Maxwell's equations applied to radiation, scattering, micro-waves; Lorentz invariance. (Offered 1952-53 and alternate years.)
- 221-222. QUANTUM MECHANICS. (3, 3) Thomas
Uncertainty principle; potential wells and barriers; perturbation theory; relativistic wave equation; quantization of the radiation field.
231. ATOMIC STRUCTURE. (3) Regener, Thomas
Relativistic corrections; Zeeman and Stark effects; calculations for many-electron systems. Prerequisite: 221. (Offered 1953-54 (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 1952-53 (II) and alternate years.)
- 251-252. PROBLEMS. (2-4 each semester) Green, Regener, Thomas, Reines
299. ADVANCED SEMINAR. (1-3 each semester) Green, Regener, Thomas
300. THESIS. Green, Regener, Thomas
350. RESEARCH. (6-12) Regener, Thomas
400. DISSERTATION. Froman, Regener, Thomas

PORTUGUESE

See Modern and Classical Languages.

PSYCHOLOGY

Professor Peterson (Head); Associate Professor Norman; Assistant Professors Gordon (Visiting), Johnson, Keston, Utter; Instructor Benedetti; Graduate Assistants Ainsworth, Beddo, Diebenkorn, Kleinfeld, Levy, Liverant.

GROUP REQUIREMENTS

Courses in this Department count toward Science and Mathematics (Group IV).

MAJOR STUDY

For the degree of Bachelor of Arts: 30 hours in Psychology, including 198.

For the degree of Bachelor of Science: 30 hours in Psychology, including 180, and 196. Of these 30 hours, 4 hours must be taken in *either* 121L and 122L *or* in 193L and 196L. The minor must be selected from one of the following departments: Biology, Chemistry, Mathematics, or Physics.

MINOR STUDY

18 hours in Psychology, of which at least 6 hours must be in courses numbered above 100.

- 1L-2L. GENERAL PSYCHOLOGY. (3, 3) Yr. 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 Psychology 2L.
54. EDUCATIONAL PSYCHOLOGY. (3) Keston, Johnson
An introductory course, primarily for sophomores. Prerequisite: 2L or 51.
58. INDUSTRIAL PSYCHOLOGY. (3) Gordon, Utter
Applications of psychology to industry and business. Prerequisite: 2L or 51.
60. PERSONALITY AND ADJUSTMENT. (3) Benedetti
Introduction to personality theory; principles of adjustment and mental hygiene. Prerequisite: 2L or 51.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
101. SOCIAL PSYCHOLOGY. (3) Keston
The behavior of individuals as influenced by other human beings. Prerequisite: 2L or 51.
102. PSYCHOLOGY OF PERSONALITY. (3) Keston, Norman
An advanced course in theories, genetic development, and measurement of personality.
103. ABNORMAL PSYCHOLOGY. (3) Benedetti, Norman
Prerequisite: 60 or consent of instructor.
110. [183] EDUCATIONAL PSYCHOLOGY. (3) Keston, Johnson
Advanced course. Not open to those who have credit for 54. Prerequisite: 2L or 51.
111. [187] CHILD PSYCHOLOGY. (3) Keston, Johnson
The principles of human behavior in infancy and childhood. Prerequisite: 2L or 51.

112. ADOLESCENT PSYCHOLOGY. (3) Johnson
Development and problems during the adolescent period. Prerequisite: 2L or 51.
- 121L. EXPERIMENTAL PSYCHOLOGY. (3) Gordon, Utter
Lectures and experiments on sensory processes. Prerequisite: 2L or 51. 1 lecture, 6 hrs. lab.
- 122L. EXPERIMENTAL PSYCHOLOGY. (3) Gordon, Utter
Lectures and experiments on motor processes, learning, reasoning and imagination. 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.
180. ADVANCED STATISTICAL METHODS IN PSYCHOLOGY. (3) Gordon, Utter
Prerequisites: a course in statistics or consent of instructor, 2L or 51.
193. ANIMAL PSYCHOLOGY. (3) Peterson
A comparative study of heredity, maturation, learning, and the higher mental processes as revealed in various animals. Prerequisite: 2L or 51.
- 193L. ANIMAL PSYCHOLOGY LABORATORY. (2) Peterson
6 hrs. lab.
196. PHYSIOLOGICAL PSYCHOLOGY. (3) Peterson
Correlation of behavior and structure, with emphasis on the nervous system. Prerequisite: 2L or 51.
- 196L. PHYSIOLOGICAL PSYCHOLOGY LABORATORY. (2) Peterson
6 hrs. lab.
197. READINGS IN PSYCHOLOGY. (1-2 per semester to a maximum of 6) Staff
Independent reading in a particular field of psychology, accompanied by conferences 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.
- 221-222. GRADUATE SEMINAR. (1-3 each semester) Peterson, Keston
240. CLINICAL PSYCHOLOGY. (3) Norman
Theory and problems in clinical psychology.
- 251-252. PROBLEMS. (2-3 each semester) Graduate Staff
300. THESIS. Graduate Staff

SOCIOLOGY

Professor Walter (Head); Associate Professor Miller; Assistant Professors Ellis, Geddes, Saunders; Graduate Assistant Hilbert.

GROUP REQUIREMENTS

Courses in this Department count toward Social Science (Group III).

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.

- 1-2. INTRODUCTION TO SOCIAL SCIENCE. (3, 3) Yr. Staff
(Same as Economics 1, 2 and Government 1, 2) Credit suspended until both semesters are completed.
51. THE FAMILY. (3) Geddes
55. PRINCIPLES OF SOCIOLOGY. (3) Staff
Prerequisite to most advanced courses in the department.
66. SOCIAL CHANGE. (3) Miller
71. SOCIAL CONTROL. (3) Miller
Agencies and processes by which groups regulate their members. Prerequisite: 55 or equivalent.
72. SOCIAL PATHOLOGY. (3) Miller
Social problems as they impinge upon individual welfare. Prerequisite: 55 or equivalent.
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.
82. URBAN AND RURAL SOCIOLOGY. (3) Walter
- 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) Walter
Sociological approach to the analysis of human behavior. Prerequisite: 55 or equivalent.
109. CRIMINOLOGY. (3) Geddes
Crime as a social phenomenon. Prerequisite: 71 or equivalent.
110. JUVENILE DELINQUENCY. (2) Miller
Prerequisite: 55 or equivalent.
111. SOCIAL PROBLEMS OF LATIN AMERICA. (3) Jorrín
Does not give credit toward a Sociology major or minor. Prerequisite: 73 or equivalent.
117. SOCIAL PROBLEMS OF NEW MEXICO. (3) Walter
140. ECONOMIC SECURITY. (3)
(Same as Economics 140.)
- 151-152. INTRODUCTION TO SOCIAL SERVICE. (3, 3) Ellis
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.
154. RACE AND CULTURE RELATIONS. (3) Walter
160. SOCIOLOGY OF INDUSTRIAL RELATIONS. (3) Walter
The influence of progressive industrialization on traditional institutional arrangements. Prerequisite: 82 or equivalent.
163. HISTORY OF SOCIAL THOUGHT. (3) Miller
Prerequisite: 55 or equivalent.
166. METHODS IN SOCIOLOGY. (3) Staff
Prerequisite: 55 or equivalent.
- 167F. FIELD SESSION. (4) Staff
Field training in use of research techniques. Prerequisite: 166 or equivalent.

170. ORGANIZATION AND ADMINISTRATION OF SOCIAL WELFARE. (3)	Ellis
(Same as Government 170.)	
195. POPULATION PROBLEMS. (3)	Walter
Prerequisite: 82 or equivalent.	
197. FIELD OBSERVATION AND PARTICIPATION. (3)	Ellis
Prerequisites: 151, 152, or student may take 152 concurrently.	
241. SEMINAR: SOCIAL ORGANIZATION. (3)	Graduate Staff
242. SEMINAR: SOCIAL PROCESSES. (3)	Graduate Staff
300. THESIS.	Graduate Staff

SPEECH

Professor Eubank (Head); Associate Professors Allen, Keleher, Ried;
Assistant Professors Chreist, McBath.

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.

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.

- | | |
|--|-------|
| 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) Christ
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) Christ
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.
50. PARLIAMENTARY PROCEDURE. (1) Allen
Study and practice of the rules governing the proceedings of groups and deliberate assemblies.
51. INTRODUCTION TO RADIO. (2) Allen
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, 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) Allen
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) McBath
A course for students interested in debate and intercollegiate forensics. Prerequisite: consent of instructor.
78. ARGUMENTATION AND DEBATE. (3) McBath
A continuation of 77. This course stresses the practical problems of debate. Prerequisite: 77.
90. RADIO PRODUCTION. (3) Allen
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) Pearce
(Same as English 91.)
101. PHONETICS. (3) Allen
English phonetics as applied to the problems of articulation, pronunciation, rhythm, dialects, and to the teaching of speech and to speech correction.
120. SCIENTIFIC BASES OF SPEECH. (3) Christ
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) Christ
A survey of pathological problems in the areas of speech and hearing and the result-

- ing 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.
135. **ARTICULATORY PROBLEMS IN SPEECH CORRECTION.** (3) Chreist
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
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) Allen, Eubank
A course designed for secondary school teachers. The place of speech education in the school; discussion of specific problems in conjunction with the teaching of debate, public speaking, oral reading, dramatics, speech improvements and auditorium programs. Prerequisite: consent of instructor.
190. **ADVANCED RADIO PRODUCTION.** (3) Allen
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) Allen
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, McBath
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, McBath
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, McBath
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
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) Allen
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
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
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) Allen, Chreist, Eubank, McBath
300. **THESIS.** Eubank, Allen, Chreist, McBath

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, Bachelor of Science in Chemical Engineering, and Bachelor of Science in Industrial Arts. 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 Head 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 Head of the department concerned.

The course of study for the first year is uniform for all departments except Industrial Arts. 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. Students may elect the course in Industrial Arts after the first year without loss of time.

CURRICULA OFFERED BY THE COLLEGE OF ENGINEERING

COURSES OF STUDY FOR ALL ENGINEERING STUDENTS

FRESHMAN YEAR					
First Semester			Second Semester		
	Hrs.			Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 15	3	(3-0)	Math 22	4	(4-0)
Math 16	2	(2-0)	Engl 2	3	(3-0)
Engl 1	3	(3-0)	Chem 6L	4	(3-3)
Chem 5L	4	(3-3)	AE 2L	3	(2-4)
AE 1L	3	(1-6)	*AE 4L	2	(1-3)
*AE 3	1	(1-0)			
	16	(13-9)	*PE	16	(13-10)
*PE	1			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 126

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

for Mathematics; to page 112 for English; to page 107 for Chemistry; and to page 146 for Architectural Engineering (A.E.).

COLLEGE OF ENGINEERING

DEPARTMENTS OF INSTRUCTION

Courses numbered from 1-49, normally open to freshmen; from 50-99, normally open to sophomores; from 100-199, 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) indicate 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.

ARCHITECTURAL ENGINEERING

Professor Heimerich (Head); Associate Professor Stoneking; Assistant Professors Gafford, Huzarski; Instructor Norris.

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.

ARCHITECTURAL ENGINEERING LABORATORY. The drafting and design rooms for engineering drawing and architecture are housed in a temporary building, B-2, near the main engineering buildings. Four well-equipped drafting rooms are provided for the work of this department, in addition to offices, a store room, and a blueprint room.

CURRICULUM IN ARCHITECTURAL ENGINEERING

SOPHOMORE YEAR					
First Semester			Second Semester		
	Cr.	Hrs. Lect.-Lab.		Cr.	Hrs. Lect.-Lab.
Math 53	4	(4-0)	Math 54	4	(4-0)
Physics 51L	4	(3-3)	Physics 52L	4	(3-3)
AE 81L	3	(0-9)	CE 60	3	(3-0)
Art 42	2	(2-0)	AE 82L	3	(0-9)
Art 5	2	(0-6)	Art 61	2	(2-0)
*Econ 51	3	(3-0)	*Art 3 or 6	2	(0-6)
	18	(12-18)		18	(12-18)
*PE	1		*PE	1	
JUNIOR YEAR					
AE 131L	4	(0-12)	AE 132L	4	(0-12)
CE 102	3	(3-0)	CE 115L	3	(2-3)
CE 103L	1	(0-3)	CE 122L	2	(1-3)
ME 108L	4	(3-3)	CE 124	2	(2-0)
Art 62	2	(2-0)	EE 108L	4	(3-3)
*CE 53L	3	(1-6)	*Engl 64	3	(3-0)
	17	(9-24)		18	(11-21)
SENIOR YEAR					
AE 161	3	(3-0)	AE 162	3	(3-0)
AE 171	1	(1-0)	AE 168	2	(2-0)
AE 181L	5	(0-15)	AE 172	1	(1-0)
CE 156L	3	(1-6)	AE 182L	5	(0-15)
CE 158	2	(2-0)	AE 198	0	(0-0)
*Elective	3	(3-0)	CE 159L	3	(1-6)
	17	(10-21)	*Elective	2	(2-0)
				16	(9-21)

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation, "A.E." is implied.

A. E.

1L. ENGINEERING DRAWING. (3)

The essentials of drafting, including the use of instruments, lettering, orthographic projection, 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.

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

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. Primarily for Industrial Arts students.

62L. CONSTRUCTION DRAWING. (3)

Small house plans, with emphasis on construction details. Prerequisite: 2L. Primarily for Industrial Arts students.

81L. [51L] ELEMENTS OF ARCHITECTURE I. [Shades, Shadows and Perspective] (3)

A study of the fundamentals of architectural design, and presentation of elementary architectural problems. Prerequisite: 2L; corequisites: Art 5 and 42.

82L. [52L] ELEMENTS OF ARCHITECTURE II. [Architectural Drafting] (3)

A continuation of AE 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. [101L] ARCHITECTURAL DESIGN I. [Elements of Architecture 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. [102L] ARCHITECTURAL DESIGN II. [Elements of Architecture II] (4)

A continuation of AE 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 AE 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. [151L] ARCHITECTURAL DESIGN III. [Working Drawings I] (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. [152L] ARCHITECTURAL DESIGN IV. [Working Drawings II] (5)

A continuation of AE 181L. Prerequisite: 181L; corequisite: CE 159L.

198. INSPECTION TRIP. (0)

Required of all seniors.

CHEMICAL ENGINEERING

Professor Castonguay (Head); Assistant Professors Ferm, Hoover.

Chemical engineering is that branch of engineering concerned with the development and application of manufacturing processes in which chemical or certain physical changes of material are involved.

The course in Chemical Engineering is designed to afford the student broad training in the fundamentals of mathematics, physics,

chemistry, and engineering to meet the needs of the chemical or related industries where men competent to design, develop, and operate new processes and to improve existing processes, are required. The chemical engineer is not specifically trained for only one industry. The distinctly professional courses of Unit Operations and Unit Processes enable him to apply his knowledge to any chemical or process industry with relatively little difficulty.

The graduate chemical engineer will find many avenues of opportunities in research and development; production, operation, and maintenance; management and administration; design, construction, and installation; technical service and sales; consulting; teaching, and technical writing, etc., in such industries as industrial chemicals, petroleum, explosives, plastics, rubber products, paper and allied products, synthetic rubber, food products, drugs, insecticides, glass, cement, clay, iron and steel, paints and varnishes, oils, soaps, rayon and synthetics.

CHEMICAL ENGINEERING LABORATORY. The Chemical Engineering building has a floor space of over 8,000 sq. ft. and contains a laboratory adequately equipped with pilot plant equipment for use in the study of Unit Operations of Chemical Engineering such as fluid flow, heat flow, evaporation, distillation, air conditioning, absorption, filtration, crystallization, etc., and Unit Processes such as nitration, sulfonation, hydrogenation, etc.

The process development laboratory is well equipped for the study of small scale manufacture of chemical products. Smaller laboratories are provided for the testing of fuels, gases, water, etc.

Adequate classroom space and design laboratory are available. Shop facilities are in conjunction with the well-equipped Industrial Arts Shop.

CURRICULUM IN CHEMICAL ENGINEERING

SOPHOMORE YEAR			
First Semester		Second Semester	
	Hrs. Cr. Lect.-Lab.		Hrs. Cr. Lect.-Lab.
Math 53	4 (4-0)	Math 54	4 (4-0)
Physics 51L	4 (3-3)	Physics 52L	4 (3-3)
Chem 53L	5 (2-9)	Chem 101 and 103L	4 (3-3)
Ch E 51	2 (3-0)	Ch E 52	3 (3-0)
*Econ 51	3 (3-0)	C E 60	3 (3-0)
	<hr/>		<hr/>
	18 (15-12)		18 (16-6)
*PE	1	*PE	1
JUNIOR YEAR			
Ch E 111	4 (4-0)	Ch E 112	4 (4-0)
Ch E 113L	2 (0-6)	Ch E 114L	2 (0-6)

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

Chem 111 and 113L	4	(3-3)	Chem 112 and 114L	4	(3-3)
Chem 102 and 104L	4	(3-3)	*M E 101	3	(3-0)
M E 106	3	(3-0)	C E 102	3	(3-0)
	—	—	C E 103L	1.	(0-3)
	17	(13-12)		—	—
				17	(13-12)
SENIOR YEAR					
Ch E 191	3	(3-0)	Ch E 192	3	(3-0)
Ch E 181L	2	(0-6)	Ch E 182L	2	(0-6)
E E 105	2	(2-0)	Ch E 194L	2	(1-3)
Ch E 171	2	(2-0)	Ch E 196L	3	(2-3)
Ch E 161	3	(3-0)	E E 106	2	(2-0)
*Elective (non-tech)	3	(3-0)	Ch E 162	2	(2-0)
Ch E 151	1/2	(1-0)	*Elective (non-tech)	2	(2-0)
Elective (tech) or			Ch E 152	1/2	(1-0)
Ch E 153	2	(2-0)	Ch E 198	0	(0-0)
EE 111L	1	(0-3)	E E 112L	1	(0-3)
	—	—		—	—
	18 1/2	(16-9)		17 1/2	(13-15)

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation, "Ch.E." is implied.

Ch. E.**51. CHEMICAL CALCULATIONS. (2)**

More extensive problem work in the stoichiometric principles of chemistry, including composition changes; the material balance; units and dimensions. Prerequisite: Chemistry 2L or 4L 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: Ch. E. 51 or the equivalent; Physics 51L, and Mathematics 53.

111. PRINCIPLES OF CHEMICAL ENGINEERING. (4)

A study of the unit operations and their application to the chemical industry. Problems in the flow of fluids, heat transfer, evaporation, filtration, crushing and grinding, mechanical separation, and related topics. Prerequisites: Ch.E. 52 or the equivalent; pre- or corequisite: Mathematics 54.

112. PRINCIPLES OF CHEMICAL ENGINEERING. (4)

A continued lecture and recitation study of the unit operations and their applications to the chemical industries. Problems in air conditioning, drying, distillation, gas absorption, extraction, crystallization, and similar topics. Prerequisite: 113L.

113L. UNIT OPERATIONS, LABORATORY I. (2)

Laboratory practice and experimental study of unit operations covered in 111. Corequisite: 111.

114L. UNIT OPERATIONS, LABORATORY II. (2)

Experimental laboratory study of the unit operations covered by 112. Prerequisite: 113L; corequisite: 112.

151-152. SEMINAR. (1/2, 1/2)

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.)

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

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 Ch.E. 112.

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 Ch.E. 112.

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, Ch.E. 111 and 112.

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: Ch.E. 161 or 162.

182L. CHEMICAL ENGINEERING PROCESS LABORATORY II. (2)

Continuation of 181L; but may be taken as an independent unit. Prerequisites: Chemistry 111 and 113L; corequisite: Ch.E. 161 or 162.

191. PRINCIPALS 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: M.E. 101, Chemistry 111 and 113L, and Ch.E. 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.

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 Ch.E. 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.

CIVIL ENGINEERING

Professors Wagner. (Head), Foss; Associate Professor May; Assistant Professors Clough, Martinez, Zwoyer; Instructor Radosevich; Graduate Assistants Butz, Hassler.

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 new 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 new 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 cus-

tomy 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 department's new 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		
	Hrs.			Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Math 53	4	(4-0)	Math 54	4	(4-0)
Physics 51L	4	(3-3)	Physics 52L	4	(3-3)
CE 53L	3	(1-6)	CE 54L	4	(2-6)
*Econ 51	3	(3-0)	CE 60	3	(3-0)
Geology 4	3	(3-0)	*English 64	3	(3-0)
	17	(14-9)		18	(15-9)
*PE	1		*PE	1	
JUNIOR YEAR					
CE 102	3	(3-0)	CE 115L	3	(2-3)
CE 103L	1	(0-3)	CE 122L	2	(1-3)
CE 110L	4	(3-3)	CE 124	2	(2-0)
CE 118L	4	(3-3)	CE 120	3	(3-0)
ME 106	3	(3-0)	CE 104L	3	(2-3)
*Elective	3	(3-0)	EE 105	2	(2-0)
	18	(15-9)	*Elective	3	(3-0)
				18	(15-9)
SENIOR YEAR					
CE 155L	3	(1-6)	CE 159L	3	(1-6)
CE 158	2	(2-0)	CE 162L	3	(2-3)
CE 161L	3	(2-3)	CE 165	1	(1-0)
CE 167L	4	(3-3)	CE 152	2	(2-0)
†*CE Elective	3	(2-3)	†*CE Elective	6	(5-3)
EE 106	2	(2-0)	ME 101 \	3	(3-0)
			CE 198	0	(0-0)
	17	(12-15)		18	(14-12)

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

† 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.

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation, "C.E." is implied.

C. E.

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 the theories as taught in C.E. 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.

110L. FLUID MECHANICS. (4)

Fundamental principles of hydrostatics, hydrokinetics and hydrokinematics with particular emphasis on application to practical hydraulic engineering problems. Laboratory and field experiments illustrating the elementary principles of fluid motion. Prerequisite: C.E. 60; corequisite: Mathematics 54.

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.

118L. [154L] 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: 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.

155L. STRUCTURAL DESIGN II. (3)

A continuation of C.E. 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 C.E. 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. [161] 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: 110L.

162L. [162] 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: 110L.

165. SEMINAR. (1)

Prerequisite: senior standing.

167L. [109L] 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: 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 résumé 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 venti-

- lation, 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: 110L.
184. **WATER POWER. (3)**
Hydraulics problems of water power development, dams, spillways, crest controls and power plants. Economics of water power developments. Prerequisites: 110L 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: 110L 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: 110L 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: 110L.
189. **PUMPS. (3)**
Study of pump classification, theory, selection, installation, operation, maintenance, testing, and materials for pumping various liquids. Special topics such as cavitation, affinity laws, etc. Prerequisite: 110L.
- 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: 118L.
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.
198. **INSPECTION TRIP. (0)**
Required for graduation. Annual inspection tour of leading civil engineering projects in different sections of the country. Approximately one week will be scheduled. Prerequisite: senior standing.
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: 167L.
206. **OPEN CHANNEL FLOW. (3)**
Study of the hydraulic jump and backwater curves. Slowly varied flow involving storage. Special topics of unsteady flow. Prerequisite: 110L.
- 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: 110L.

- 209L. 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. [216L] FOUNDATIONS AND RETAINING WALLS. [Foundations] (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: 167L, 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: 110L.
- 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 concrete 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.

ELECTRICAL ENGINEERING

Professors Tapy (Head), Ellis; Associate Professor Martin; Assistant Professor Jacobson; Instructors Davis, Reiff, Weinberg.

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 broad in nature. Therefore the curriculum is designed so that the student may obtain a maximum of related courses by using the technical 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

First Semester		SOPHOMORE YEAR		Second Semester	
		Lect.-			Lect.-
	Cr.	Lab.		Cr.	Lab.
EE 51L	3	(2-3)	EE 54L	4	(3-3)
Math 53	4	(4-0)	Math 54	4	(4-0)
Physics 51L	4	(3-3)	Physics 52L	4	(3-3)
Engl 64	3	(3-0)	CE 60	3	(3-0)
*Econ 51	3	(3-0)	*Elective	3	(3-0)
	17	(15-6)		18	(16-6)
*P E	1		*P E	1	

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

JUNIOR YEAR					
EE 101	3	(3-0)	EE 102L	1	(0-3)
EE 113L	4	(3-3)	Math 143	3	(3-0)
EE 131L	4	(3-3)	EE 142L	4	(3-3)
ME 106	3	(3-0)	EE 132L	4	(3-3)
*Elective	3	(3-0)	CE 102	3	(3-0)
			*Elective	3	(3-0)
	17	(15-6)		18	(15-9)
SENIOR YEAR					
EE 151L	4	(3-3)	EE 152L	4	(3-3)
EE 171	1	(1-0)	*EE 172	1	(1-0)
EE 115	3	(3-0)	EE 186	3	(3-0)
ME 101	3	(3-0)	BA 130	3	(3-0)
*Tech Elect	7	(6-3)	Tech Elect	7	(6-3)
EE 155L	1	(0-3)		18	(16-6)
	19	(16-9)			

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

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation "E. E." is implied

E. E.

51L. ELECTRICAL ENGINEERING COMPUTATIONS. (3)

Problems in electrical engineering involving the use of determinants, series, complex numbers, hyperbolic functions. Prerequisite: Mathematics 22.

54L. DIRECT CURRENT CIRCUITS. (4)

Direct current electric and magnetic circuits under steady state and transient conditions. Corequisite: Mathematics 53.

101. DIRECT CURRENT MACHINES. (3)

Theory and application of D.C. motors and generators and their control equipment. Prerequisite: 54L.

102L. DIRECT CURRENT MACHINES LABORATORY. (1)

Prerequisite: 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. [Electric Circuits and Wiring] (4)

Elementary D.C. and A.C. circuits and wiring and equipment used in buildings. Illumination. Prerequisites: Mathematics 16, Physics 12L.

111L. ELECTRICAL APPLICATIONS LABORATORY. (1).

Corequisite: 105.

112L. ELECTRICAL APPLICATIONS LABORATORY. (1)

Corequisite: 106.

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

- 113L. ALTERNATING CURRENT CIRCUITS. (4)
Sinusoidal single and polyphase, balanced and unbalanced circuits, coupled circuits, symmetrical components. Prerequisite: 54L; corequisite: Mathematics 54.
115. ELECTRIC AND MAGNETIC FIELDS. (3)
Study of fields associated with electric and magnetic circuits. Corequisite: 113L.
- 131L. ELECTRON-TUBES. (4)
Electron ballistics, optics and emission. Electronic conduction through vacuum, gases and vapors. Construction and characteristics of vacuum and gas tubes. Corequisite: 113L.
- 132L. ELECTRONICS. (4)
Basic applications of electron tubes; rectification; class A voltage and power amplifiers, push-pull amplifiers; class AB, B, and C amplifiers, oscillators; modulators; detectors. Prerequisite: 131L.
- 142L. CIRCUIT ANALYSIS. (4)
Non-sinusoidal analysis, resonance, network theorems and transformations, impedance transformations, filter theory and electrical transients. Prerequisite: 113L.
- 151L-152L. ALTERNATING CURRENT MACHINERY. (4, 4)
Prerequisites: 106, 113L.
- 155L. ELECTRONICS LABORATORY. (1)
Laboratory course for 132L. Prerequisite: 132L.
- 162L. ELECTRICAL ENGINEERING DESIGN LABORATORY. (3)
Design and testing of electrical circuits and machines. Prerequisite: senior standing; corequisite: 152L.
- 171-172. SEMINAR. (1-1)
Prerequisite: senior standing
- 174L. INDUSTRIAL APPLICATIONS. (4)
Application and control of direct and alternating current machines. Prerequisite: 106; corequisite: 151L.
183. ILLUMINATION. (2)
A study of light sources and their application to practical problems. Prerequisite: 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; corequisite: E.E. 151L.
188. SERVO-MECHANISMS. (3)
Theory and applications of Servo-Mechanism to control problems. Prerequisite: 113L; corequisite: Mathematics 143.
- 193L. COMMUNICATION ELECTRONICS. (4)
Electronic circuits fundamental to communication systems; amplitude, frequency, and phase modulation and demodulation; R.F. amplifiers, oscillators coupling to free space. Prerequisites: 132L and 142L.
- 194L. ULTRA HIGH FREQUENCY ENGINEERING. (4)
Transmission lines, wave guides, cavity resonators, antennas, horns, parabolas, timing circuits; video amplifiers, vacuum tubes at U.H.F., Klystron, magnetrons, radio propagation. Prerequisite: 193L.
- 195L. INDUSTRIAL ELECTRONICS. (4)
Electronics as applied to industrial problems. Rectifiers, speed and voltage regulators, automatic synchronizers, industrial X-ray, high frequency heating, etc. Prerequisite: 132L; corequisite: 151L.
- 196L. POWER TRANSMISSION AND DISTRIBUTION. (4)
Electrical and mechanical characteristics; economics of transmission and distribution systems. Prerequisites: 115 and 151L.

202. HEAVISIDE OPERATORS. (3)
The application of the Heaviside operational method to the solution of linear circuits.
- 204L. ELECTRODYNAMICS. (4)
A course dealing with the derivation and application of the basic ideas and laws relating to electrostatic and magnetic phenomena.
- 212L. ELECTRIC AND MAGNETIC FIELDS. (4)
Advanced electric and magnetic fields. Prerequisite: permission of instructor.
- 215L. TRANSIENTS IN LINEAR CIRCUITS. (4)
An advanced study of transient phenomena in linear electrical, mechanical, and electro-mechanical systems through application of the LaPlace Transformation.
217. SYMMETRICAL COMPONENTS. (3)
The application of symmetrical components to the solution of short circuit problems. Prerequisite: 196L.
- 220L. ADVANCED ELECTRICAL MACHINERY. (4)
Advanced topics in synchronous and induction machinery including a study of synchronous reactions, transients and harmonics. Prerequisite: 152L.
- 222L. ADVANCED INDUSTRIAL ELECTRONICS. (4)
Theory and application of electronic devices to industrial problems. Prerequisite: 195L.
231. MICROWAVE TECHNIQUES. (3)
The behavior of circuit elements, circuits, and vacuum tubes at microwave frequencies.
232. ELECTRONIC SYSTEMS. (3)
A study of the theory and techniques associated with electronic systems such as radio (AM and FM), television, radar, computing systems, telemetering, and guided missiles.
233. RADIATION AND ANTENNAS. (3)
Propagation and radiation in wave guides and antennas.
234. ADVANCED ELECTRONIC CIRCUITS. (3)
Advanced study of selected topics such as feedback, the Nyquist criterion, wave shaping and trigger circuits.
235. ADVANCED COMMUNICATIONS NETWORKS. (3)
A study of transmission phenomena in networks and in a succession of cascaded circuits.
- 251-252. PROBLEMS. (3, 3)
Advanced reading, design, or research.
300. THESIS.

MECHANICAL ENGINEERING

Professors Ford (Head), Farris, Grace; Assistant Professors Dove, Rightley, Skoglund; Graduate Assistant Neely.

Mechanical Engineering is divided into three main fields: design, power and production. The courses in Mechanical Engineering present the theory and practice of the generation and utilization of power and of the design, construction, and operation of mechanical equipment of all kinds. In the laboratories, emphasis is placed on basic engineering principles, standard test procedures, and the economics of various types of equipment. In the mechanical engineering laboratory will be found representative examples of commercial machines and instruments used in the fields of heat power, heating, air conditioning, fluid flow, refrigeration, aerodynamics, 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	
	Hrs.		Hrs.
	Cr. Lect.-Lab.		Cr. Lect.-Lab.
Math 53	4 (4-0)	Math 54	4 (4-0)
Physics 51L	4 (3-3)	Physics 52L	4 (3-3)
*Econ 51	3 (3-0)	*Engl. 64	3 (3-0)
ME 53	3 (3-0)	CE 60	3 (3-0)
IA 64L	2 (0-6)	IA 70L	2 (0-6)
IA 75L	1 (0-3)	ME 54L	1 (0-3)
	17 (13-12)		17 (13-12)
*PE	1	*PE	1
JUNIOR YEAR			
ME 101	3 (3-0)	ME 102	4 (4-0)
ME 103L	2 (0-6)	ME 117L	4 (3-3)
ME 106	3 (3-0)	ME 114L	3 (1-6)
ME 113L	3 (1-6)	EE 105	2 (2-0)
CE 102	3 (3-0)	*Electives (non tech)	3 (3-0)
CE 103L	1 (0-3)	EE 111L	1 (0-3)
*Elective (non tech)	3 (3-0)		
	18 (13-15)		17 (13-12)
SENIOR YEAR			
ME 151L	1 (0-3)	ME 152L	2 (0-6)
ME 150L	4 (3-3)	ME 153L	3 (0-9)
EE 106	2 (2-0)	ME 160	3 (3-0)
ME 175	2 (2-0)	ME 156	3 (3-0)
ME 172	1 (1-0)	ME 173	1 (1-0)
*†Tech Electives	6 (6-0)	*†Tech Electives	6 (6-0)
EE 112L	1 (0-3)	ME 198 (Inspection Trips)	0
	17 (14-9)		18 (13-15)

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

† Technical electives may be chosen from the following courses: M.E. 155, 162, 165, 167, 168, 171, 181, 182, 193, ROTC courses. Others may be selected with advice of the

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation, "M.E." is implied.

M. E.**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 2L.

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: A.E. 1L, 2L. Not for Mechanical Engineers.

101-102. THERMODYNAMICS. [Heat Power Engineering; 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: C.E. 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. [60-107L] MECHANICAL DESIGN. [Mechanics; Strength of Materials] (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: A.E. 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: A.E. 1L, 2L; M.E. 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: M.E. 113L, 114L and C.E. 102.

151L. MECHANICAL ENGINEERING LABORATORY. (1)

Tests of steam boilers, engines, turbines, pumps and compressors. Prerequisite: 102, senior standing.

152L. MECHANICAL ENGINEERING LABORATORY. (2)

Tests of internal combustion engines, their fuels and lubricants. Prerequisite: 102; corequisite: 160.

Department Head. Those students interested in Aeronautical engineering should elect M.E. 167, 168 and 171. Those interested in Petroleum should elect M.E. 181, 182 and as much geology and chemistry as possible.

- 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: M.E. 113L, 114L; C.E. 102 and M.E. 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.
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. Prerequisites: 102, 167; corequisite: 117L.
171. AIRPLANE STRUCTURES. (2)
Application of fundamental principles of structural theory to practical airplane design. Prerequisite: C.E. 102
- 172-173. SEMINAR. (1, 1)
Preparation, presentation, and discussion of papers and reports from current technical magazines and journals. Prerequisite: senior standing.
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: senior standing.
- 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.
198. INSPECTION TRIP. (0)
Required for graduation. Annual inspection tour of leading plants in the manufacturing field in different sections of the country. Approximately one week will be scheduled. Prerequisite: senior standing.
202. SPECIAL TOPICS IN ADVANCED DYNAMICS. (3)
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; suppression and elimination of vibration.
206. ADVANCED THERMODYNAMICS. (3)
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.

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.

251-252. PROBLEMS. (3, 3)

Advanced reading, design, or research

300. THESIS.

DIVISION OF INDUSTRIAL ARTS

Associate Professor Bailey; Assistant Professors Brown, Davis; Instructor Blankley.

The general objectives for the Industrial Arts program are:

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

The program is divided into two curricula. The curriculum in Industrial Arts is listed under the College of Engineering. The curriculum in Industrial Arts Education is listed under the College of Education.

Industrial Arts emphasizes knowledge and appreciation of industry in specific fields and teaches basic manipulative skills. For this purpose comprehensive courses are offered in machine shop, patternmaking, carpentry, cabinet making, forging, sheet metal, foundry, and welding. It is the aim of this curriculum to familiarize the student with production and management methods used in industry in order to prepare him for supervisory service in industry or to enable him to establish his own business. This curriculum leads to the degree of Bachelor of Science in Industrial Arts.

Industrial Arts Education increases the student's knowledge and skill in the major industrial arts areas, and develops a fair degree of competency in woodwork, metalwork, and engineering drawing. Teaching methods and activities in planning, construction, and designing are provided in the various shop courses, so that prospective teachers will meet the necessary requirements as teachers or supervisors of Industrial Education. This curriculum leads to the degree of Bachelor of Science in Industrial Arts Education.

Service courses provide opportunities for the engineering students to gain experience with industrial materials, tools, and processes.

Elective courses give avocational training for students planning to utilize Industrial Arts experience as a foundation for leisure time activities.

R.O.T.C. students can substitute air or naval science courses in the Industrial Arts curriculum so that the requirements for a degree can be met in four years.

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.

CURRICULUM IN INDUSTRIAL ARTS

FRESHMAN YEAR					
First Semester			Second Semester		
	Hrs.			Hrs.	
	Cr.	Lect.-Lab.		Cr.	Lect.-Lab.
Engl 1	3	(3-0)	Engl 2	3	(3-0)
AE 1L	3	(1-6)	AE 12L	3	(0-9)
IA 1	3	(3-0)	IA 2	3	(3-0)
IA 10L	3	(1-6)	IA 20L	3	(1-6)
*Elective	3	(3-0)	*Elective	3	(3-0)
	15	(10-12)		15	(10-15)
*PE	1		*PE	1	
SOPHOMORE YEAR					
Math 15	3	(3-0)	Math 16	2	(2-0)
IA 53	3	(3-0)	Econ 51	3	(3-0)
AE 2L	3	(2-4)	AE 62L	3	(0-9)
IA 63L	3	(1-6)	IA 65L	3	(1-6)
*Elective	3	(3-0)	*Elective	3	(3-0)
	15	(12-10)		14	(9-15)
*PE	1		*PE	1	
JUNIOR YEAR					
Physics 11L	4	(3-3)	Physics 12L	4	(3-3)
ME 55L or			Speech 55 or Engl 64	3	(3-0)
CE 53L	3	(1-6)	IA 105L	3	(1-6)
IA 157L	3	(1-6)	IA 60L	3	(1-6)

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

IA 62L	3	(1-6)	*Psych 58	3	(3-0)
*Psych 51	3	(3-0)			
	16	(9-21)		16	(11-15)
SENIOR YEAR					
ME 108L	4	(3-3)	EE 108L	4	(3-3)
ME 110	2	(2-0)	ME 111	2	(2-0)
IA 104L	3	(1-6)	IA 110L	3	(1-6)
*Econ Elective	3	(3-0)	*ME 156	3	(3-0)
IA 153	3	(3-0)	IA 154	3	(3-0)
IA 159L	3	(1-6)	IA 111L	3	(1-6)
	18	(13-15)		18	(13-15)

DESCRIPTION OF COURSES:

When a prerequisite course number is not preceded by a department designation, "I. A." is implied.

I. A.

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. WOODWORK. (3)

Instruction in proper use and care of woodworking tools. Basic instruction for wood-working power machinery. Construction of units in woodworking procedures. Study of woods and finishes.

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. (3)

Characteristics and production of wood, silicate cements, glass and clay products. Manufacture and heat treatment of ferrous and nonferrous metals. Prerequisites: 10L and 20L.

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. (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. Prerequisite: 10L.

62L. CARPENTRY. (3)

Fundamentals in plot layouts, foundations, floor and wall framing, roof construction,

* Students enrolled in Air ROTC or Navy ROTC may substitute ROTC courses for the above, to the extent of 2 or 3 hours each semester.

and inside and outside finishing. Use of the steel square in house construction. Prerequisite: 10L.

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.

64L. PATTERN MAKING AND FOUNDRY. (2)

Not for Industrial Arts students. Construction of wood and metal patterns and core boxes used in industry. Fundamentals of foundry practice and study of production casting.

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.

70L. MACHINE SHOP. (2)

Not for Industrial Arts students. Bench work, operation of engine lathes, shapers, grinders, drill presses, milling machines, simple dies and punches.

75L-76L. HEAT TREATING AND WELDING. (1, 1)

Use of arc and oxyacetylene in welding, brazing, and cutting of metals. For mechanical engineers only.

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.

104L. ADVANCED PATTERN MAKING. (3)

Construction of master patterns, plaster models, metal patterns and core boxes, gated patterns, plated patterns for both wood and metal. Prerequisites: 10L, 63L.

105L. SHEET METAL. (3)

Fundamental machine and hand tool operations, care and use of sheet metal equipment. Development of patterns and layouts for sheet metal construction. Prerequisites: A.E. 2L and I.A. 20L.

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.

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, 65L.

153. SHOP EQUIPMENT. (3)

An analysis of manufacturing, including methods, equipment, tooling, tooling costs, and production costs. Prerequisite: junior standing.

154. SHOP MANAGEMENT. (3)

Personnel and supervisory training, techniques in use of job analysis, job planning, shop records, time and motion study, etc. Prerequisite: senior standing.

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 non-ferrous metals; and the cleaning of castings. Prerequisite: 63L.

159L. ARC AND ACETYLENE WELDING. (2-3)

Use of arc and oxyacetylene welding, the brazing of ferrous and non-ferrous metals and torch cutting. Prerequisite: 20L.

160L. ADVANCED CARPENTRY. (3)

Advanced work on building construction and inside finishing. To develop further knowledge and skills in carpentry. Prerequisites: 10L, 62L.

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 México 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 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 work 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.

LONGFELLOW SCHOOL. Through a coöperative arrangement with the Albuquerque Public Schools, the University is enabled to use the Longfellow School for demonstration and practice teaching. Here in typical situations the beginning teacher is assisted in solving her problems by experienced critic teachers. The work is under the direction of the school principal and the director of practice teaching in the College of Education.

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 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. 79-81.

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. 178.

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. 84.

12. For minimum residence requirements, see p. 84.

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. 187.

I. **ENGLISH.** As evidence of proficiency in oral and written English a student must earn 12 semester hours and must pass the Sophomore Proficiency Examination. Six hours must be earned in English 1, 2, and 6 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.

* For approved courses, see departments of instruction.

CURRICULA

Curricula have been outlined under the respective departments for the purpose of directing students in their chosen fields of work. There are curricula for students preparing to teach in 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.

COLLEGE OF EDUCATION

DEPARTMENTS OF INSTRUCTION

Courses numbered from 1-49, lower division, 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) indicate 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.

GENERAL EDUCATION

Professors Nanninga (Dean), Clauve, Diefendorf, Fixley, Masley, Reid, Tireman, White; Associate Professors Crawford, Ivins; Assistant Professors Israel, 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) Tireman
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
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
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
151. PROBLEMS. (1-3) Staff
- 174C. PHILOSOPHY OF EDUCATION. (2)
Credit not allowed for both 174 and 102. (Offered by correspondence only.)
188. PERSONNEL PROBLEMS IN THE SCHOOLS. (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.
201. RESEARCH METHODS IN EDUCATION. (2) Crawford, Fixley
Required of all candidates for a graduate degree in education.
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 206. Prerequisite: 201.

ART EDUCATION

Professor Masley (Head); Teaching Assistant Herberholz; Graduate Assistant White.

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
Social Studies	3	Social Studies	3
Art 1	2	Art 2	2
Art 3	2	Art 4	2
Art 5	2	Art 6	2
Physical Education	1	Physical Education	1
SOPHOMORE YEAR			
English	3	English	3
Psychology 51	3	Psychology 54	3
Math or Science	3	Electives	4-6
Art Education 48	3	Art Education 49	3
Ceramics or Crafts	2	Drawing or Painting	2
Lettering	2	Physical Education	1
Physical Education	1		
JUNIOR YEAR			
Education Electives	6*	Education Electives	6*
Art Education 124	3	Art Education 125	3
Philosophy	3	Art Electives	4-6
Drama 28 (or 29)	3	General Electives	3
Art Electives	2		
SENIOR YEAR			
Art Education 151	3	Art Education 155a	3
Art Electives	3	Elem Ed 136 or Sec Ed 156	5
General Electives	9-11	Electives	6-8

DESCRIPTION OF COURSES:

- 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 primary grades.
- 30-31. TECHNIQUES OF DESIGN EDUCATION. (3, 3) Staff
An introductory investigation of design in everyday life and the formulating of effective techniques for teaching design.
- 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. [Art Education and Art Needs] (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. Prerequisite: 124.
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

* 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: Education 72, 102, 121, 122, 123, 135.

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: Education 141, 153, plus one course from the designated electives for secondary education.

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.	Masley

BUSINESS EDUCATION

Assistant Professor Israel

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
Social Studies	3	Social Studies	3
Physical Education	1	Physical Education	1
†Foreign Language	3	Math 1	2
Business Administration 5	3	†Foreign Language	3
		Business Administration 6	3
SOPHOMORE YEAR			
Psychology 51	3	English 55	3
Social Studies	3	Educational Psych 54	3
Physical Education	1	Physical Education	1
Business Administration 11†	2	Business Administration 12†	2
Business Administration 13†	3	Business Administration 14†	3
†Foreign Language	3	†Foreign Language	3
		Business Administration 65	3
JUNIOR YEAR			
Business Administration 53	3	Business Administration 54	3
Secondary Education 141	3	*Education Elective	3
Secondary Education 143	3	Secondary Education 153	3
Business Administration 61	2	Business Administration 62	2
Minor and Electives	6	Minor and Electives	6
SENIOR YEAR			
Teachers' Course (Sec Ed 155g)	3	Business Administration 157	4
Business Administration 106	3	Secondary Education 156	5
Minor and Electives	6-8	Business Administration 107	3

EDUCATIONAL PSYCHOLOGY

Faculty: See Department of Psychology.

54. EDUCATIONAL PSYCHOLOGY. (3)	Keston, Johnson
An introductory course. Limited to sophomores. Prerequisite: Psychology 2L or 51.	

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

‡ 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.

* One course from General Education 110, 115; Secondary Education 147, 159.

60. PERSONALITY AND ADJUSTMENT. (3) Benedetti
Introduction to personality theory; principles of adjustment and mental hygiene.
Prerequisite: 2L or 51.
110. [183] EDUCATIONAL PSYCHOLOGY. (3) Keston, Johnson
Advanced course. Not open to those who have credit for 54. Prerequisite: 2L or 51.
111. [187] CHILD PSYCHOLOGY. (3) Keston, Johnson
The principles of human behavior in infancy, childhood, and adolescence. Prerequisite: 2L or 51.
112. ADOLESCENT PSYCHOLOGY. (3) Johnson
Development and problems during the adolescent period. 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, Arthur and Wechsler tests.
240. CLINICAL PSYCHOLOGY. (3) Norman
Theory and problems in clinical psychology.
- 251-252. PROBLEMS. (2-3 each semester) Graduate Staff
300. THESIS. Graduate Staff

ELEMENTARY EDUCATION

Professor Tireman (Head); Assistant Professor McCann; Graduate Assistant Hamilton.

CURRICULUM FOR STUDENTS PREPARING TO TEACH IN ELEMENTARY GRADES

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

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Biology 1L	4	Biology 2L	4
History 1 or 11	3	History 2 or 12	3
Art Education 17	3	Art Education 18	3
Physical Education	1	Physical Education	1
Elective: Language or Anthro. or Geography	3	Elective: Language or Anthro. or Geography	3
SOPHOMORE YEAR			
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 Mathematics 1	3-2
Psychology 51	3	General Education 72	2
Music Education 93	2	Music Education 94	2
Physical Education (Rec. W81)	1	Physical Education (Rec. W80)	1
JUNIOR YEAR			
Elementary Education 121	3	Elementary Education 124	3
Physical Education 119	2	Elementary Education 135	2
Elementary Education 122	2	Educational Psych 110	3
Sociology 110	2	Sociology 82	3
†Elective	7	†Elective	6

SENIOR YEAR

School Adm 107	2	General Education 102	3
Elementary Education 123	2	Elementary Education 120	2
English 82	3	Elementary Education 136	5
Government 103	3	†Electives	4
†Electives	6		

All programs must be approved by Head of Department.

DESCRIPTION OF COURSES:

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.
- 93-94. MUSIC EDUCATION. (2, 2) Clauve
Music fundamentals for elementary teachers; methods and materials for elementary grades.
119. TEACHING OF PHYSICAL EDUCATION IN ELEMENTARY GRADES. (2) Gugisberg
120. CHILDREN'S LITERATURE. (2) McCann
Materials and techniques of teaching.
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. PRACTICE 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
222. INVESTIGATIONS IN INTERMEDIATE LANGUAGE ARTS. (2) Graduate Staff
223. INVESTIGATIONS IN EARLY CHILDHOOD EDUCATION. (3) McCann
An advanced study of educational experiences suited to the growth and development

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

Dramatic Art	Sociology 71, 117	Psychology 101
Corrective Speech	Library Science	Elementary Ed 125, 126, 132
Geography 103	Art	Astronomy
Anthropology	Music	General Ed 105, 106, 110
College Arithmetic	Psychology 111	

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.

232. INVESTIGATIONS IN SOCIAL STUDIES. (2)	Graduate Staff
233. PHILOSOPHY OF THE ACTIVITY PROGRAM. (2)	Graduate Staff
235. INVESTIGATIONS IN ARITHMETIC. (2)	Graduate Staff
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.	Graduate Staff

HOME ECONOMICS

Professor Simpson (Head); Associate Professor Schroeder; Assistant Professors Elser, Knight.

GROUP REQUIREMENTS

Home Economics 53L and 54L count toward Science and Mathematics (Group IV).

MAJOR STUDY

See curriculum below. For requirements for a major in dietetics in the College of Arts and Sciences, see p. 122.

MINOR STUDY

Home Economics 1, 2L, 12L, and 12 hours in courses numbered above 50, or 20 hours specified by the Head 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 home-making 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 Education 30	3	Art Education 31	3
Home Economics 1	3	Intro. to Social Science 1	3
Home Economics 2L	2	Home Economics 12L	2
Physical Education	1	Home Economics 53L	3
		Physical Education	1

SOPHOMORE YEAR

Intro. to Social Science 2	3	English	3
Chemistry 41L	5	Chemistry 42L	5
Psychology 51	3	Psychology 54	3
Home Economics 54L	3	Home Economics 60L	3
Home Economics 63L	3	Home Economics 64L	3
Physical Education	1	Physical Education	1

JUNIOR YEAR

Secondary Ed. 141	3	Secondary Ed. 153	3
Home Economics 102	2	English	3
Home Economics 108	2	Economics 103	3
Home Economics 107L	3	Home Economics 109	2
Electives	6	Home Economics 132	3
		Electives	3

SENIOR YEAR

Home Economics 127L	4	Home Economics 128	3
Home Economics 138L	4	Home Economics 133L	3
Electives	9	Home Economics 196	1-2
		Secondary Ed. 155d	3
		Secondary Ed. 156	5

DESCRIPTION OF COURSES:

1. CLOTHING SELECTION. (3) Knight
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) Knight
Basic construction problems of clothing for the individual. Prerequisite: 1. 4 hrs. lab.
- 53L-54L. FOOD FOR THE FAMILY GROUP. (3, 3) Elser
Selection, preparation, and service of family meals. 1 lecture, 4 hrs. lab.
- 60L. TEXTILES. (3) Knight
Construction, identification, use and care of clothing and household textiles. 2 lectures, 2 hrs. lab.
- 63L-64L. ADVANCED CLOTHING CONSTRUCTION. (3, 3)
63L: Pattern study; construction of clothing emphasizing fitting and techniques of finishing. 64L: Adaptation of patterns; problems in designing. Prerequisite: 1, and 12L, or permission of instructor. 1 lecture, 4 hrs. lab.
102. HOME NURSING. (2) Staff
Fundamentals of home care of the sick; sanitation; prevention and control of communicable diseases.
104. NUTRITION. (2) Simpson
Primarily for physical education majors. The relation of nutrition to the health program; normal nutrition.
- 107L. ADVANCED FOODS. (3) Simpson
Food economics; household marketing; food laws; food preservation. Prerequisites: Home Economics 54L and Chemistry 41L, 42L. 1 lecture, 4 hrs. lab.
108. HOUSE PLANNING. (2) Knight
Use of space within the house planned for comfort, economy and beauty. Historic styles and their relation to modern design.
109. HOME FURNISHINGS. (2) Knight
Selection, use and care of home furnishings with emphasis on individual use.
- 127L. NUTRITION AND DIETETICS. (4) Simpson
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. Prerequisite: 132.
 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) Simpson

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) Simpson
 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) Dining Hall Staff
 Principles of scientific management applied to institutional administration. Experience
 in the food service and housing facilities on the campus. Prerequisites: 107L, 132, 157L.

INDUSTRIAL ARTS

CURRICULUM FOR STUDENTS PREPARING TO TEACH INDUSTRIAL ARTS

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

FRESHMAN YEAR

First Semester		Second Semester	
English 1 Intro to Rhet	3	English 2 Intro to Lit	3
IA 1 Shop Computations	3	IA 2 Shop Computations	3
AE 1L Engr Drawing	3	AE 12L Machine Drawing	3
IA 20L Machine Shop	3	IA 10L Woodwork	3
*Elective	3	*Elective	3
Physical Education	1	Physical Education	1

SOPHOMORE YEAR

English 64 Informative Writing	3	Speech 55 Bus and Prof	3
Psychology 51 General	3	Psychology 54 Educational	3
AE 2L Descriptive Geometry	3	*AE 62L Constr Drawing	3
Art 3 Creative Design	2	IA 61L Wood Turning	2
*Elective	3	IA 65L Machine Shop	3
Physical Education	1	Art 7 Gen Crafts	2
		Physical Education	1

JUNIOR YEAR

Science & Lab.	4	Science & Lab.	4
Sec Ed 141 Princ of Sec Ed	3	Sec Ed 153 High School Methods	3

Econ 51	3	IA 60L Cabinet Work	3
*IA 62 Carpentry	3	IA 105L Sheet Metal	3
IA 63L Pattern Making	3	*Gen Ed 110 Use of Aud-Vis Aids in Teach	3
SENIOR YEAR			
Sec Ed 155i Teaching IA in HS	3	IA 102L Forging	2
Sch Adm 115 Educ & Voc Guid	3	IA 156 Theory & Org of Gen Shop	2
Social Studies	3	Sec Ed 156 Prac Tchg in HS	5
IA 157L Foundry Prac	3	American History	3
IA 159L Arc & Acet Welding	2	*Elective	3
*Elective	3		

For description of Industrial Arts courses, see pp. 166-167.

MUSIC EDUCATION

Professor Clauve.

NASM MEMBERSHIP

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

CURRICULA FOR STUDENTS PREPARING TO TEACH

MUSIC EDUCATION

(Leading to the degree of Bachelor of Arts in Education.) The following courses will satisfy the requirements for a major study in Music Education. Candidates should complete a minor study in some other teaching subject, and follow the curriculum for Elementary or Secondary Education. Applied music must include voice and piano study, the number of hours in each to be determined upon consultation with the Head of the Department of Music Education.

The following elective courses are recommended: Music 95, 96, 61, 62, 157, 158, 109, 110, Dramatic Art 89, 90, or applied music.

Piano classes (Music 11 and 12, 2-2 hours) are offered for students who need piano instruction to assist them in teacher preparation in the elementary curriculum and for those students who have a minor in Music Education and who do not pass a satisfactory examination in piano.

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC IN THE ELEMENTARY GRADES. (Students preparing to teach music in the elementary schools should follow the elementary curriculum as outlined on p. 178, and should take the required number of hours and courses to complete their music education major in lieu of the electives provided in the elementary curriculum.)

* Students enrolled in Air ROTC or Navy ROTC must substitute ROTC courses for the above. If not used for ROTC courses, they may be used for technical or non-technical electives.

The students in NROTC courses must take Physics 11L and 12L, Mathematics 15 (College Algebra) and Mathematics 16 (Trigonometry).

Music 5, 6	6	*Music 45, 46	2
Music 55, 56	4	Applied Music	6
*Music 39, 40	4	Ensemble Music	2

CURRICULUM FOR STUDENTS PREPARING TO TEACH MUSIC IN THE SECONDARY SCHOOLS:

Music 5, 6	6	Music 157, 158	4
Music 61, 62	6	Music 153, 154	4
*Music 39, 40	4	Music Education 94, 155f	5
*Music 45, 46	2	Ensemble Music	4
Music 55, 56	4	Applied Music	20

MINOR IN MUSIC EDUCATION

The following music courses will satisfy the requirements for a minor study in Music Education. Students who minor in Music Education must pass a satisfactory examination in piano and voice, or take at least one semester each in voice and piano class instruction.

Music 5, 6	6	Music Education 94 or 155f	2-3
Music 55, 56	4	Ensemble Music	2
Music 39, 40	4		

DESCRIPTION OF COURSES:

93-94. MUSIC EDUCATION. (2, 2) Claue
Music fundamentals for elementary teachers; methods and materials for elementary grades.

155f. THE TEACHING OF MUSIC IN HIGH SCHOOL. (3) Claue
Prerequisite: 94.

SCHOOL ADMINISTRATION

Professors Nanninga (Head), Fixley, Johnson; Graduate Assistant Myers.

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

DESCRIPTION OF COURSES:

107. PROBLEMS IN EDUCATION IN NEW MEXICO. (2) Nanninga
New Mexico school system.

* Music 39, 40 and 45, 46 are to be taken concurrently.

164. CITY SCHOOL ADMINISTRATION. (3) Fixley
Required of all administrative majors. Educational, financial, and administrative principles.
166. THE PRINCIPAL AND HIS SCHOOL. (3) Fixley
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) Johnson
Advanced reading and problems in educational administration.
- 251-252. PROBLEMS. (2, 2) Graduate Staff
261. SCHOOL LAW. (3) Fixley
Legislation and court decisions, with special reference to New Mexico school law.
263. STATE SCHOOL ADMINISTRATION. (3) Nanninga
State school systems. Federal and state policy, and forms of control.
268. PUBLIC SCHOOL FINANCE. (3) Johnson
Special attention to New Mexico.
277. SCHOOL BUILDINGS AND EQUIPMENT. (3) Johnson
Problems, standards, committee reports, field trips.
300. THESIS. Graduate Staff

SECONDARY EDUCATION

Professor Diefendorf (Head); Associate Professors Crawford, Ivins;
Assistant Professor Runge; Graduate Assistant Berg.

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
Mathematics or Science	3-4	Mathematics or Science	3-4
Social Studies	3	Social Studies	3
*Foreign Language	3	*Foreign Language	3
Physical Education	1	Physical Education	1
Electives	3	Electives	3
SOPHOMORE YEAR			
English	3	English	3
Psychology 51	3	†Educational Psych 54	3
Social Studies	3	*Foreign Language	3
*Foreign Language	3	Physical Education	1
Physical Education	1	Electives or Science	6-7
Electives	3		
JUNIOR YEAR			
Secondary Education 141	3	Secondary Education 153	3

* For substitution see Group Requirements for Graduation.

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

¶ Majors and Minors	8-9	§ Teachers Course	3
Elective	3	¶ Majors and Minors	10-11
‡ Education (Elective)	3		
SENIOR YEAR			
§ Teachers Course	3	Secondary Education 156	5
¶ Majors and Minors	13	¶ Majors and Minors	11

DESCRIPTION OF COURSES:

141. PRINCIPLES OF SECONDARY EDUCATION. (3) Diefendorf, Crawford
143. PRINCIPLES AND PRACTICES OF DISTRIBUTIVE EDUCATION. (3) Runge
Traces the development of vocational business distributive education under the federal George-Deen and Smith-Hughes Acts. Shows how to organize, set up and carry on secondary coöperative part-time retail selling classes, pre-employment sales courses and adult programs for workers employed in distributive occupations.
147. EXTRA-CURRICULAR ACTIVITIES IN THE SECONDARY SCHOOL. (3) Ivins, Fixley
The guiding principles of pupil participation in the extra-curricular life of the junior and senior high school.
143. PRINCIPLES AND PRACTICES OF DISTRIBUTIVE EDUCATION. (3) Runge
Examination made of texts, workbooks, pamphlets, sales manuals, outlines, government publications, trade journals, and all types of instructional materials available for use in distributive education classes.
149. CURRICULUM CONSTRUCTION IN DISTRIBUTIVE EDUCATION. (3) Runge
Construction of teaching outlines and daily lesson plans for coöperative retailing class units and adult extension courses.
153. HIGH SCHOOL METHODS. (3) Diefendorf, Crawford, Ivins
Prerequisite: Educational Psychology 54 or 110.
155. 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 IN HIGH SCHOOL. (3)
 - c. THE TEACHING OF ENGLISH IN HIGH SCHOOL. (3) Kuntz
Prerequisite: English 2.
 - d. THE TEACHING OF HOME ECONOMICS IN HIGH SCHOOL. (3)
 - e. THE TEACHING OF MATHEMATICS IN HIGH SCHOOL. (3)
 - f. THE TEACHING OF MUSIC IN HIGH SCHOOL. (3) Clauve
Prerequisite: Music Education 94. (Offered only on demand.)
 - g. THE TEACHING OF BUSINESS SUBJECTS IN HIGH SCHOOL. (3)
 - h. THE TEACHING OF SCIENCES IN HIGH SCHOOL. (3)
 - i. THE TEACHING OF INDUSTRIAL ARTS IN HIGH SCHOOL. (3) Bailey
 - k. THE TEACHING OF SOCIAL STUDIES IN HIGH SCHOOL. (3) Staff
 - m. THE TEACHING OF SPANISH IN HIGH SCHOOL. (2) Cobos
(Offered in alternate years.)
 - n. THE TEACHING OF READING IN THE JUNIOR HIGH SCHOOL. (2)
 - o. THE TEACHING OF DISTRIBUTIVE EDUCATION IN HIGH SCHOOL. (3) Runge

‡ Approved by Head of Department of Secondary Education.

§ For required courses see departments of instruction.

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

- p. THE TEACHING OF PHYSICAL EDUCATION IN HIGH SCHOOL. (3)
156. PRACTICE TEACHING IN HIGH SCHOOL. (5) Crawford, Diefendorf
Observation and teaching in Albuquerque High School. Prerequisite: 153. 1 lecture, 5 hrs. practice teaching a week.
159. DIRECTED STUDY. (3) Diefendorf
Theory and practice of directing pupil study.
170. SPEECH ACTIVITIES IN THE PUBLIC SCHOOL. (3)
(Same as Speech 170.)
202. RESEARCH SEMINAR IN EDUCATION. (2) Crawford
241. SEMINAR IN SECONDARY EDUCATION. (2) Diefendorf
242. HIGH SCHOOL CURRICULUM. (3) Ivins, Diefendorf
Trends and practical programs.
244. THE JUNIOR HIGH SCHOOL. (2) Ivins, Diefendorf
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) Graduate Staff
No credit allowed if credit has been earned in Elementary Education 238.
300. THESIS. Graduate Staff

DIVISION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION

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: Professor Johnson (Head); Assistant Professors Barnes, Clements, Petrol; Instructor Dear.

Department of Health and Physical Education for Women: Associate Professor Gugisberg (Head); Assistant Professors McGill, Milliken; Instructors Martin, 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 Head. 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.

PHYSICAL EDUCATION 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.

- M1. ACTIVITY COURSE. (1) (6 Sections) 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) (6 Sections) 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) 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) (3 Sections) Dear
- M&W62. INTERMEDIATE GOLF. (1) (2 Sections) Dear
- M&W63. ADVANCED GOLF. (1) Dear
- M&W69. LIFE SAVING. (1) McGill
Prerequisite: advanced swimming course or equivalent. American Red Cross Senior Life Saving Certificate awarded upon satisfactory completion of course.
- M&W70. WATER FRONT SAFETY. (1) McGill
Technique of teaching swimming and life saving, organization of swimming programs, pool operation. Prerequisite: current Senior Life Saving Certificate, American Red Cross Water Safety Instructor's Certificate awarded for satisfactory completion of course.
- W71. BEGINNING SWIMMING, INDIVIDUAL AND TEAM SPORTS. (1) Staff
- W72. INTERMEDIATE SWIMMING, INDIVIDUAL AND TEAM SPORTS. (1) Staff
- 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) Martin
- M&W91. BALLROOM DANCING. (1) Martin
- M&W92. MEXICAN AND NEW MEXICAN DANCING. (1) Martin

M&W93. AMERICAN COUNTRY DANCE. (1)	Martin
M&W94. CONTEMPORARY DANCE. (1)	Waters
Modern dance, beginning level.	
M&W95. INTERMEDIATE CONTEMPORARY DANCE. (1)	Waters
Modern dance, intermediate level.	

MAJOR STUDY IN HEALTH AND PHYSICAL EDUCATION FOR MEN

Outlined for men preparing to teach physical education. This curriculum leads to the degree of Bachelor of Science in Health and Physical Education.

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Biology 12L	4	Biology 36 and 39L	5
Fine Arts	2-3	Social Studies	3
Social Studies	3	Business Administration 5	3
Physical Education M1	1	Physical Education M2	1
Electives	3-2		
SOPHOMORE YEAR			
Speech 55	3	English	3
Social Studies	3	Educational Psych 54	3
Psychology 51	3	Physical Education 62L	4
Physical Education 40 L	2	Physical Education 41L	2
Physical Education M1	1	Physical Education M2	1
Physical Education 72	2	Physical Education 64	2
Electives	3		
JUNIOR YEAR			
Biology 126L	3	Home Economics 104	2
Education (Elective)	3	Secondary Education 141	3
Physical Education 121	2	Physical Education 122	2
Physical Education 138	3	Physical Education 104L	4
Physical Education 164	3	Physical Education 136	2
Electives	2	Electives	3
SENIOR YEAR			
Secondary Education 164	3	Secondary Education 156	5
Secondary Education 153	3	Physical Education 172	3
Physical Education 119	2	Physical Education 186	2
Physical Education 183L	2	Physical Education 125	2
Physical Education 171	3	Physical Education 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			
First Semester		Second Semester	
English 1	3	English 2	3
Social Studies	3	Social 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
Social Studies	3	Educational Psych 54	3
Psychology 51	3	Physical Education 64	2
Physical Education 96	1	Physical Education 98	1
Physical Education 97	1	PE Elective Activity	1
PE Elective Activity	1	Electives	6
Electives	4		
JUNIOR YEAR			
Biology 126L	3	Secondary Education 141	3
Education (Elective)	3	Physical Education 109	2
Physical Education 121	2	Physical Education 104L	4
Physical Education 108	2	Physical Education 145	1
Physical Education 119	2	Physical Education 148	1
Physical Education 138	3	Home Economics 104	2
Physical Education 146	1	Physical Education 107	2
		Electives	1
SENIOR YEAR			
Physical Education 156	2	Secondary Education 156	5
Secondary Education 153	3	Physical Education 172	3
Physical Education 171	3	Physical Education 185	3
Physical Education 154	2	Physical Education 125	2
Physical Education 164	3	Electives or Secondary Education 155p	3
Physical Education 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 Education 72	2	Physical Education 64	2
Physical Education 138	3	Physical Education 185	3
Home Economics 104	2	Biology 36	3
Physical Education 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 Education 105	3	Drama 1, 29, 30	
Physical Education 175	3	Music 3, 39, 40	
Specialty in one area (in addition to major field)	8	Physical Education 64, 69, 80, 81, 90, 107, 108, 109, 119, 121, 122, 125, 171, 172	
Courses advised for Specialty:		Electives	4
Art 3, 4, 7, 8; Art Ed. 17, 18			

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 Economics 104	2	Physical Education 172	3
Physical Education 62L	4	Biology 12L	4
Physical Education 136	2	Biology 36 and 39L	5
Physical Education 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 Education 72	2	Physical Education 172	3
Home Economics 104	2	Biology 12L	4
Physical Education 64	2	Biology 36 and 39L	5
Physical Education 40L	2	Physical Education 104L	4
Physical Education 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 Education 171	3	Physical Education 64	2
Physical Education 172 or 119	3 or 2	PE 96, 98, 146, or 148	1
Physical Education 109	2	PE 49, 97, 145, or 147	1
Physical Education 108	2	Electives	3 or 2
Physical Education 107 or 156	2		

THEORY COURSES IN HEALTH, PHYSICAL EDUCATION AND RECREATION

- 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) Simpson
(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) Martin
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
(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.
122. OFFICIATING IN SPORTS. (2) Johnson, McGill
Discussion and practice in officiating techniques in volleyball, softball, track and field, and tennis, 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.)
136. THEORY OF COACHING, STRATEGY, AND TACTICS. (Men) (2) Johnson
Prerequisites: P.E. 62L and Home Economics 104.
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 HIGH SCHOOL. (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 Martin
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 in a dual-controlled car will be required. A complete library of tests, teaching aids, and courses of study will be available.
167. [209] TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION. (3) Johnson
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 inter-relationships 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 coöperative planning will be applied to city and county programs in New Mexico. Each student will be required to develop a problem in terms of his particular needs and situation. Prerequisite: permission of instructor.
201. RESEARCH METHODS IN EDUCATION. (2) Burley
(Same as General Education 201.) Required of all graduate majors in Physical Education.
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.	White, Burley, Gugisberg, Harris

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 coördinate 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 and 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 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		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 an accredited school of Occupational Therapy at the sophomore or junior level. It is possible, however, to enter these schools as an advanced standing student already possessing a B.F.A. degree.

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	4
English 1	3	English 2	3
Psychology	3	Psychology	3
P.E.	1	Elective (as advised)	2
	—	P.E.	1
	15		—
			17

The following courses relating to Pre-Occupational Therapy are also offered:

Art 27, 28—Lettering	2, 2	P.E. MW90—Recreational Games	1
Art 65—Drawing	2	P.E. MW93—American Country	
Art 57—Beginning Jewelry	2	Dance	1
Art 58—Beginning Textiles	2	Psychology 60—Personality and	
Art 87, 88—Photography	2, 2	Adjustment	3
Art 127—Advanced Jewelry	3	Psychology 101—Social Psychology	3
Art 147—Advanced Textiles	3	Psychology 103—Abnormal	
Biology 36—Human Anatomy and		Psychology	3
Physiology	3	Psychology 111—Child Psychology	3
Biology 93L—General Bacteriology	4	Psychology 196—Physiological	
Education 115—Educational and		Psychology	3
Vocational Guidance	3	Sociology 72—Social Pathology	3
Home Economics 104—Nutrition	2		

DEPARTMENTS OF INSTRUCTION

Courses numbered from 1-49, lower division, 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; 200-300, 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 single semester's work is suspended until the entire course is completed; ()—semester hours' credit; credit hours separated by a dash (1-3) indicate variable credit in the course; []—former course number or title; ‡—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.

A schedule of courses offered, 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.

ART

Professors Adams, Davey, Douglass, Jonson; Associate Professors Haas (Head), Tatschl; Assistant Professors Bunting, Poore, Todd; Instructor Montenegro; Graduate Assistants Aller, Craft.

MAJOR STUDY

1. For the student enrolled in the College of Fine Arts a 65 hour major is offered leading to the degree of B.F.A. in Art. (See curriculum, p. 199).

2. For the student enrolled in the College of Arts and Sciences a 32 hour art major is offered. (See p. 101).

3. For the student enrolled in the College of Fine Arts and pursuing the Combined Curriculum (see p. 195) 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; 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. 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 Minor Department Head; (3) at least 6 hours shall be taken in courses numbered above 100.

FIELD SESSION

Each summer two field schools are conducted at the Harwood Foundation in Taos, New Mexico, one in advanced painting and the other in advanced crafts.

PRE-OCCUPATIONAL THERAPY

See curriculum on p. 197.

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.

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 Head of the Department.

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.

CURRICULA IN ART

Leading to the degree of Bachelor of Fine Arts in Art. Hours required for graduation, 132. (For Art Education see College of Education.)

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 possible courses of study are offered by the Art Depart-

* 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 requirement. The art faculty, however, strongly advises the student to take at least a year of foreign language at the college level.

† 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.

ment, 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

First Semester		SOPHOMORE YEAR		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 (Any Group)	3	Art (Any Group)	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

First Semester		SOPHOMORE YEAR		Second Semester	
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.

JUNIOR YEAR

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 (Any Group)	3	Art (Any Group)	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

First Semester		Second Semester	
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

SENIOR YEAR

Art (Major Group)	4	Art (Major Group)	4
Art (Any Group)	3	Art (Any Group)	3
Art Group III	2	Art Group III	2

† 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.

Literature	3	Literature	3
Gen. Univ. Electives	5	*Secondary Ed 156	5
	<hr/> 17		<hr/> 17

DESCRIPTION OF COURSES:

(GROUP I)

PAINTING, SCULPTURE, AND DRAWING

- 3-4. CREATIVE DESIGN. (2, 2) Staff
Introduction to line, color, form and composition.
- 5-6. BEGINNING DRAWING. (2, 2) Staff
Introduction to the methods and theories of drawing and painting.
63. [53, 63, 64.] PAINTING AND DESIGN. (2) Adams, Davey, Haas, Jonson
Introductory study of the painter's craft. Various media. Figure, portrait and still life.
Prerequisites: 3, 4, 5, 6. May be repeated to a maximum of 6 hours.
65. [55, 56, 65, 66.] DRAWING. (2) Adams, Davey, 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. [79, 89.] SCULPTURE. (2) Tatschl
Technique, executed in various media of sculpture. Prerequisites: 3, 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. [103, 104, 113, 114.] LANDSCAPE. (2) Adams, 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. [163, 164, 173, 174, 183, 184, 193, 194.] ADVANCED PAINTING AND DESIGN. (3) Adams, Davey, Jonson
Prerequisite: 63. May be repeated to a maximum of 18 hours.
165. [155, 156, 165, 166.] ADVANCED LIFE DRAWING. (3) Adams, Davey, Tatschl
Prerequisite: 65. May be repeated to a maximum of 12 hours.
189. [159, 169, 179, 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.

* 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

- 273-274. SEMINAR IN PAINTING AND DESIGN. (2, 2) Graduate Staff
Required of all graduate students in painting and design.
300. THESIS. 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.
37. BEGINNING CERAMICS. (2) Poore, Tatschl
Beginning ceramics, including practice in casting, shaping, wheel throwing, firing and glazing. No prerequisite.
57. BEGINNING JEWELRY [Crafts]. (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 [Crafts]. (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.
- 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.
- HA. READING FOR HONORS. (1-3 each semester) Staff
- HB. RESEARCH FOR HONORS. (1-3 each semester) Staff
127. [127, 128] ADVANCED JEWELRY [Crafts]. (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. CERAMICS. (3) Poore, Tatschl
Continuation of Art 37.
147. [147-148] ADVANCED TEXTILES [Crafts]. (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. (2) Tatschl
Techniques and methods of etching, lithography and woodcut. Prerequisite: 67.
- 177-178. COMMERCIAL ART PROBLEMS. (3, 3) Douglass
Second year commercial art. Prerequisites: 77, 78.
- 197-198. COMMUNITY CRAFTS WORKSHOP. (3, 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. [81] GENERAL ART HISTORY [Art of the Renaissance and Baroque Periods]. (2) Bunting
Introductory study of the architecture, painting, sculpture and crafts of the Renaissance and Baroque periods.
52. [82] GENERAL ART HISTORY [History of Modern Art]. (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
121. HISTORY OF ANCIENT ART. (3) Todd
A study of the art of the peoples of Europe and the Mediterranean area from prehistoric to Christian times. Prerequisite: 1.
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) Todd
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 First World War. 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. (2) Bunting
An analytical study of the painters of the Renaissance. No prerequisites.

152. HISTORY OF MODERN PAINTING. (3) Haas
The history of European painting from 1900 to the present day. 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. Graduate Staff
Should be taken over two semesters.

DRAMATIC ART

Professor Snapp (Head); Assistant Professors Blackburn, Miller, Yell.

MAJOR STUDY

College of Fine Arts: see Curriculum below.

For the purpose of combined curriculum in Fine Arts: 48 hours including Drama 1, 2, 10, 11, 29, 30, 75, 76, 85, 86, 89, 90, plus 12 hours to be chosen from Drama 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.

CURRICULA IN DRAMATIC ART

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

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Elective in Social Science	3	Elective in Social Science	3
Drama 10	3	Drama 11	3
Drama 1	3	Drama 2	3
Drama 29	3	Drama 30	3
Physical Education	1	Physical Education	1
SOPHOMORE YEAR			
Beginning Drawing	2	Beginning Drawing	2
Foreign Language	3	Foreign Language	3

Drama 75	3	Drama 76	3
Drama 85	3	Drama 86	3
Drama 89	3	Drama 90	3
Physical Education	1	Physical Education	1
JUNIOR YEAR			
English 57	3	Psychology 51	3
Drama 135	3	Drama 136	3
Drama 175	3	Drama 176	3
Drama 161	3	Drama 162	3
Philosophy Elective	2-3	English Elective	3
Other Electives	3-2	Other Electives	2
SENIOR YEAR			
Drama 185	3	Drama 186	3
Drama 197	3	Drama 198	3
English 141 or 142	3	English Elective	3
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.)

SOPHOMORE YEAR

Beginning Drawing	2	Beginning Drawing	2
Foreign Language	3	Foreign Language	3
Drama 75	3	Drama 76	3
Drama 85	3	Drama 86	3
Psychology 51	3	*Psychology 54	3
Physical Education	1	Physical Education	1

JUNIOR YEAR

English 57	3	Philosophy Elective	3
Drama 135	3	Drama 136	3
*Secondary Ed. 141	3	*Secondary Ed. 153	3
Drama 89	3	Drama 90	3
Drama 175	3	Drama 176	3
English Elective	3	Other Electives	2

SENIOR YEAR

Drama 161	3	Drama 162	3
*Secondary Ed. 156	5	*Education Electives	6
English 141 or 142	3	English Elective	3
Drama 185	3	Drama 198	3
Other Elective	3	Other Electives	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.

In addition to the planned course of study, students of the Department participate in all phases of production of three-act and

* Required for certification.

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 Head of the Department will be accepted.

DESCRIPTION OF COURSES:

- 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. PLAY WRITING. (2, 2) Snapp
Writing, reading and analysis of student plays is supplemented by a critical examination of their playing qualities as revealed in laboratory performance before invited groups.
- 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.
- 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.

MUSIC

Professors Miller (Head), Robb. Associate Professors Frederick, Keller, Robert; Assistant Professors Ancona, Dahnert, Kunkel, Schoenfeld, Snow; Instructor Warren.

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.

MAJOR STUDY

For purposes of combined curriculum in Fine Arts (*see* p. 195): 45 hours including 5, 6, 39, 40, 65, 66; 16 hours of applied music and 4 hours of ensemble music. See also curricula under College of Fine Arts below.

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.

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.

ENSEMBLE

One credit hour represents from 2 to 4 hours a week of rehearsal, plus necessary preparation.

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 (43, 44, 143, 144); 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.

FIELD OF CONCENTRATION: THEORY AND COMPOSITION

FRESHMAN YEAR

First Semester		Second Semester	
Music 19 Piano	2	Music 20 Piano	2
Music 5 Elem Harmony	3	Music 6 Elem Harmony	3
Music 55 Orchestral Instruments	2	Music 56 Orchestral Instruments	2
*Ensemble	1	*Ensemble	1
English 1	3	English 2	3
Social Science	3	Social Science	3
Physical Education	1	Physical Education	1
	15		15

SOPHOMORE YEAR

Music 69 Piano	2	Music 70 Piano	2
Music 65 Adv Harmony	3	Music 66 Adv Harmony	3
Music 95 Counterpoint	3	Music 96 Counterpoint	3
Music 61 History of Music	3	Music 62 History of Music	3
*Ensemble	1	*Ensemble	1
Mathematics or science	3	Mathematics or science	3
Physical Education	1	Physical Education	1
	16		16

JUNIOR YEAR

Music 119 Applied	2	Music 120 Applied	2
Music 109 Form Analysis	2	Music 110 Form Analysis	2
Music 153 Orchestration	2	Music 154 Orchestration	2
Music 135 Beginning Comp	2	Music 136 Beginning Comp	2
*Ensemble	1	*Ensemble	1
English	3	English	3
Language	3	Language	3
Elective	2	Elective	2
	17		17

SENIOR YEAR

Music 169 Applied	2	Music 170 Applied	2
Music 157 Choral Conducting	2	Music 158 Orchestral Conducting	2
Music 185 Composition	2	Music 186 Composition	2
Music 197, Style Criticism	2	Music 198 Style Criticism	2
Historical music literature	2	Historical music literature	2
Language	3	Language	3
Electives	5	Electives	5
	18		18

FIELD OF CONCENTRATION: APPLIED MUSIC (INSTRUMENTAL)

FRESHMAN YEAR

First Semester		Second Semester	
Music 1 Major instrument	4	Music 2 Major instrument	4
Music 5 Elem Harmony	3	Music 6 Elem Harmony	3

* Approval of adviser and Department Head.

Music 55 Orchestral Instruments	2	Music 56 Orchestral Instruments	2
*Ensemble	1	*Ensemble	1
English 1	3	English 2	3
Social Science	3	Social Science	3
Physical Education	1	Physical Education	1

17

17

SOPHOMORE YEAR

Music 51 Major instrument	2	Music 52 Major instrument	2
†Music 69 Minor instrument	2	†Music 70 Minor instrument or voice	2
*Ensemble	1	*Ensemble	1
Music 65 Adv Harmony	3	Music 66 Adv Harmony	3
Music 61 History of Music	3	Music 62 History of Music	3
Language	3	Language	3
Mathematics or science	3	Mathematics or science	3
Physical Education	1	Physical Education	1

18

18

JUNIOR YEAR

Music 101 Major instrument	4	Music 102 Major instrument	4
Music 95 Counterpoint	3	Music 96 Counterpoint	3
Music 109 Form Analysis	2	Music 110 Form Analysis	2
†Music 49 Piano Repertory	0	†Music 50 Piano Repertory	0
*Ensemble	1	*Ensemble	1
Language	3	Language	3
English	3	English	3

16

16

SENIOR YEAR

Music 151 Major instrument	4	Music 152 Major instrument	4
Music 157 Choral Conducting	2	Music 198 Style Criticism	2
Music 197 Style Criticism	2	Historical music literature	2
Historical music literature	2	*Ensemble	1
*Ensemble	1	Electives	5
Electives	5		

16

14

FIELD OF CONCENTRATION: APPLIED MUSIC (VOCAL)

FRESHMAN YEAR

First Semester		Second Semester	
Music 1 Voice	4	Music 2 Voice	4
Music 19 Piano	2	Music 20 Piano	2
Music 5 Harmony	3	Music 6 Harmony	3
English 1	3	English 2	3
Social Science	3	Social Science	3
Physical Education	1	Physical Education	1

16

16

* Piano majors must have a minimum of 2 hours of piano ensemble and 1 hour of accompanying. String majors must have a minimum of 4 hours of chamber music and 4 hours of orchestra. Woodwind, brass, and percussion majors must have a minimum of 4 hours of band.

† Required of piano majors only.

‡ Not required of students in piano concentration. Piano majors will take 4 hours of Music 51 and Music 52.

SOPHOMORE YEAR

Music 51 Voice	4	Music 52 Voice	4
Music 65 Adv Harmony	3	Music 66 Adv Harmony	3
Music 61 History of Music	3	Music 62 History of Music	3
Historical music literature	2	Historical music literature	2
Chorus	1	Chorus	1
French or German	3	French or German	3
Physical Education	1	Physical Education	1
<hr/>		<hr/>	
17		17	

JUNIOR YEAR

Music 101 Voice	4	Music 102 Voice	4
Music 147 Vocal Repertory	0	Music 148 Vocal Repertory	0
Music 95 Counterpoint	3	Music 96 Counterpoint	3
Music 109 Form Analysis	2	Music 110 Form Analysis	2
Chorus	1	Chorus	1
French or German	3	French or German	3
Mathematics or science	3	Mathematics or science	3
<hr/>		<hr/>	
16		16	

SENIOR YEAR

Music 151 Voice	4	Music 152 Voice	4
Music 157 Choral Conducting	2	Music 130 Opera Workshop	2
Music 129 Opera Workshop	2	Music 188 Vocal Coaching	0
Music 187 Vocal Coaching	0	Music 198 Style Criticism	2
Music 197 Style Criticism	2	*Ensemble	1
*Ensemble	1	English elective	3
English elective	3	Electives	5
Electives	3	<hr/>	
<hr/>		17	
17			

FIELD OF CONCENTRATION: PUBLIC SCHOOL CERTIFICATION

FRESHMAN YEAR

First Semester		Second Semester	
Music 19 Piano	2	Music 20 Piano	2
Music 5 Elem Harmony	3	Music 6 Elem Harmony	3
*Ensemble	1	*Ensemble	1
English 1	3	English 2	3
Language	3	Language	3
Social Science	3	Social Science	3
Physical Education	1	Physical Education	1
<hr/>		<hr/>	
16		16	

SOPHOMORE YEAR

Music 19 Teaching instrument or voice	2	Music 20 Teaching instrument or voice	2
Music 69 Piano	2	Music 70 Piano	2
Music 65 Adv Harmony	3	Music 66 Adv Harmony	3
Music 61 History of Music	3	Music 62 History of Music	3
*Ensemble	1	*Ensemble	1
English	3	English	3

* Approval of adviser and Department Head.

Psychology 51	3	Psychology 54 (Educ)	3
Physical Education	1	Physical Education	1
	18		18
JUNIOR YEAR			
Music 119 Applied	2	Music 120 Applied	2
Music 55 Orchestral Instruments	2	Music 56 Orchestral Instruments	2
Music 109 Form analysis	2	Music 110 Form Analysis	2
*Ensemble	1	*Ensemble	1
Music 157 Choral Conducting	2	Secondary Ed 155f	3
Secondary Ed 141	3	Secondary Ed 153	3
†Teaching minor	4	†Teaching minor	4
	16		17
SENIOR YEAR			
Music 169 Applied	2	Music 170 Applied	2
Music 155 Orchestral Instruments	2	Music 156 Orchestral Instruments	2
Music 197 Style Criticism	2	Music 198 Style Criticism	2
Secondary Ed 156 Prac Teaching	5	Music 158 Orchestral Conducting	2
Mathematics or science	3	Mathematics or science	3
		Education electives	3
Other electives	2	Other electives	3
	16		17

FIELD OF CONCENTRATION: MUSIC LITERATURE

FRESHMAN YEAR			
First Semester		Second Semester	
Music 19 Piano	2	Music 20 Piano	2
Music 5 Elem Harmony	3	Music 6 Elem Harmony	3
Music 55 Orchestral Instruments	2	Music 56 Orchestral Instruments	2
*Ensemble	1	*Ensemble	1
English I	3	English 2	3
Social Science	3	Social Science	3
Physical Education	1	Physical Education	1
	15		15
SOPHOMORE YEAR			
Music 69 Piano	2	Music 70 Piano	2
Music 65 Adv Harmony	3	Music 66 Adv Harmony	3
Music 61 History of Music	3	Music 62 History of Music	3
Language	3	Language	3
English	3	English	3
Mathematics or science	3	Mathematics or science	3
Physical Education	1	Physical Education	1
	18		18
JUNIOR YEAR			
Music 119 Applied	2	Music 120 Applied	2
Music 95 Counterpoint	3	Music 96 Counterpoint	3

* Approval of adviser and Department Head.

† Teaching minor (total of 15 hours in English, Social Science, Modern Language, Natural Science, or Mathematics); consult adviser.

Music 109 Form Analysis	2	Music 110 Form Analysis	2
Historical music literature	2	Historical music literature	2
†Piano or vocal repertory	0	†Piano or vocal repertory	0
*Ensemble	1	*Ensemble	1
Language	3	Language	3
Electives	4	Electives	4
	<hr/>		<hr/>
	17		17
SENIOR YEAR			
Music 169 Applied	2	Music 170 Applied	2
Music 157 Choral Conducting	2	Music 158 Choral Conducting	2
Music 197 Style Criticism	2	Music 198 Style Criticism	2
Historical music literature	2	Historical music literature	2
*Ensemble	1	*Ensemble	1
†Vocal or piano repertory	0	†Vocal or piano repertory	0
Music 171 Intro to Musicology	2		
Electives	5	Electives	7
	<hr/>		<hr/>
	16		16

Students are advised to choose a part of their electives from fields such as English or foreign language literature, social science, mathematics, science, and art, to the end of obtaining a more liberal education.

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

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 Head.

DESCRIPTION OF COURSES:

INSTRUMENTAL ENSEMBLE

†27-28. WIND ENSEMBLE. (1, 1) Dahnert, Kunkel
 Various ensembles of solo wind instruments will be formed. Enrollment limited.

†33-34. SYMPHONY ORCHESTRA. (1, 1) Staff
 Study and public performance of symphonic literature.

* Approval of adviser and Department Head.

† One year of piano repertory and one year of vocal repertory are required.

- ‡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. Special fee.
- ‡41-42. UNIVERSITY BAND. (1, 1) Dahnert, Kunkel
Study and performance of marches and concert band literature. Appearance and performance in uniform at football games; Commencement, and other similar University functions.
- ‡127-128. WIND ENSEMBLE. (1, 1) Dahnert, Kunkel
See description of 27, 28.
- ‡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) Staff
See description of 33, 34.
- ‡137-138. ADVANCED PIANO ENSEMBLE. (1, 1) Robert, Schoenfeld, Keller
See description of 37, 38.
- ‡141-142. UNIVERSITY BAND. (1, 1) Dahnert, Kunkel
See description of 41, 42. Prerequisite: two years in 41, 42.
- ‡195-196. ACCOMPANYING. (1, 1) Keller, Robert, Schoenfeld
One half-hour of private instruction per week carries one hour of credit. Students accompany other students in practice and at recitals as part of the requirement for receiving credit. Special fee.

VOCAL ENSEMBLE

The various vocal ensemble groups listed below take up the study and performance of sacred and secular compositions covering a wide variety of styles. Concert and radio appearances required; participation in public functions encouraged as a community service.

- ‡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. Enrollment limited.
- ‡43-44. UNIVERSITY MIXED CHORUS. (1, 1) Frederick
- ‡121-122. MEN'S GLEE CLUB. (1, 1) Frederick
Prerequisite: two years in 21, 22.
- ‡123-124. WOMEN'S GLEE CLUB. (1, 1) Frederick
Prerequisite: two years in 23, 24.
- ‡125-126. VOCAL QUARTET. (1, 1) Snow
See description of 25, 26.
- ‡143-144. UNIVERSITY MIXED CHORUS. (1, 1) Frederick
Prerequisite: two years in 43, 44.

WORKSHOP

- 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.

THEORY

- 5-6. **ELEMENTARY HARMONY.** (3, 3) Keller
Fundamentals of music theory: notation, rhythm, intervals, and chord construction; applied traditional diatonic harmony. Elementary ear-training, sight-singing, dictation, and keyboard harmony.
- 65-66. **ADVANCED HARMONY.** (3, 3) Robert
Modulation, chromatic harmony, and contemporary musical materials. Advanced ear-training, sight-singing, and dictation. Prerequisites: 5, 6.
- 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.
- 109-110. **FORM ANALYSIS.** [Form and Analysis] (2, 2) Keller
Analysis of the structural elements of music from Gregorian Chant to the present. Prerequisites: 65, 66.
- 135-136. [191-192] **BEGINNING COMPOSITION.** (2, 2) Robb
- 153-154. **ORCHESTRATION.** (2, 2) Kunkel
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.
- 163-164. **BAND ARRANGING.** (2, 2) Dahnert
Arranging for concert and football bands; techniques and management of football shows. Students will make band arrangements for various ensembles from piano, organ, chamber music, and symphonic scores and learn the techniques of adapting commercial arrangements for a specific band ensemble.
- 185-186. **SECOND-YEAR COMPOSITION.** (2, 2) Robb
- 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.

CONDUCTING

157. **CHORAL CONDUCTING.** (2) Frederick
The technique of organizing and conducting choral groups for church and school. Prerequisites: 109, 110, or approval of instructor.
158. **ORCHESTRAL CONDUCTING AND SCORE READING.** (2) Frederick
The technique of conducting orchestras and studying orchestral scores. Prerequisites: 109, 110, or approval of instructor.

HISTORY AND APPRECIATION

- 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.
- 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.

Students are required to attend each week three listening periods of approximately one hour each.

HISTORICAL MUSIC LITERATURE

Prerequisites: 61, 62 (except for 82, 83, and 84).

Students may be required to attend listening periods of one to three hours each week at the option of the instructor.

COMPOSERS

81. [181] JOHANN SEBASTIAN BACH. (2) Schoenfeld
A comprehensive study of the forms, styles, and historical significance of Bach's music.
82. LUDWIG VAN BEETHOVEN. (2) Staff
A comprehensive study of the forms, styles, and historical significance of Beethoven's music. No prerequisite.

PERIODS

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.
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.
172. CONTEMPORARY MUSIC LITERATURE. (2) Miller
Stylistic tendencies of the twentieth century and the study of representative works of the most important composers.
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.

SCHOOLS, NATIONALITIES, REGIONS

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.
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.

MEDIA

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.
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.
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.
- HA. READING FOR HONORS. (1-3 each semester) Staff
Upon the recommendation of the Head of the Department.

HB. RESEARCH FOR HONORS. (1-3 each semester)

Staff

May include projects in composition. Upon the recommendation of the Head of the Department.

MUSICOLOGY**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.

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.

203-204. SEMINAR IN MUSICOLOGY. (2, 2)

Miller

Individual problems in research and documentary examination of the entire field.

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.

300. THESIS.

Robb, Miller, Keller

COACHING**187-188-189-190. VOCAL COACHING.** (0)

Robert

One half-hour of private instruction per week. Required of all senior voice students and open to juniors with consent of instructor. Special fee.

PEDAGOGY**45-46. METHODS IN MUSIC APPRECIATION.** (1, 1)

Ancona

Appropriate literature and its presentation to elementary school pupils; to junior and senior high school pupils. May be taken concurrently with 39 and 40 or subsequently.

APPLIED MUSIC (PRIVATE INSTRUCTION)

One half-hour lesson per week earns two hours' credit per semester. Additional fee. 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.

DEGREE COURSES**1-2. FRESHMAN COURSE.** (2-4 each semester)**51-52. SOPHOMORE COURSE.** (2-4 each semester)**101-102. JUNIOR COURSE.** (2-4 each semester)**151-152. SENIOR COURSE.** (2-4 each semester)

201-202. GRADUATE COURSE. (2-4 each semester)

291-292. GRADUATE RECITAL. (2, 2)

Robert, Keller, Schoenfeld, Frederick, Snow, Dahnert

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.

SECONDARY COURSES

19-20. FRESHMAN COURSE. (2 hrs. each semester)

69-70. SOPHOMORE COURSE. (2 hrs. each semester)

119-120. JUNIOR COURSE. (2 hrs. each semester)

169-170. SENIOR COURSE. (2 hrs. each semester)

PIANO

Ancona, Dawson, Keller, Robert, Schoenfeld

ORGAN

Ancona

Students enrolling for organ are required to have a foundation in piano.

VIOLIN AND VIOLA

Frederick

CELLO AND GUITAR

Staff

WIND INSTRUMENTS

Dahnert, Kunkel

VOICE

Snow, Warren

REPERTORY COURSES

49-50. PIANO REPERTORY. (0)

Staff

One hour a week each semester; required of all piano majors. A survey of important and representative literature for piano.

147-148. VOCAL REPERTORY. (0)

Staff

One hour a week each semester; required of all voice majors. A survey of important and representative literature for solo voice.

REQUIREMENTS IN THE FIELDS OF APPLIED MUSIC

Piano. Entrance requirements for Piano majors: an ability to play major and minor scales correctly in moderately rapid tempo, also broken chords in octave position in all keys; studies such as Czerny's School of Velocity; Bach, Little Preludes; a few Bach Two-Part Inventions; and compositions corresponding in difficulty to Mozart, Sonata C Major (K.545), Beethoven, Sonata Op. 49, No. 2, Schubert, Impromptu, Op. 142, No. 2, Scherzo in B Flat.

At the end of the second year (Music 1, 2 and 51, 52) the student should have acquired a technique sufficient to play scales in parallel and contrary motion and in thirds, sixths, and tenths, and arpeggi and octaves in rapid tempo. He should have studied compositions of at least the following grades of difficulty; Bach, at least one complete French Suite; Beethoven, sonatas or movements from sonatas such as Op. 2, No. 1, Op. 10, No. 1, Op. 10, No. 2, Op. 14, No. 2; Haydn, Sonata E Flat, No. 3; Mozart, Sonata F Major (K.332), Fantasia in D Minor; Mendelssohn, Song Without Words; Chopin,

Polonaise C Sharp Minor, Valse in A Minor; Schumann, Novelette, Op. 21, No. 1; and some compositions by standard modern composers. The student should demonstrate his ability to read at sight accompaniments and compositions of moderate difficulty.

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 Head 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.

GROUP INSTRUCTION

11, 12. PIANO CLASS. (2, 2)

Ancona

Open to all beginners in piano exclusive of music majors. Normally no class larger than four. Special fee.

‡55-56. ORCHESTRAL INSTRUMENTS. (2, 2)

Dahnert, Kunkel

Group instruction in the playing of woodwind, brass, and stringed instruments. Of special importance to the prospective instrumental teacher and conductor.

‡155-156. ORCHESTRAL INSTRUMENTS. (2, 2)

Dahnert, Kunkel

Prerequisites: 55, 56.

COLLEGE OF PHARMACY

PHARMACY was first taught in the University in 1894, but the School which was then established existed for only two years. In that time, three persons were granted the degree of Graduate in Pharmacy (Ph.G.). The present College of Pharmacy was organized in the summer of 1945 and instruction was initiated in the fall term of that year.

The College of Pharmacy is an integral part of the University and is governed by the general policies of the institution.

STANDARDS

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. Graduation from the College, therefore, satisfies the college requirements for licensure as a pharmacist of all State Boards of Pharmacy.

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.

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.

PHARMACIST REGISTRATION

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. 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 enroll for not more than nineteen credit hours per semester including physical education (or military drill in the case of NROTC and Air ROTC students).

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.

AFROTC AND NROTC

Students who are accepted by the Air Force ROTC or Navy ROTC 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).

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,
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

FRESHMAN YEAR			
First Semester		Second Semester	
Pharm 1L Intro	3	Pharm 2 Pharm Calculations	2
English 1 Intro to Rhet	3	English 2 Intro to Lit	3
Chem 1L General	4	Chem 2L General	4
Biol 1L General	4	or	
†Math 15 College Algebra	3	Chem 4L General	(5)
*Physical Education	1	Biol 2L General	4
	—	†Math 16 Plane Trig	2
	18	*Physical Education	1
			16-17
SOPHOMORE YEAR			
Pharm 61 Hist of Pharmacy	1	Pharmacog 72L General	4
Pharm 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	Bus Ad 5 Prin of Acctg	3
*Option of:		*Option of:	
Philos 1 Humanities	3	Philos 2 Humanities	3
Soc Sci 1 Intro	(3)	Soc Sci 2 Intro	(3)
German	(3)	German	(3)
French	(3)	French	(3)

† 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 ROTC or NROTC courses may be substituted for these courses.

Spanish	(3)	Spanish	(3)
History	(3)	History	(3)
*Physical Education	1	*Physical Education	1
	—		—
	16		19
JUNIOR YEAR			
Pharm 151L Pharm Preps I	4	Pharm 152L Pharm Preps II	4
Biol 93L Bacteriology	4	Biol 36 Human Anat & Physiol	3
Chem 53L Quant Analysis	5	Biol 39L Human Anat & Physiol Lab	1
Speech 55 Speech for Bus & Prof.	3	Biol 123L Biological Chemistry	4
Electives	2-3	Pharm 142 First Aid	1
	—	Pharm 155 Drugstore Management	2
	18-19	Economics 51 Intro	3
			—
			18
SENIOR YEAR			
Pharm 181L Disp Pharm I	4	Pharm 182L Disp Pharm II	4
Pharm Chem 163L Org. Med I	5	Pharm Chem 164L Org. Med II	4
Pharmacol 195L Pharmacol I	3	Pharmacol 196L Pharmacol II	3
Pharm 122 Pharmacy Law	2	Pharmacog 172 Biol Therapy	3
Electives	2-5	Pharm 160 New Med.	2
	—	Electives	1-3
	16-19		—
			17-19

COLLEGE OF PHARMACY

DEPARTMENTS OF INSTRUCTION

Courses numbered from 1-49, lower division, 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.

Symbols used in course descriptions: L—part of the course is laboratory work; 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; []—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.

FACULTY

Professor Cataline, (Dean); Associate Professor Castle; Assistant Professors Clark, McDavid; Lecturer Gerber; Instructor Blair.

PHARMACY

1L. INTRODUCTORY PHARMACY. [Pharmaceutical Orientation] (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) Blair
Metrology: a study of the systems of measurements and various calculations used in the practice of pharmacy. Prerequisite: 1L or concurrent registration.
61. **HISTORY, LITERATURE, AND ETHICS OF PHARMACY.** (1) Cataline
A study of the historical development of the science and profession and a survey of its past and present literature. Prerequisite: Pharmacy 1L.
122. **PHARMACEUTICAL LAW.** (2) Clark
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: senior standing.
142. **FIRST AID.** [First Aid, Public Health and Hygiene] (1) Blair
This course is the standard Red Cross First Aid course. The American Red Cross Standard Certificate will be granted upon satisfactory completion of the course.
- 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 Pharmacy 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)
A study of medicinal substances used in the treatment of diseases in animals. Prerequisite: Pharmacy 152L. (Not offered 1952-53).
160. [160L] **NEW MEDICINALS.** (2) McDavid
The study of proprietary products used in current prescription practice. Prerequisite: senior standing.
176. **INSECTICIDES, FUNGICIDES, PARASITICIDES, RODENTICIDES.** (1)
This course is designed to familiarize the pharmacist with the problems and methods of control of insects, fungi, animal parasites, rodents, etc. Prerequisite: Pharmacognosy 72L. (Not offered 1952-53).
- 181L. **DISPENSING PHARMACY I.** (4) Cataline, Blair
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. 2 lectures, 6 hrs. lab.
- 182L. **DISPENSING PHARMACY II.** (4) Cataline, Blair
A continuation of 181L. A study of the compounding and dispensing of prescriptions, including incompatibilities. 2 lectures, 6 hrs. lab.
- 197-198. **PROBLEMS IN PHARMACY.** (1-3 each semester) Staff
Experimental and library problems in some phases of pharmacy. Prerequisite: 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
A study of the chemical properties and synthesis of representative members of the various classes of the heterocyclic compounds. Prerequisite: Chemistry 102 and 104L.
- 132L. INORGANIC MEDICINALS. (3) Castle
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 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) Staff
A study of the history, sources, cultivation, collection, preparation, geographical distribution, commerce, identification, composition, morphology and histology, purity, usage, and preservation of phanerogam drugs. Prerequisites: Biology 2L, Chemistry 101 and 103L, and concurrent registration in Chemistry 102 and 104L. 2 lectures, 6 hrs. lab.
- 153L. HISTOLOGY AND MICROSCOPY OF PLANT DRUGS. (2) Staff
A microscopical and microchemical study of sectioned and powdered crude drug materials. Prerequisites: Pharmacognosy 72L, Chemistry 53L. 6 hrs. lab.
172. BIOLOGICAL THERAPY. (3) Blair
A study of medicinals obtained from animals, and prepared from cryptogams. These include sera, vaccines, antitoxins, antibiotics, etc. Included are such topics as allergens, venoms, and glandular products. Prerequisite: senior standing.
- 191-192. PHARMACOGNOSY PROBLEMS. (1-3 each semester) Staff
Experimental and library problems in some phases of pharmacognosy. Prerequisite: permission of instructor and the Dean.

PHARMACOLOGY

- 195L. PHARMACOLOGY I. (3) Gerber, McDavid
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. 2 lectures, 3 hrs. lab.
- 196L. PHARMACOLOGY II. (3) Gerber, McDavid
A continuation of 195L. 2 lectures, 3 hrs. lab.
- 197-198. PHARMACOLOGY PROBLEMS. (1-3 each semester) Staff
Experimental and library problems in some phases of pharmacology. Prerequisite: permission of instructor and the Dean.

COLLEGE OF BUSINESS ADMINISTRATION

IN TRAINING young people for prospective business careers, the College of Business Administration has two primary objectives: first, to teach the fundamentals of business principles and sound business practices, with a considerable degree of specialization during the last two years; second, to give the student the broad cultural training which is expected of any university graduate. The program of studies has been devised to fulfill these objectives.

The College of Business Administration maintains a Bureau of Business Research. For details of the Bureau's purposes and activities, *see* p. 35.

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 special and unclassified students and those 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 Catalog.

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. 79-80). 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.

AIR FORCE ROTC 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:

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) Additional social science (3 hrs.)	
Additional mathematics or science (9 hrs.)	12
5. College Algebra	3
6. Physical Education	4
7. Philosophy	3
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
Econ 51, 52, Intro to Economics	3-3
Econ 111, Money and Banking	3
Additional business administration or economics courses	14
Total	50

C. FREE ELECTIVES—

	24-27
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
Mathematics 2 or 12	3	Social Science	3
Option or Foreign Lang	3	Option or Foreign Lang	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 entrance examination in English.

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

Social Science. Anthropology 1 and 2, History 1, 2, 11, 31, and Introduction to Social Science 1 and 2 are acceptable for the social science requirement.

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 Head of the Modern and Classical Languages department (in

the College of Arts and Sciences). Mathematics 2 will not count on option (b).

Mathematics. During the freshman year the student should take Mathematics 2 (review Mathematics) or Mathematics 12, depending on the score made on the entrance examination in Mathematics.

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)

First Semester		Second Semester	
Literature (numbered above 50)	3	Speech 55	3
Economics 51	3	Economics 52	3
Government 51	3	Government 52	3
Option or Foreign Lang	3	Option or Foreign Lang	3
Social Science	3	Philosophy, or Business Writing	3
Physical Education	1	Physical Education	1

EXPLANATIONS

Accounting students in the sophomore year should take B.A. 63 and 64, deferring, if necessary, one of the regular courses listed above.

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

CONCENTRATIONS

1. GENERAL BUSINESS. Adviser: Mr. Huber.

Specific requirements common to all concentrations, *see* page 230.

Concentration requirements (in addition to specific requirements):

Transportation (B.A. 143)

Labor Problems (Econ. 141)

Eight hours of recommended electives.

Recommended electives: B.A. 113, 115, 114, 127, 128, 63, 134; Econ. 63, 119, 152, 160, 154.

2. ACCOUNTING. Advisers: Mr. Dunbar, Mr. Smith.
Specific requirements common to all concentrations, *see* page 230.
Concentration requirements (in addition to specific requirements):
Intermediate Accounting (B.A. 63, 64)
Cost Accounting (B.A. 104)
Auditing (B.A. 119)
Tax Accounting (B.A. 117)
Advanced Accounting (B.A. 121)
Recommended electives: B.A. 102, 120, 118, 127, 128.
3. FINANCE. Advisers: Mr. Parish, Mr. Evans.
Specific requirements common to all concentrations, *see* page 230.
Concentration requirements (in addition to specific requirements):
Life Insurance (B.A. 127)
Credits and Collections (B.A. 113)
Investments (B.A. 115)
Public Finance (Econ. 152)
Three hours recommended electives.
Recommended electives: B.A. 128, 63, 143; Econ. 141, 162.
4. SECRETARIAL-OFFICE TRAINING. Advisers: Miss Israel, Mrs. Reva.
Specific requirements common to all concentrations, *see* page 230.
Concentration requirements (in addition to specific requirements):
Beginning Typewriting (B.A. 11) or high school credit
Intermediate Typewriting (B.A. 12) or high school credit
Advanced Typewriting (B.A. 61 or examination; 62)
Shorthand Theory (B.A. 13) or high school credit
Beginning Dictation (B.A. 14) or high school credit
Transcription; Speed Dictation (B.A. 53; 54 or examination)
Secretarial Office Practice (B.A. 157)
Office Management (B.A. 158)
Recommended electives: B.A. 113, 114, 131; Econ. 63; and English.
5. MARKETING. Adviser: Mr. Fellows.
Specific requirements common to all concentrations, *see* page 230.
Concentration requirements (in addition to specific requirements):
Advertising (B.A. 114)
Transportation (B.A. 143)
Retail Merchandising (B.A. 182)
Problems in Market Analysis (B.A. 183)
Marketing Management (B.A. 185)
Selling and Sales Supervision (B.A. 134)
Credits and Collections (B.A. 113)
Recommended Electives: B.A. 127, 128, 63, 165; Econ. 63, 152.
6. INDUSTRIAL ADMINISTRATION. Adviser: Mr. Damgaard.
Specific requirements common to all concentrations, *see* page 230.
Concentration requirements (in addition to specific requirements):
Cost Accounting (B.A. 104)
Personnel Management (B.A. 131)
Industrial Psychology (Psych. 58)
Salary and Wage Administration (B.A. 132)
Labor Problems (Econ. 141)
Collective Bargaining (B.A. 133)
Industrial Relations (B.A. 135)
Public Administration (Govt. 121)
Recommended electives: B.A. 63, Econ. 143, 152, 180, 140.

COLLEGE OF BUSINESS ADMINISTRATION

DEPARTMENT OF INSTRUCTION

Courses numbered from 1-49, lower division, 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; 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) indicate 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.

BUSINESS ADMINISTRATION

Professors Sorrell (Dean), Fellows; Associate Professors Dunbar, Edgel, Evans, Parish, Smith; Assistant Professors Carey, Damgaard, Huber, Israel, Reva; Instructors Corey, Hafen, Mori.

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)

Israel

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)

Israel, 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.

†12. INTERMEDIATE TYPEWRITING. (2)

Israel, 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)

Israel, Reva

§ A maximum of 6 hours of credit allowed in shorthand in the College of Arts and Sciences.

* Credit in General College only.

† No credit allowed toward degrees in Colleges of Arts and Sciences and Business Administration.

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)
(Same as Mathematics 41.)

51-52. INTRODUCTION TO ECONOMICS. (3, 3)
(Same as Economics 51, 52.)

§53-54. TRANSCRIPTION; SPEED DICTATION. (3, 3) Israel
Review of theory. Dictation and transcription from shorthand notes correctly and speedily. Mailable letters are required. Prerequisite: 13 or equivalent. Speed goal for 53: 100 wpm.; for 54: 120 wpm.

†61-62. ADVANCED TYPEWRITING. (2, 2) Hafen
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. (2) 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

§ A maximum of 6 hours of credit allowed in shorthand in the College of Arts and Sciences.

† No credit allowed toward degree in College of Arts and Sciences.

- considering business organizations, real and personal property, security transactions and trade regulations. Prerequisite: upper division standing.
108. PRINCIPLES OF MARKETING. (3) Fellows
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.
109. BUSINESS STATISTICS. (3) Carey
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) Fellows
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
Coaching for the C.P.A. examination, with emphasis upon solution of past problems in the examinations of the American Institute of Accountants; 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) Carey
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) Damgaard
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) Damgaard
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) Damgaard
Determination of wage rates and pay practices, evaluation of jobs, the wage structure, employer-employee cooperation and control. Prerequisite: 131.
133. **COLLECTIVE BARGAINING.** (3) Damgaard
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.
135. **INDUSTRIAL RELATIONS.** (3) Damgaard
Analysis of industrial relations situations as found in industry today. Treatment of space-time relationships.
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 HIGH SCHOOL.** (3) Israel
(Same as Education 155g.)
157. **SECRETARIAL OFFICE PRACTICE.** (4) Israel
Development of the ability to apply secretarial skills to office duties and to handle efficiently the responsibilities of a secretarial position. Includes laboratory work in filing and modern office machines. Prerequisites: 12 and 14 or equivalent. 3 lectures, 4 hrs. lab.
158. **OFFICE MANAGEMENT.** (3) Israel
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. **[80] RISE OF MODERN INDUSTRY. [Economic History]** (3) Sloan
(Same as Economics 163.)

165. PUBLIC UTILITIES. (3) Parish
Government control of public service industries with emphasis on the public utility concept, economics of rate making and monopoly, and problems of public utility management.
180. GOVERNMENT CONTROL OF BUSINESS. (3) Duncan
(Same as Economics-180.)
182. RETAIL MERCHANDISING. (3) Fellows
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) Fellows
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) Fellows
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.
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.
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) Fellows
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.
208. SECURITY ANALYSIS. (3) Evans
Comparative ratio analysis; study and evaluation of theories of forecasting and related advanced security market techniques.
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. Graduate Staff

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 at 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. 79-81.

TRANSFER

A student may be recommended by the Dean of the college concerned for transfer from the General College to one of the other colleges of the University at the end of any semester or summer session.

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 Head of the Department of Naval Science.

CURRICULA ***ACADEMIC COURSE**

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Soc Sci	3	Soc Sci	3
Mathematics, Lang, or Science	3-4	Physical Education	1
Physical Education	1	Mathematics, Lang, or Science	3-4
Electives	6	Electives	6
	—		—
	16		16

ART

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Intro to Soc Sci	3	Intro to Soc Sci	3
†Art History	2	†Art History	2
Art 3	2	Art 4	2
Art 5 or 7	2	Art 6 or 8	2
Electives	4	Electives	4
Physical Education	1	Physical Education	1
SOPHOMORE YEAR			
Art Electives Group II	4	Art Electives Group II	4
Art Electives Group I	6	Art Electives Group I	6
Electives	6	Electives	6

CLERICAL

FRESHMAN YEAR			
First Semester		Second Semester	
English 1	3	English 2	3
Intro to Soc Sci	3	Intro to Soc Sci	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, 51, 52.

†Bus Adm 11	2	†Bus Adm 12	2
Psych 1L	3	Psych 2L	3
Physical Education	1	Math 1	2
Bus Adm 5	3	Physical Education	1
		Bus Adm 6	3

SOPHOMORE YEAR

English 55	3	Speech 55	3
Econ 63	3	Bus Adm 65	3
Bus Adm 61	2	Bus Adm 62	2
Bus Adm 7	2	Physical Education	1
Physical Education	1	Electives	8
Electives	6		

HOME MAKING

FRESHMAN YEAR

First Semester		Second Semester	
English 1	3	English 2	3
Intro to Soc Sci	3	Intro to Soc Sci	3
Home Ec 1	3	Physical Education	1
Psychology 1L	3	Psychology 2L	3
Physical Education	1	Biology 36	3
Home Ec 2L	2	Home Ec 12L	2

SOPHOMORE YEAR

Home Ec 53L	3	Sociology 51	3
Home Ec 63L	3	Home Ec 54L	3
Physical Education 64	2	Home Ec 64L	3
Electives	5	Electives	10

INDUSTRIAL ARTS

See first two years Industrial Arts Curriculum, College of Engineering. Some adjustments to fit individual needs may be arranged.

MUSIC

FRESHMAN YEAR

First Semester		Second Semester	
English 1	3	English 2	3
Intro to Soc Sci	3	Intro to Soc Sci	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 Education	1
Physical Education	1		

SOPHOMORE YEAR

Dram Art 1	3	Dram Art 2	3
Music 61	3	Music 62	3
Ensemble Music	1	Ensemble Music	1
Music 6	3	Music 65	3
Electives	6	Electives	6

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

PREDENTISTRY

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 COURSE

Commencing in September of 1952 all College of Law candidates must have at least three years of prelaw work. It is suggested that students consult the Dean of the General College for preferable courses.

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

First Semester		FRESHMAN YEAR		Second Semester	
English 1	3	English 2	3	English 2	3
Intro to Soc Sci	3	Intro to Soc Sci	3	Intro to Soc Sci	3
§Bus Adm 11	2	§Bus Adm 12	2	§Bus Adm 12	2
§Bus Adm 13	3	§Bus Adm 14	3	§Bus Adm 14	3
Psych 1L	3	Psych 2L	3	Psych 2L	3
Physical Education	1	Physical Education	1	Physical Education	1
Physics 1	2	Elective	2	Elective	2
		SOPHOMORE YEAR			
Bus Adm 61	2	Bus Adm 65	3	Bus Adm 65	3
Bus Adm 53	3	Bus Adm 62	2	Bus Adm 62	2
English Lit	3	Bus Adm 54	3	Bus Adm 54	3
Mathematics 1	2	Geog 63	3	Geog 63	3
Psych 58	3	Physical Education	1	Physical Education	1
†Bus Adm 7.	2	Elective	5-6	Elective	5-6
Physical Education	1				

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

† Credit allowed in General College only.

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 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, legislation and in the study of contemporary problems in areas in which 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.

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.

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.

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

The College has met the standards of and was "provisionally" 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.

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. 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.

LAW BUILDING

The new building is of modified Pueblo Indian design and is conveniently located on the campus across from the main University Library. Provision is made for moot court, indoor and outdoor student lounges with kitchen, so arranged that refreshments can be served to small student groups or to large groups on occasions when members of the Bar attend.

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 over 30,000 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.

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 which he has earned at least ninety semester hours of credit acceptable towards the Bachelor of Arts, Bachelor of Business Administration, or other degree at the University of New Mexico, exclusive 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 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.

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.
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 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 after they have entered the College.

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.

SELECTION OF PRELAW PROGRAMS

The requirement for admission to the College of Law (see ante, "Admission Requirements") is the completion of three-fourths of the work acceptable for a bachelor's degree. This has been interpreted to mean at least 90 semester hours. But 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. Business Administration 105 is therefore listed in the law curriculum, 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.

While some courses, such as a 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.

Not every subject can be taken. One's interest should be his chief guide. The college requirements insure against too much concentration or too great diffusion. Since the College of Law will have no summer sessions, students may make up deficiencies by attendance in summer session courses in other colleges. Elective law credit not to exceed eight credits (in addition to the recommended accounting course) will be allowed for such courses with the permission of the Dean in the case of a student who has a well-considered plan for specialization. See "Course of Study."

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

SPECIAL STUDENTS

A limited number of students with fewer than the academic credits required of candidates for the law degree may be admitted as special students. An applicant for admission as a special student must be at least 21 years of age. Special students are not candidates for the law degree, and upon completion of their law study are not eligible for bar examinations in New Mexico or in other states that require graduation from a law school.

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.

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, pro-

vided that the requirements stated in the announcements of those colleges are met. It may not be feasible for the College of Law to certify the first year's work in time for graduation at the end of the year. In such cases, the conferring of the other degree will have to be postponed until the next commencement.

FACULTY

Professors Gausewitz (Dean), Seed, Weihofen; Associate Professors Bauman, Meek, Poldervaart (Librarian); Assistant Professors Becker, Clark; Lecturers in Law Cowan, Smith; Director of Legal Aid, Margaret Keiper Dailey.

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 every afternoon. 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 Director of Legal Aid on the College of Law staff.

LAW SCHOLARSHIPS

ANONYMOUS. \$50.00 is awarded each year to a student selected by the dean of the College of Law.

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 SOROPTOMIST SCHOLARSHIP AWARD. The Soroptomist Club of Albuquerque has established an annual scholarship of \$200 to be awarded to a woman student in the College of Law.

PRIZES AND AWARDS

NATHAN BURKAN MEMORIAM 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.

LOAN FUND

HOSHOUR MEMORIAL FUND (1951). Established 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, by some of his old friends and associates in practice. Generous contributions were added by his family, students, and more recent associates and friends.

COURSE OF STUDY

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 called 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.

ALL YEARS

ELECTIVES IN OTHER COLLEGES. Business Administration 105 (Basic Accounting) and 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 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 computing the scholastic index.

COURSE OFFERINGS

Symbols used in course descriptions: ()—semester hours' credit; []—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.

The third-year class and examination schedules will be so arranged that seniors can take Law and Society and Local Government Law the first semester, and Law and Society and Sales the second semester of the senior year. Except for these courses, students should take courses during the year in which they are offered.

FIRST YEAR

(All first-year courses must be taken).

101. CRIMINAL LAW. (3, —)

Gausewitz

Michael & Wechsler, *Criminal Law and Its Administration, Cases, Statutes and Commentaries* (1940) and supplementary materials. The criminal law viewed as a means for the prevention of crime, the control of criminals, and the protection of individual liberty.

103-104. CONTRACTS. (3, 3)

Becker

Williston, *Cases on Contracts* (4th ed.). The basic principles of the law of contracts.

- Mutual assent; consideration; the rights of third parties; the Statute of Frauds (relating to agreements not to be performed within a year); the Parol Evidence rule; conditions (express and implied); impossibility; illegality; discharge of contracts.
105. PERSONAL PROPERTY. (2, -) Clark
Aigler, Bigelow & Powell, *Cases on Property*, Vol. 1. (1951). Introduction to the legal concept of property rights; possession and acquisition of ownership, finding, bailments, liens, accession and confusion, gift and fixtures.
- 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 misrepresentation, defamation, and the liability of owners and occupiers of land, manufacturers and vendors of chattels, and owners of motor vehicles.
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.
111. [111; 114] LEGAL BIBLIOGRAPHY AND METHOD. [Legal Bibliography and Method; Legislation I] (2, -) Poldervaart
Döwling, Patterson & Powell, *Materials for Legal Method*. (1946). Introduction to legal skills in reading cases, interpreting statutes, and using law books.
115. AGENCY AND PARTNERSHIP. (-, 3) Meek
Mathews, *Cases and Materials on Agency and Partnership* (1940). Principal and agent, master and servant, and partnerships, with some attention to sub-partnerships, limited partnerships, joint stock companies, business trusts, and coöperatives.
117. ESTATES AND COVENANTS. (-, 3) Seed
Aigler, Bigelow & Powell, *Cases on Property* (1951). Introduction to the law of real property, estates, natural rights, profits, licenses, easements, covenants, rents, waste.
121. EQUITY. (-, 3) Bauman
Cook's *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.

SECOND YEAR

112. BRIEF AND ARGUMENT. (-, 1) Poldervaart
An introduction to appellate practice, preparation of briefs on appeal, and oral argument. (Required)
119. SERVITUDES & CONVEYANCING. (4, -) Seed
Aigler, Bigelow & Powell, *Cases on Property* (1951). Adverse possession, prescription, execution and delivery of deeds, boundaries, estoppel by deed, covenants for title, conveyances at common law, under the Statute of Uses, and under modern statutes.
123. CONSTITUTIONAL LAW. (-, 4) Weihofen
Dodd, *Cases on Constitutional Law* (shorter selection) with Supp. The judicial interpretation and enforcement of written constitutions; separation and delegation of powers; the federal system; powers of the national government; the bill of rights, including due process and equal protection; retroactive laws. (Required)
125. CORPORATIONS. (3, -) Becker
Ballantine and Lattin, *Cases and Materials on the Law of Corporations*. The law relating to business corporations; corporations as compared with partnerships, joint stock companies, business trusts.
128. LOCAL GOVERNMENT LAW. (2, -) Becker
Fordham, *Local Government Law*. Types and objectives of local governmental units; their place in the governmental structure—intergovernmental relations; legal aspects of original organization and changes; personnel; lawmaking by local bodies; community planning and development; regulation of business activity and private conduct; finance; auxiliary powers; legal responsibility of local governmental units; remedial sanctions.

131. TRUSTS. (—, 3) 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.
133. [133-134]. WILLS AND PROBATE. [Wills and Administration of Estates; Probate Practice] (—, 3) Poldervaart
Mechem & Atkinson, *Cases and Materials on Wills and Administration*. (3rd ed.) 1947; Poldervaart, *New Mexico Probate Practice and Forms*, 1950. Study of the law of descent and distribution, making, interpretation and revocation of wills, and administration of decedents' estates.
141. LEGAL WRITING. (3, —) Weihofen
Exercises and drills in legal writing and methods to be done independently by each student. (Required)
- 143-144. LAW AND SOCIETY. (2, 3) Weihofen
Stone and Simpson, *Materials on Law and Society*. The evolution of legal institutions, with the interpolation of materials and cases, mostly from Public Utility Law and Trade Regulation Law, on government regulation of business.
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.
159. EVIDENCE. (—, 4) Gausewitz
McCormick, *Cases on Evidence* (2nd ed.) 1948. The nature of the trial of an issue of fact, of evidence, and of the 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.
165. SALES. (—, 2) Meek
Bogert, *Cases on Sales*. Transfers of property in goods and documents of title.

THIRD YEAR

122. RESTITUTION. (—, 2) Clark
Woodruff, *Cases on Quasi-Contract* (3rd ed.). 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.
127. FAMILY LAW AND COMMUNITY PROPERTY. (3, —) Clark
Madden & Compton, *Cases on Domestic Relations* (1940). Marriage, separation and divorce; solidarity and economic relations as between husband and wife; solidarity and economic relations as between parent and child.
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)
135. ADMINISTRATIVE LAW. (3, —) Becker
Gellhorn, *Cases on Administrative Law*. The system of legal control, exercised by the law administering agencies other than the courts; definition and forms of administrative agencies; their functions; their constitutional limitations; their statutory powers and limitations; administrative procedures; agency hearings and decisions; judicial control of administrative agencies.
139. LABOR LAW. (3, —) Weihofen
Robert E. Matthews, *Labor Law, Cases and Materials* (1950). 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.

- 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.
153. SECURITY. (—, 3) Seed
Hanna, *Cases on Security*. Suretyship, guaranty, chattel and real estate mortgages, pledges, conditional sales contracts.
155. UNSECURED CREDITORS' RIGHTS. (3, —) Clark
Hanna & MacLachlan, *Cases on Creditors' Rights*, (4th ed.) Vol. 1. 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.
157. LEGISLATION II. (1, —) Poldervaart
Problems in legislative drafting, with practical exercises in drafting state and federal bills and resolutions.
161. [161-162] PRACTICE COURT. (—, 1) Clark
Pleadings, motion papers, trial brief, and jury trial of an issue of fact. (Required)
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.
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. Prerequisite: Business Administration 105, or equivalent, 3 credits; or 6 credits of introductory accounting or equivalent.
171. LAW OF OIL AND GAS. (—, 2) Seed
Kulp, *Cases on Oil and Gas* (3rd ed.). Nature of the property interests in oil and gas; legal interests created by oil and gas leases; validity of leases; the habendum clause; the drilling and rental clauses; assignments of the interest of the lessor and lessee; rents and royalties.
173. CONFLICT OF LAWS. (—, 3) Meek
Cheatham, Dowling, Goodrich & Griswold, *Cases on Conflict of Laws*. A study of the concepts of domicile and jurisdiction of courts; the effect of foreign judgments; and the law applied to torts, contracts, and the administration of estates.
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.
177. MILITARY LAW. (—, 2) * Lt. Col. Cowan
Military discipline, its purpose and enforcement. Offenses against military regulations; detection, 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.

* 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 of the scholastic index.

THE GRADUATE SCHOOL

GRADUATE WORK leading to the master's degree is offered in the following fields: Anthropology, Art, Art Education, Biology, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Economics, Electrical Engineering, Elementary Education, English, Geology, Government and Citizenship, History, Inter-American Affairs, Mathematics, Mechanical Engineering, Music, Philosophy, Physical Education, Physics, Psychology, School Administration, Secondary Education, Sociology, Spanish, 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 head 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. The Graduate School also reserves the right to refuse admission to any student for other than scholastic reasons.

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

EXTENSION AND CORRESPONDENCE COURSES

The University accepts no graduate work by extension or correspondence 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.

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

Colonel Brown, U.S.M.C. (Head), Professor; Commander Greene, U.S.N., Associate Professor; Lieutenant Colonel Van Evera, U.S.M.C., Assistant Professor; Lieutenant Commander Stanczyk, U.S.N., Assistant Professor; Lieutenant Williams, U.S.N., Assistant Professor; Lieutenant Keevil, U.S.N., Assistant Professor.

Students enrolled in the NROTC Unit may be enrolled in most colleges in the University. Completion of the Naval Science requirements will constitute completion of a minor study in the College of Arts and Sciences.

FRESHMAN YEAR			
First Semester		Second Semester	
NS11. Naval Orientation	3	NS12. 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, Naval Justice, & Leadership	3

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

JUNIOR YEAR			
NS101M. [102M] History of the Art of War	3	NS102M. [151M] American Military History & Policy	3
SENIOR YEAR			
NS151M. [152M] Amphibious Warfare	3	NS152M. Amphibious Warfare Part II, Leadership, and the Uniform Code of Military Justice	3

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

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.

DEPARTMENT OF AIR SCIENCE AND TACTICS

John L. Parker, 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; Frank S. Blair, Major USAF; Warren D. Curton, Capt. USAF; Bradford E. Dalton, Capt. USAF; Willis J. Michael, Capt. USAF. Instructors: Richard F. Butterfield, M/Sgt. USAF (Administrative Supervisor); Manson J. Elliott, M/Sgt. USAF; Paul G. Hildebrand, M/Sgt. USAF; Warren F. Kemp, M/Sgt. USAF; Charles S. Knott, M/Sgt. USAF; Charles R. Stuart, M/Sgt. USAF; Marion R. Franklin, T/Sgt. USAF (Supply Supervisor); Delbert D. Schneider, T/Sgt. USAF.

Students may enter the Air Force ROTC from any college of the University offering a course of study appropriate to the Air Force Career Training Option chosen. 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.

The Basic Air Force ROTC program is the same for all Career Training Options.

FRESHMAN YEAR

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

A brief overview of world political geography in the Air Age. Emphasis is placed upon the changing spatial and cultural relationships of political units which are resulting from unrestricted inter-continental and transpolar transportation and communication.

SOPHOMORE YEAR

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

An introduction to aeronautics. The course includes elementary navigation, meteorology, principles of aircraft propulsion, aerodynamics, theory of flight, and allied subjects.

The Advanced Air Force ROTC program consists of miscellaneous specialized subcourses organized under the heading of the appropriate Career Training Option. Upon selection of the desired Option, the student enrolls in the numbered course carrying the same title.

JUNIOR YEAR

- AS 111-112. AIR SCIENCE III COMMUNICATIONS. (4, 4)
AS 121-122. AIR SCIENCE III ADMINISTRATION AND LOGISTICS. (4, 4)
AS 131-132. AIR SCIENCE III FLIGHT OPERATIONS. (4, 4)
AS 141-142. AIR SCIENCE III GENERAL TECHNICAL. (4, 4)

SENIOR YEAR

- AS 151-152. AIR SCIENCE IV COMMUNICATIONS. (4, 4)
AS 161-162. AIR SCIENCE IV ADMINISTRATION AND LOGISTICS. (4, 4)
AS 171-172. AIR SCIENCE IV FLIGHT OPERATIONS. (4, 4)
AS 181-182. AIR SCIENCE IV GENERAL TECHNICAL. (4, 4)

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

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. 41 in this Bulletin.)

OTHER DIVISIONS OF THE UNIVERSITY

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, or the Director of Admissions.

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 Head of the department concerned.

EVENING CREDIT SESSION

For the convenience of persons in the Albuquerque area who cannot attend the daytime classes of the University, a schedule of evening courses is arranged. The Evening Credit Session has as its objectives: (1) to make it possible for employed persons to supplement their education and thereby become more valuable in their work and as citizens; (2) to make it possible for adults to supplement their education along general, cultural lines or in the fields of their special interest; (3) to make it possible for persons seeking degrees to make some progress toward those specific objectives. The standards and requirements maintained for courses offered during the Evening Credit Session are the same as those of day classes. The instruction is carried on by members of the regular University faculty. Information on the Evening Credit Session may be obtained from the Office of Admissions and Records.

EXTENSION DIVISION

The Division of Extension and Adult Education of the University is a member of the National University Extension Association. A special extension bulletin is issued each year, giving regulations and information concerning courses and services rendered by the Extension Division.

For a copy of the extension bulletin and further information, address the Director of Extension, Division of Extension and Adult Education, University of New Mexico, Albuquerque.

DEGREES AND AWARDS

DEGREES CONFERRED

June Fourth, Nineteen Hundred Fifty-one

COLLEGE OF ARTS AND SCIENCES

BACHELOR OF ARTS

Name:	Major;	Minor
† Edward Abbey:	Philosophy, English;	—
Lenore Fox Aldrich:	Anthropology;	Psychology
Patricia Ainsworth:	Psychology;	Sociology
William E. Andersen:	Economics;	History
Joseph W. Allen:	Anthropology;	Sociology
Christian Dillon Salvador Aragon:	Geology;	Spanish
Yolanda Armijo:	Spanish;	English, Psychology
Lee Arnett:	Anthropology;	English
Shirley Ann August:	Anthropology;	Sociology
Max Andrew Ayer:	Anthropology;	Sociology
Olga Bachicha:	History;	Anthropology
* Thelma Shohar Baker:	Psychology;	Sociology
Paul Thornell Baker:	Anthropology;	Psychology
Philip Henry Barnhart:	English;	Mathematics
Joan Blesch Barriga:	English;	Spanish
* William Thomas Beaver:	Anthropology;	Art
Frank Ralph Beck, Jr.:	Geology;	Anthropology
Marian J. Benton:	Social Work;	Home Economics
Jerome Biddle:	Anthropology;	Psychology
Richard Arthur Bittman:	Economics;	Government, Business Administration
Robert Rudolph Boone:	Government;	Naval Science
* Ralph Raymond Bower:	Economics;	Naval Science, Mathematics
Frederick Edward Black:	English;	Journalism
John R. Boberschmidt:	Spanish;	History
Emily Lafferty Bradbury:	English;	Library Science
Eunice Gehr Breese:	Government;	History
Kenneth R. Broehm:	Sociology;	Psychology
Thomas G. Brown, Jr.:	Economics;	German
Ralph L. Brutsche:	Speech, Psychology;	Philosophy
† Jane Calvin:	Spanish;	German, Portuguese
Richard L. Canfield:	Social Work;	—
Arthur N. Carducci:	Inter-American Affairs;	—
Richard Stanley Carroll:	Government;	History
Rowand Robert Chaffee:	Chemistry;	Mechanical Engineering
Mary Colleen Chisholm:	Sociology;	Psychology
Julia Cocks Clark:	Biology;	English
Karle Ashton Sargent Clarke, Jr.	English;	History
William Thomas Colley:	Inter-American Affairs;	—
Richard Allen Cooley:	Government;	Economics
William A. Coonfield:	English;	Philosophy, Naval Science
Robert Gene Cox:	Government;	History
Carol Virginia Creitz:	Government;	History
Tom Leo Crespín:	Government;	English
Keith M. Creveling:	Anthropology;	Geology
Zoltan de Cserna:	Geology;	French

* With Distinction.

† With Honors.

William Henry Dame:	English;	Sociology
Robert A. Damiano:	History;	Government
* Alice Anne Davis:	Spanish;	French
Jill Dawson:	English;	Portuguese
Mary Ellen Dayer:	Inter-American Affairs;	----
Michael D. Decina:	Inter-American Affairs;	----
* Marie Nelson Dolde:	Social Work;	Spanish
Robert Eliot Douce:	English;	Psychology
James P. Doyle:	Psychology, Speech;	----
* Franklin Drucker:	Psychology;	Biology
Sanford K. Elmore:	Geology;	Business Administration
John W. England:	Psychology;	Economics, Sociology
Magaret Engler:	English;	Music
Edward Merrill Fallen:	Anthropology;	English
Betty Jane Rebal Figge:	Journalism;	English
Glen B. Francis:	Inter-American Affairs;	----
Marjorie Ann Fraser:	English;	History
John F. Gallo:	Inter-American Affairs;	----
James H. Gamble:	Economics;	Business Administration
Audrey Glass:	Psychology;	Biology
James N. Goldstein:	Government;	Economics
Willie Gomez:	Government;	Economics
Robert John Himmelright:	English;	History
Sidney S. Gottlieb, Jr.:	Government;	English
George A. Graham, Jr.:	Government;	History
Richard Stovall Graham:	English;	History
* Mary Emily Gray:	Anthropology;	History
Marjorie Ruth Miller Greer:	Journalism;	English
Mary Lee Griffith:	Social Work;	----
Milton Russell Handly:	Psychology;	English
Peggy Haner:	English;	Journalism
Jerry Harbour:	Geology;	Anthropology
Fred Robert Harvey:	Sociology;	English
James Richard Hassall, Jr.:	English;	Spanish
Rudolph R. Hedl:	Chemistry;	German
Albert S. Hicks:	Geology;	English
Edward Foster Hockett:	History;	English
Ann Holt:	Inter-American Affairs;	----
Helen Holt:	Sociology;	Government
William Irvine:	Journalism;	Geology
Elaine Jackson:	Journalism;	English
George F. Jaramillo:	Government;	English
Stanya Jimenez:	Social Work;	----
Adelaide Diane Joseph:	Spanish;	French
Richard McCabe Kelly:	History;	Economics
Troy Howard Kemper:	Journalism;	Spanish
Gerald Kleinfeld:	Psychology;	English
Ted G. Knight:	Spanish;	French
William Kranzler:	Anthropology;	Geology
* Peter Hapke Kunkel:	Anthropology;	Psychology
Robert Porter Langford:	Psychology, Social Work;	----
Owen Eugene Langseth:	Sociology;	Government
Douglas Lawrence:	English;	History
Robert K. Leef:	Inter-American Affairs;	----
Jerome Levy:	Psychology;	Sociology
Linda Linstromberg:	Inter-American Affairs;	----
Stephen W. Lowell:	Government;	English
Helen Hanford McAnally:	Journalism;	English
Val Robert McClure:	Psychology;	Naval Science

* With Distinction.

Mary Barbara McCulloh:	Government;	Psychology
Billye McDowell:	English;	Government
Charlotte McKinley:	History;	Philosophy
Phyllis McKinley:	History;	Philosophy
Barbara MacCaulley:	Anthropology;	German, History
William S. Magness:	Chemistry;	Biology
Jean Keeter Maltrotti:	Anthropology;	Biology
Ida E. Marra:	Social Work;	Psychology
Albert Arthur Martin:	Inter-American Affairs;	----
Tony Arturo Martinez:	Inter-American Affairs;	----
Harmon D. Maxson:	Anthropology;	Spanish
William F. Meyer:	Social Work;	----
Medard T. Mitchell:	Sociology, Psychology;	----
Elvira Mogull:	Social Work;	----
Harry Thomas Montgomery:	Economics;	History
Donald Howard Mufson:	Anthropology;	History
Richard Dexter Myers:	Anthropology;	History
A. J. Nordstrom, Jr.:	Anthropology;	Speech
LeRoy Arnold Olson:	Journalism;	English
Susie May O'Rourke:	History;	Spanish
Etta Wood Painter:	English;	History
Josephine V. Pedrick:	Government;	French
Don Huish Peterson:	Journalism;	Spanish
Silas C. Peterson, Jr.:	Psychology;	Spanish
Anne B. Phillips:	Spanish;	English
Darrell M. Pinckney:	Geology;	Anthropology
Elton L. Puffer:	Geology;	History
Arthur S. Riffenburgh:	Psychology;	Sociology
Betty Rivers:	Journalism;	History
Richard W. Robertson:	Psychology, History;	----
Robert Harlan Rodrigues:	History;	English
Benjamin Romero:	Government;	Economics
Ernest Harold Rosenbaum:	Chemistry;	Biology
Murry Schlesinger:	History;	English
Stephen Schmidt, Jr.:	Anthropology;	German
Wallace Sellers:	Economics;	Anthropology
Donald P. Shanahan:	Geology;	English
Dorothy Holcomb Sharp:	English, Spanish;	----
Thomas William Shearon:	Sociology;	Psychology
Dwight Shipman:	Social Work;	----
Walter N. Simons:	Anthropology;	English
George A. Small:	English;	Philosophy
Burton Charles Smith:	Geology;	Economics
James Allen Smith:	Geology;	Business Administration
Conrad Joseph Stack:	English;	French
Richard Stephenson:	Sociology;	Government
Rodney Lee Stewart:	English;	Naval Science
* Dolores Kallas Sundt:	Spanish;	Psychology, English
Roger E. Sylvanus:	History;	Psychology
Helen Annette Thayer:	Anthropology;	Art
* Faye Jean Thomas:	Social Work;	----
Norman D. Thomas:	Anthropology;	Sociology
Stanley Tomczak:	English;	History
* Jack Tomlins:	Spanish;	Portuguese
Bette van Staveren:	English;	Psychology
Ione Gossett Vogel:	History;	English
Robert A. Warren:	Sociology;	Government
Glenn A. Wershing:	Anthropology;	Psychology
Robert Adrian Whipple, Jr.:	Anthropology;	History

* With Distinction.

Jo Anna Wills:	Geology;	English
Roscoe Wilmeth:	Anthropology;	German
Douglas Woolf:	English;	Philosophy
Mary Wysocki:	Inter-American Affairs;	—
Máry G. Zagone:	Spanish;	Business Administration

BACHELOR OF SCIENCE

Jules Adelfang:	Chemistry;	Mathematics
Klaus G. Anderson:	Geology;	Engineering
Howard Albert Aronson:	Biology;	Psychology
Byron L. Beddo:	Biology;	Chemistry
Francis L. Bentzen:	Physics;	Mathematics
Barbara A. Bigbee:	Biology;	Psychology
Frederick Edward Black:	Mathematics;	Naval Science
Burton Brown:	Geology;	Engineering
Hugh Pearce Bushnell:	Geology;	Chemistry
Eugene Ralph Caprio:	Geology;	Biology
Eugene A. Castiglia:	Biology;	Chemistry
Richard Robert Castillo:	Biology;	Chemistry
Floyd Martin Caylor:	Mathematics;	Mechanical Engineering
William E. Chaffee:	Chemistry;	Mathematics
Robert T. Davis:	Geology;	Biology
William Carter Doyle, Jr.:	Chemistry;	German
Leland Cleon Endsley:	Geology;	Engineering
Robert G. England:	Biology;	Chemistry
Howard H. Evans:	Psychology;	Biology
Jenabel Clyde Faw:	Biology;	Psychology
Jack H. Fillingham:	Geology;	Engineering
Robert Harper Frantz:	Geology;	Engineering
Frederick William Furcht:	Biology;	Chemistry, Psychology
* Marvin Lucius Garrett:	Biology;	Chemistry
Don Bert Gidden:	Geology;	Biology
Philip Robert Grant, Jr.:	Geology;	Biology
Peter O. Griego:	Biology;	Geology
George Marion Hart, Jr.:	Biology;	Geology
Lloyd E. Hatfield:	Geology;	Biology
Walter N. Jacks:	Mathematics;	Government
Fenton Crosland Kelley:	Biology;	Psychology
* John F. Kemman:	Biology;	Chemistry
Harry Koester:	Biology;	Chemistry
Edward J. Lambert:	Psychology;	Mathematics
Robert G. Lane:	Chemistry;	Physics
Richard Lee Larson:	Geology;	Chemistry
John L. Lookingbill:	Geology;	Engineering
John C. Love:	Geology;	Biology
Donald E. McAnally:	Geology;	Engineering
Ernest Lynne Martin, Jr.:	Chemistry;	Mathematics
Daniel Jackson Masterson:	Chemistry;	Mathematics
Keith N. Meador:	Geology;	Engineering
William K. Merritt:	Mathematics;	Physics
Robert Alvin Miners:	Psychology;	Chemistry
William T. Moffat:	Physics;	Mathematics
Emilio Chavez Mora:	Biology;	Chemistry
Donald C. Narquis:	Psychology;	Biology
Mary Ann Nordin:	Psychology;	Chemistry
Robert D. Odell:	Geology;	Biology
Jack O'Hara:	Biology;	Chemistry, Naval Science
James Winton Patton:	Chemistry;	Mathematics
Stafford Eugene Polk, Jr.:	Geology;	Engineering

* With Distinction.

Adrian F. Richards:	Geology;	Biology
Charles Richardson:	Mathematics;	Chemistry
Calvin B. Rogers:	Mathematics;	Naval Science
Glen Bradshaw Rogers, Jr.:	Geology;	Mathematics
Alfonso Sandoval, Jr.:	Biology;	Chemistry
Edward A. Schleichert:	Biology;	Chemistry
LeRoy Clyde Shelhamer:	Geology;	Engineering
Richard J. Tischhauser:	Mathematics;	English
Howard E. Tietze:	Biology;	Chemistry
Donald C. South, Jr.:	Geology;	Biology
* Ignacio Tinoco:	Chemistry;	Mathematics
Donald F. Toomey:	Geology;	Biology
Jimmie Lee Warren:	Geology;	Naval Science
Peregrine W. West:	Geology;	Mathematics
Jerry Dawson Wethington:	Mathematics;	Philosophy
Clarence H. Yates, Jr.:	Biology;	Psychology

COLLEGE OF ENGINEERING

BACHELOR OF SCIENCE IN ARCHITECTURAL ENGINEERING

Jack Cobbett	R. D. Krause
R. E. Dick	Harold V. Larkin
Arthur Avriell Gorrell, Jr.	John Hughes McCausland
Edward George Jankoski	Robert Gerald Niebur
Robert D. Garland	Harlow Scott Richards
Victor G. Umbach	

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Raymond Gregory Buergin	Walter S. Perkowski
Richard E. Fort	Charles Gordon Renwick
Doyle Raymond Hinds, Jr.	Arnold Jay Singer
Harry Honig	John J. Tagliarino
* Philip Glen McCracken	* Arthur Troum
Carlo Mariani, Jr.	* George Clark Vincent
James Daniel Patterson	William L. Weger

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Frederick R. Allen	Claude Raymond Henry
Norman C. Barnett	John W. Hernandez, Jr.
Cecil E. Bingham	Carl Neil Koistinen
Donald L. Campbell	Joseph A. Ladio
Robert P. Canedi	Duane L. Logan
Marion Marvin Cottrell	Thomas O. Meyer
Brinton Cox	Fred Montoya
Ralph L. Davenport	John J. Reid
* William Lee Donnelly	Edward A. Richardson
Earl E. Ellis	Donald G. Rieser
James P. Fuller	Bernard E. Salazar
Paul R. Gamertsfelder	Ralph M. Santamaria
Arthur Robert Gordon	Anthony Joseph Radosevich
William R. Gregg	Walter R. Schroeder
Constantine George Hadjidakis	Doyle Keith Simpson
Robert Joseph Hamilton	Robert B. Stephenson
Ray L. Harrison	Hulusi Tavsanli
Richard L. Hart	Roscoe Frank Thomas
James Clayton Hawley	Daniel Lord Wheeler
Donald E. Young	

* With Distinction.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

- | | |
|--------------------------|-------------------------|
| A. Ferit Arpacı | Walter L. Hyde |
| Donald Darl Barr | * Phillip Loyd Jessen |
| Paul Edward Beavers | John Robert Johnson |
| Charles R. Black | Wesley H. Kappeler |
| Earl W. Carr | * Robert A. LaBarge |
| William B. Collins | Johnnie George Losack |
| Sylvester C. Dodd | Robert M. Merritt |
| Louis C. Downs | * Grant Earl Montgomery |
| * Bill J. Farris | Wade Anthony Myers |
| Jean W. Gardner | Homer J. Nikolakakis |
| Robert Norman Gifford | Thomas B. Panicello |
| Charles J. Grummer | George Reidel |
| Joseph Martin Hollinrake | Joe Valle, Jr. |
| John M. Hutchins | Peter V. Zagone |
- John Zitynar, Jr.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

- | | |
|--------------------------|---------------------------|
| Norman Clifford Barnhart | James Richard Lewis |
| Erwin F. Benesi | Jose S. Llamas |
| James L. Breese | Baltazar E. Martinez |
| Albert Earl Brion, Jr. | Robert Gilbert Morton |
| Joseph H. Busch, Jr. | James Vernon Neely |
| William Dickason Collier | Robert Brice Niemann |
| Kenneth Larry Credle | Earl L. Popkes |
| Peter Noyes Crockett | Walter George Radzun |
| William Sutton Davenport | Edwin James Renkan |
| * William J. Denison | Donald Gerard Roberts |
| David Fine | Oscar L. Robles |
| Ralph Spencer Fox | Charles Waln Schoenfeld |
| * Allen Eugene Fuhs | William John Smith |
| Charles E. Gaddis | Charles R. Snyder |
| Frederick C. Green, Jr. | Jeff Henry Stone |
| Thomas William Griffith | William Theodore Twinting |
| James John Hodapp | George William Vance, Jr. |
| Clarence E. Hurlbut | James B. Wade |
| Raymond Clarence Jenness | Charles Bert Walker |
| Gustave W. Krause | Bertram M. Waller |
| Ernest Kunz | John A. Weir |
- Frank E. Wells

BACHELOR OF SCIENCE IN INDUSTRIAL ARTS

- | | |
|---------------------------|-------------------------|
| James Linderorth Anderson | Reginald Grady Lee, Jr. |
| Harley J. Bishop | Clay Earl McKinney |
| William Henry Benton | Clifford L. Marshall |
| Charles W. Boettcher | Louis C. Montgomery |
| Lewis R. Granados | Berry E. Rothhammer |
| Robert Henrichsen | Thomas Wilfred Stedman |
- Rudolph D. Woolf

COLLEGE OF EDUCATION

BACHELOR OF ARTS IN EDUCATION

- | Name: | Major; | Minor; | Curriculum |
|-------------------|------------------|----------|-------------|
| Rea Alsop: | Music Education; | Music; | High School |
| Louie Armijo: | Spanish; | History; | High School |
| Joseph S. Aragon: | English; | Spanish; | High School |
- * With Distinction.

James John Asher:	Psychology;	Sociology;	High School
Richard R. Atwater	Music Education;	Music;	High School
Clarence J. Barwin:	Social Studies;	----;	High School
Lawrence W. Barrett:	Art Education;	----;	Art Education
Mary Etta Bell:	Psychology;	Home Economics;	High School
Christine Eleonore Berg:	French;	Spanish;	High School
Robert Elmer Berg:	Speech;	Industrial Arts;	High School
James Howard Benner:	Music Education;	Music;	High School
Freda Brown Bobrink:	Art Education;	----;	Art Education
Virginia Buckley:	Social Studies;	----;	High School
Corona Elizabeth Byrd:	Art Education;	----;	Art Education
Ernest L. Candelaria:	English;	History;	High School
Juanita J. Carlisle:	Social Studies;	----;	High School
Thomas J. Clear, Jr.	History;	English;	High School
Kenneth L. Chafin:	English;	Psychology;	High School
Benjamin Chavez:	Accounting;	Economics;	High School
Alfred D. Chavez:	Spanish;	Biology;	Elementary
George Thomas Coffey:	Art Education;	----;	Art Education
Robert Clinton Colgan:	History;	English;	High School
Roberta Wigley Colgan:	English;	History;	High School
Willis Carpenter:	Art Education;	Physical Education	Art Education
Evelyn M. Craige:	History;	English;	High School
Robert C. Daniels:	Music Education;	Music;	High School
John K. Davis:	Social Studies;	----;	High School
Richard Dement:	English;	Psychology;	High School
William L. Dwyer:	Psychology;	Sociology;	High School
Don D. Eklund:	History;	Economics;	High School
James R. Elam:	History;	Economics;	High School
Richard B. Ericson:	Sociology;	English;	High School
Robert A. Evans, Jr.:	Government;	History;	High School
Robert Allan Figge:	History;	English;	High School
David A. Fisher:	Social Studies, History;	English;	High School
John J. Futterknecht:	Journalism;	History;	High School
Paul Anthony Gasparotti:	Art Education;	----;	Art Education
Marjorie Gilliland:	Art Education;	----;	Art Education
Nancy Ann Harrison:	Journalism;	English;	High School
Virginia Adair Jordan:	Spanish;	English;	High School
Sadie Cristella Juarez:	Spanish;	History;	High School
Mary Katherine Kearns:	History;	Psychology;	High School
Mayoma Tate Keely:	Art Education;	----;	Art Education
Mary Adelaide Kelly:	Psychology;	English;	High School
Marianne Keohane:	Art Education;	----;	Art Education
Kathleen Ruth Kepner:	Social Studies;	Government;	High School
Alden Thomas Klein:	Social Studies;	----;	High School
Florence Kleinman:	Spanish;	French, Portuguese;	High School
James D. Laster:	History;	English;	High School
+ Alex Charles Luna:	English;	History;	High School
Mary Jolley Lutz:	English;	History;	High School
Janet Laurene McCanna:	Social Studies;	----;	High School
Francis Richard Mansfield:	Social Studies;	----;	High School
Polly McMurdo Marcek:	Art Education;	----;	Art Education
Miriam Marquez:	Spanish;	Portuguese;	High School
Hazel E. Martinez:	Spanish;	Portuguese;	High School
Joseph F. Mateju:	English;	History;	High School
Norman R. Meier:	Social Studies;	Mathematics;	High School
John H. Murphy:	English;	Journalism;	High School

+ With Honors.

Ray Thomas Noble:	Social Studies;	Psychology;	High School
Walter L. Olson:	Social Studies;	Psychology;	High School
Aimee E. Perdue:	Sociology;	Physical Education;	High School
John D. Ramey:	Social Studies;	Business Administration, History;	High School
John E. Raymond:	Social Studies;	—;	High School
Beverly Ann Ream:	History;	German;	High School
Margaret Ann Rebal:	Social Studies;	—;	High School
William H. Riedel:	History;	Speech;	High School
Leo Romero:	History;	Government, Psychology;	High School
Tony Sanchez:	Social Studies;	Spanish;	High School
Robert P. Sanna:	Government;	History;	High School
* Agnes Carolyn Sheevers:	English;	Philosophy;	High School
Edward J. Sowek:	Social Studies;	—;	High School
Richard C. Stockton:	History;	Naval Science;	High School
Danny C. Terry:	Journalism;	Speech;	High School
Elizabeth Alleene Thorne:	Social Studies;	—;	High School
Arvel E. Stevens:	Government;	Physical Education;	High School
Jose Rey Toledo:	Art Education	—;	Art Education
James J. Vernon:	Speech;	Psychology;	High School
Theresa Valentina Vigil:	Spanish;	Journalism;	High School
Gloria Mae Walsh:	Art Education;	—;	Art Education
Howard M. Warden:	Social Studies;	—;	High School
Harley Shaw:	English;	Spanish;	High School
*†Sidney Douglas White:	Art Education;	Philosophy;	Art Education
BACHELOR OF SCIENCE IN EDUCATION			
Priscilla Alarid:	Home Economics;	—;	Home Economics
Althea Abeita Alonzo:	Home Economics;	Library Science;	Home Economics
Kenneth Leon Antoine:	Chemistry;	Mathematics;	High School
Patricia Avant:	Home Economics;	—;	Home Economics
Frances Ann Bennett:	Elementary Education;	—;	Elementary
Cecil Brininstool:	Mathematics;	Psychology;	High School
Jack R. Brown:	Mathematics;	Psychology;	High School
Jeanne Caldarelli:	Home Economics;	—;	Home Economics
Margie Howell Campbell:	General Science;	—;	High School
Lois Irene Carpenter:	Home Economics;	—;	Home Economics
Ellie Churidis:	Business Education;	Physical Education;	High School
Ted Christiansen:	Biology;	Chemistry;	High School
* Marian Ange Cobbett:	Psychology	Mathematics;	High School
Celene DeVargas:	Administration & Supervision;	Government;	Adm. & Sup.
Mary Jo Earnhart:	Home Economics;	—;	Home Economics
Joseph Shephard Fandey:	Psychology;	English;	High School
Barbara Ferguson:	Biology;	Psychology;	High School
Elizabeth Ann Floyd:	Business Education;	Home Economics;	High School

* With Distinction.

† With Honors.

Nancy Louise Fraser:	Business Education;	-----;	High School
Edelmira Costales Fuentes:	Administration & Supervision;	Spanish;	Adm. & Sup.
Sherman E. Galloway:	Geology;	Engineering;	High School
Mary E. Gibbs:	Administration & Supervision;	-----;	Adm. & Sup.
Dolores C. Giron:	Elementary Education;	-----;	Elementary
Beverlee Grenko:	Elementary Education;	-----;	Elementary
Ruby McCarty Hadlock:	Elementary Education;	-----;	Elementary
Nannie Pearl Hairston:	Home Economics;	-----;	Home Economics
Ronald H. Hammershoy:	General Science;	Naval Science;	High School
Mildred E. Irby:	Elementary Education;	-----;	Elementary
K. Fayna Jackson:	Administration & Supervision;	English;	Adm. & Sup.
Blanche Aldrich Jones:	Administration & Supervision;	Latin;	Adm. & Sup.
Rosemary Jones:	Elementary Education;	-----;	Elementary
Joann Jenkins:	Home Economics;	-----;	Home Economics
Betty Ann Kearns:	Home Economics;	-----;	Home Economics
Mary Thurmond Keith:	Elementary Education;	-----;	Elementary
Walter C. Kelly:	Elementary Education;	-----;	Elementary
Joyce Koger:	Business Education;	English;	High School
Theodore Lane:	Elementary Education;	-----;	Elementary
Edythe Leach:	Administration & Supervision;	English;	Adm. & Sup.
Dorothy Booth Lewis:	Home Economics;* Library Science;	-----;	Home Economics
Githa Sefton Lewis:	Business Education;	Psychology;	High School
Marion Hurley Lord:	Elementary Education;	-----;	Elementary
Frank Robert Luna, Jr.:	Biology;	Psychology;	High School
Vincent P. McKown:	Business Education;	-----;	High School
* Georgia Rodecker Manley:	Elementary Education;	-----;	Elementary
Annie Terrell Manning:	Administration & Supervision;	Physical Education;	Adm. & Sup.
Donald E. Mills:	Geology;	English;	High School
Evelyn Mills:	Elementary Education;	-----;	Elementary
Ethel Mary Moore:	Elementary Education;	-----;	Elementary
Edward L. Morrell:	General Science;	Naval Science;	High School
* Marie Molete Mullane:	Home Economics;	-----;	Home Economics

* With Distinction.

Gladys Hunter Needles:	Elementary Education;	—;	Elementary
Eloy G. Padilla:	Elementary Education;	—;	Elementary
Jane C. Padilla:	Business Education;	—;	High School
Joseph Robert Passaretti:	Biology;	French;	High School
Ferminio J. Perea:	General Science;	—;	High School
Patsy Ruth Perkins:	Business Education;	Psychology;	High School
Gertrude L. Pittard:	Administration & Supervision;	Math; Psychology;	Adm. & Sup.
Kenneth M. Porter:	General Science;	—;	High School
Joseph Hugh Raburn:	Elementary Education;	—;	Elementary
Lydia Lucille Ratliff:	Elementary Education;	—;	Elementary
* Betty Vivian Rinehart:	Elementary Education;	—;	Elementary
Margaret Jones Robinson:	Elementary Education;	—;	Elementary
Marydell Duncan Roby:	Elementary Education;	—;	Elementary
Joyce M. Romstad:	Elementary Education;	—;	Elementary
Didio B. Salas:	Elementary Education;	—;	Elementary
Joe L. Salas:	History;	Spanish;	Elementary
Fred E. Sanchez:	Administration & Supervision;	Spanish;	Adm. & Sup.
Mary Elizabeth Scanlan:	Elementary Education;	—;	Elementary
Jeanne C. Simon:	Elementary Education;	—;	Elementary
Anne Richardson Speer:	Business Education;	Psychology;	High School
Josephine Steen:	Elementary Education;	—;	Elementary
Betty Christine Stewart:	Home Economics;	—;	Home Economics
Ollie Mae Stirling:	Social Studies;	—;	Elementary
Augusta Helen Syme:	Elementary Education;	—;	Elementary
Ruby Mae Syms:	Elementary Education;	—;	Elementary
Emily Henrietta Ulmer:	Home Economics;	—;	Home Economics
Carol Leeds Williams:	Elementary Education;	—;	Elementary
Louisita B. Warren:	Home Economics;	—;	Home Economics
Leona Noble Wyman:	Administration & Supervision;	English;	Adm. & Sup.
BACHELOR OF SCIENCE IN HEALTH & PHYSICAL EDUCATION			
Joseph Orlando Armijo:	Health & Physical Education;	—;	H.&P.E.
Genita P. Brammer:	Health & Physical Education;	Home Economics;	H.&P.E.

* With Distinction

Rolland Clemens Charlton:	Health & Physical Education;	—;	H.&P.E.
Alex Cisneros:	Health & Physical Education;	Biology;	H.&P.E.
Frances Anne Cochran:	Health & Physical Education;	English;	H.&P.E.
Jasper R. Cummings:	Health & Physical Education;	Sociology;	H.&P.E.
Donna Gail Daniels:	Health & Physical Education;	—;	H.&P.E.
Thomas George Davis:	Health & Physical Education;	—;	H.&P.E.
Joseph Fischle:	Health & Physical Education;	History;	H.&P.E.
Arthur Friedman:	Health & Physical Education;	History;	H.&P.E.
Oard Conrad Graves:	Health & Physical Education;	—;	H.&P.E.
Harold H. Hall:	Health & Physical Education;	—;	H.&P.E.
John M. Hart:	Health & Physical Education;	—;	H.&P.E.
Jacquelynne Darlene Henrie:	Health & Physical Education;	Government;	H.&P.E.
Ann Elizabeth Jackson:	Health & Physical Education;	Recreational Leadership;	H.&P.E.
* Albert Kaplan:	Health & Physical Education;	History;	H.&P.E.
George Wilson Knapp:	Health & Physical Education;	Speech;	H.&P.E.
Charles Bernard Koehler:	Health & Physical Education;	—;	H.&P.E.
Roland Wallace Kurth:	Health & Physical Education;	—;	H.&P.E.
Jeanette Cain Lein:	Health & Physical Education;	—;	H.&P.E.
John J. Leonard:	Health & Physical Education;	—;	H.&P.E.
Howard Lester Lyons:	Health & Physical Education;	History;	H.&P.E.
James J. McMullan:	Health & Physical Education;	—;	H.&P.E.
John C. Moore:	Health & Physical Education;	History;	H.&P.E.
William J. Murphy:	Health & Physical Education;	History;	H.&P.E.
Alvin M. Pétine:	Health & Physical Education;	—;	H.&P.E.
Kenneth Truman Pharr:	Health & Physical Education;	—;	H.&P.E.
Robert George Raabe:	Health & Physical Education;	Biology;	H.&P.E.
Fred Harold Reynolds:	Health & Physical Education;	—;	H.&P.E.
William E. Ross:	Health & Physical Education;	—;	H.&P.E.
Jo Ann Severns:	Health & Physical Education;	—;	H.&P.E.
Herman Julius Romero:	Health & Physical Education;	—;	H.&P.E.

* With Distinction.

Paul Dexter Shodal:	Health & Physical ———;	H.&P.E.
	Education;	
Joe M. Stell, Jr.:	Health & Physical ———;	H.&P.E.
	Education;	
Carl W. Swan:	Health & Physical ———;	H.&P.E.
	Education;	
Albert H. Wright:	Health & Physical History;	H.&P.E.
	Education;	
Helen Wade Wyatt:	Health & Physical ———;	H.&P.E.
	Education;	

BACHELOR OF SCIENCE IN INDUSTRIAL ARTS EDUCATION

James Wendell Barnett:	Industrial Arts; ———;	Industrial Arts
Vernon Cummings:	Industrial Arts; ———;	Industrial Arts
James E. Fitch:	Industrial Arts; ———;	Industrial Arts
Miguel Gutierrez:	Industrial Arts; ———;	Industrial Arts
Clay Burnnie Goldston:	Industrial Arts; ———;	Industrial Arts
John Emery Martin:	Industrial Arts; ———;	Industrial Arts

COLLEGE OF FINE ARTS

BACHELOR OF FINE ARTS IN ART

Diane Lee Aller	William McGee
William H. Atkins	Anna Mae McHugh
Thomas H. Besha	Mary Jane McKeown
Jack K. Conner	Jim Marion Matthews
Kurt Gabel, Jr.	Jose L. Montoya
Harold H. Gile	Sue Clair Moreland
Robert D. Grone	Celia Georgia Oast
Julian Paul Harris	Clifford K. Palmer
Richard Roland Hartwick	Julianne Penix
* Arthur Stearns Holman	Elizabeth Robbins Rainey
Chloe Huntington	Jane Williams Rowe
Royce Gene Hurley	Clayton Carlyle Sabin
Bernard A. James	Joyce Stephens
Tommy F. Larison	Frederick Wong
Charles Armstrong Littler	Marjorie L. Wymore

BACHELOR OF FINE ARTS IN DRAMATIC ART

Donald Edward Chilcott	John Theodore Kehoe
Lois Reed Chilcott	Rosemary Rebecca Long
* Barbara Helen Eager	Phyllis Summers
Chester A. Greene	Barbara Griffin Talbot
Mary Pocahontas Jolly	Mark M. Wright
	Yvonne Victoria Yarcho

BACHELOR OF FINE ARTS IN MUSIC

Beverly Josephine Burke	Mitzi Louise Reed
Arlene Yvonne Deavenport	James Jocelyn Rippberger
Patricia A. Dickson	Jose A. Salazar
* Joyce Alaire Johnson	Anita R. Sandoval
Evelyn Curtis Losack	Wesley T. Selby
Alan H. McKerrow	Charles G. Smith, Jr.
	Ethel Lee Winn

BACHELOR OF FINE ARTS

Margaret L. Davison

* With Distinction.

COLLEGE OF PHARMACY

BACHELOR OF SCIENCE IN PHARMACY

Joseph R. Abeyta	Henry Morales
Francis E. Aldrich	Jack S. Oda
William A. Altmillier	Curtis C. Otto
Bevins Clark	Ernest E. Peterson
James T. Daily	Laurence Walls Rankin
William Lawrence Guthrey	John S. Ross
Ralph J. Gutierrez	Kenneth E. Schroeder
George A. Hoeft	Edwin F. Sobol, Jr.
LaQuita Joy Holloman	Walter J. Stuart
Frank Clarke Lehw	Wilbur W. Tucker
Jack Adams Manley	Floyd Vance

Edward Mitchell Wells

COLLEGE OF BUSINESS ADMINISTRATION

BACHELOR OF BUSINESS ADMINISTRATION

Name:	Concentration
Homer B. Adams, Jr.:	Finance
* Charles Robert Armour:	Accounting
Robert K. Arundale, II:	Finance
Myron W. Barnes:	Accounting
Bert Glynn Barnes:	Industrial Administration
Robert Thorpe Bear:	General Business
Wesley A. Bigney, Jr.:	Industrial Administration
Eugene L. Box:	General Business
Charles Randle Browder:	General Business
Thomas Russell Brown:	General Business
Donald H. Brandebury:	General Business
Brownell D. Brown:	Finance
George D. Buffett:	Industrial Administration
Anne Vocale Butterfield:	Finance
George James Capoun:	General Business
Jack Thomas Cargill:	General Business
Ernest Irl Carmichael, Jr.:	Industrial Administration
Wallace L. Cecil:	Accounting
Bradley Linthicum Clark:	Industrial Administration
Leonard Cohen:	Marketing
Charles Emerson Collins:	General Business
Gordon F. Cummings:	General Business
Henry Collier Daniel:	Marketing
John C. Daniel:	General Business
Mark M. Davids:	General Business
Ralph Raymond Davies:	General Business
Frederick John Disque:	General Business
Derrell Deen Dollahon:	General Business
Edward C. Domme:	General Business
Van T. Edsall:	Accounting
Frank Donald Fogg:	Marketing
James Leon Frost:	Industrial Administration
Arthur A. Gallegos:	Marketing
* William Reu Goodrum, Jr.:	Accounting
Warren Jay Gunderson:	Finance
James J. Hanosh:	General Business
John M. Hart:	General Business
Robert J. Heard, Jr.:	General Business

* With Distinction.

Name:	Concentration
• James H. Heberling:	General Business
• Thomas Joseph Henderson:	Accounting
Donald R. Hershberger:	Industrial Administration
William L. High, Jr.:	General Business
Duane James Hillard:	Accounting
Raymond Hoierman:	Finance
John Christian Hooper:	General Business
Alexander D. Janicek:	Marketing
Gordon L. Janicek:	Finance
Ross Arnold Kailey:	General Business
Bernard Ralph Kaufman:	General Business
John H. Kelly:	Marketing
Stanley J. Knothe:	General Business
• Carroll Jordan Lee:	Accounting
Gerald N. Levine:	General Business
William E. Lew:	General Business
William Sherman Lord:	General Business
James Richard Lotz:	General Business
Gerald Austin Lovett:	General Business
Leon W. Luke:	Accounting
Fred Robert McElheney:	Marketing
Norman McNew:	General Business
William F. Manire:	General Business
James A. May:	General Business
Murray Miller:	Accounting
Marvel L. Moon:	General Business
Daniel P. Mueller:	Marketing
James Wesly Pace:	General Business
Theodore H. Pate, Jr.:	Industrial Administration
Nick Thomas Pavletich:	General Business
Paul O. Peloquin:	General Business
Julia Melba Perry:	Marketing
Richard Joseph Pino:	General Business
Herman Plotkin:	Accounting
Linden H. Price:	Accounting
Robert D. Remy:	General Business
Donald E. Rhoades:	Finance
Mary Louise Ries:	Finance
Paul J. Romisher:	Accounting
Herman Sachs:	Marketing
Thomas E. Salazar:	Accounting
Thomas George Savage:	General Business
Harold Frederick Schmidt:	Industrial Administration
Bill Gordon Schmuck:	Marketing
Charles F. Selby, Jr.:	Accounting
Theodore F. Sherkus:	Marketing
Laurence Spears:	General Business
Herbert Springer:	Industrial Administration
Charles R. Stanello:	General Business
Robert Warren Stark:	Finance
George Walter Steinmann:	Accounting
Andrew W. Stewart, Jr.:	General Business
Barbara Lou Stone:	General Business
William F. Storey:	General Business
James Alan Storrer:	Marketing
Robert Todd Strauss, Jr.:	Industrial Administration
Keith Allen Svendby:	Marketing
Bill L. Sweet:	General Business
Herbert Thomas Taylor, Jr.:	Accounting

• With Distinction.

Name:	Concentration
Fred Trechel:	General Business
Leroy Tsyitec:	Accounting
Carlin A. Tucker:	Marketing
J. M. van Staveren:	General Business
James J. Vickers:	Accounting
Joe Gardner Watson:	Finance
Charles Theodore Weber:	Marketing
James R. Weeks:	General Business
John R. Willis:	General Business
Richard Catlin Whitehead:	General Business
Herman John Wirth:	Accounting
James H. Wood:	General Business
Anton C. Wratney:	General Business
George John Young, Jr.:	Accounting

COLLEGE OF LAW

BACHELOR OF LAWS

Lester Eugene Adams	Laurence Dewitt Hillyer, Jr.
Charles D. Alsup	John Norman Hodges
John Alexander Babington	B. James Koehler, Jr.
George Burr	Clare Clement Koogler
Harl Dalton Byrd	James Watson Leake
Fred Myron Calkins, Jr.	Ramon Lopez
John S. Catron	Irving E. Moore
Matias Lafayette Chacon	George M. Murphy
John Boynton Clark	Glenn B. Neumeyer
Joseph Phil Click	Kenneth A. Patterson
Edward Davis Courtney	Haskell Duane Rosebrough, Jr.
Margaret Keiper Dailey	Jacob I. Rosenbaum
Clarence T. Danen	Alexander F. Sceresse
John Dickson Donnell	Daniel Sosa, Jr.
Donald R. Fowler	Howell R. Spear
Charles R. Freyschlag	Joan Robinson Spear
Peter Edmund Gallagher	Fred Clyde Tharp
Clifford J. Groh	Albert Travis Ussery
John Wesley Gurley	Harry Lloyd Walker, Sr.
	Joseph B. Zucht

GRADUATE SCHOOL

MASTER OF ARTS

Name:	Major
Frank L. Baird, Jr.:	Inter-American Affairs
Charles A. Baker:	Psychology
Thomas Ormsby Ballinger:	Art Education
William Joseph Beckman:	School Administration
Zona Lou Rice Blythe:	School Administration
Sister Magdalen Louise Blum:	English
Leroy Melvin Bond:	School Administration
Barbara Ann Brooks:	Spanish
Mary E. Brooks:	Spanish
Ergeal Brown:	School Administration
Archie V. Bussell:	English
Henry Joseph Caroselli:	Art
Wayne Cornelius Chandler:	School Administration
Frank Springer Chapman:	School Administration
Marian Virginia Cochran:	History

James Carlton Cook:	Art
Elio Cultreri:	School Administration
Bradford Everett Dalton:	School Administration
Edith May Davenport:	History
Mary Esther Dark:	Elementary Education
George Arthur Dick:	Art
Richard C. Diebenkorn, Jr.:	Art
Donald Gene Doehring:	Psychology
Raymond Toutman Drew:	Art Education
Shirley Driggs:	Psychology
Sidney Hugh Fitch:	Spanish
Gerald Fromberg:	Art
Sam Nick Gaeto:	School Administration
Enos E. Garcia:	School Administration
Dorothy Blanche Gibson:	Art Education
Margaret Duran Gonzales:	Spanish
Lee Alice Greenleaf:	School Administration
Hubert Charles Hackett:	School Administration
Jesse Ryan Hagy:	History
Hallie Goss Harber:	Education
Thomas Bernard Heaphy:	English
George Warren Heideman:	Art Education
Joyce Alaire Johnson:	Secondary Education
Lenn Allen Kanenson:	Art
Maximilian Wilhelm Kaslo:	School Administration
Helen Stansifer Kavanaugh:	School Administration
Donald Reed Knorr:	School Administration
Harold Wade Lavender:	School Administration
Shepard Levine:	Art Education
John Herschel Lewis:	Physical Education
Ralph August Luebben:	Anthropology
Jack McEwen:	School Administration
Mary Roehl McGuire:	Elementary Education
LeRoi Lewis Francis Madison:	Speech
James Edward Marzuki:	Art Education
Nellie Oliver Matthews:	School Administration
Merle Morris Milfs:	School Administration
Dorothy Frances Millen:	Secondary Education
Jack Chilton Miller:	School Administration
Gilbert Emilio Miranda:	School Administration
William Elmo Morris:	School Administration
Robert Clifton Morrison:	Art
John Franklin Newcomer:	Philosophy
Victor Lionel O'Neal:	School Administration
Oliver Ernest Payne:	Government
Roy Arnold Payne:	School Administration
Edward Perryman:	School Administration
Miriam Redlo:	Psychology
Frank Anthony Reno:	School Administration
Ruth C. Roberts:	Secondary Education
Charles W. Ross, Jr.:	Art Education
Gertrude Rumbo:	School Administration
Gladys Imogene Rumbo:	School Administration
Jack Rushing:	Physical Education
Edgar N. Sampson:	Sociology
Lorenzo B. Sanchez:	Inter-American Affairs
Virgie Romero Sanchez:	School Administration
Helen Brinkman Scrivner:	History
Mary Irene Severns:	History
Dorothy Jean Sievers:	Psychology
Robert Harrison Simmons:	Government

Robert Lewis Smith:	Art
Harold O. Staus:	Economics
Dale O. Stout:	School Administration
Robert Willis Thomas, Jr.:	Economics
Carl Franklin Thompson:	School Administration
Richard V. Traylor:	School Administration
Gilbert Frederick Trujillo:	School Administration
Carolyn Phillips Voehl:	School Administration
Daniel Baldwin Voorhees:	Education
David L. Walker:	School Administration
Mary Elizabeth Finn White:	Art Education
Richard Francis Wierman:	Psychology

MASTER OF SCIENCE

Name:	Major
Elizabeth Dick Armstrong:	Biology
George A. Arnot, Jr.:	Electrical Engineering
Frederic Charles Barnett:	Mathematics
Allan Frank Beck:	Physics
Lois Lembke Benedict:	Psychology
Peter Holmes Benedict:	Mechanical Engineering
David W. Bergstrom:	Biology
Eliot Kingman Buckingham:	Electrical Engineering
Lorne Maxwell Chanin:	Physics
Maynard Cowan:	Physics
Philip George Crook:	Biology
James Lee Dossey:	Electrical Engineering
Louis L. Fisher:	Electrical Engineering
George Thomas Foehr:	Physical Education
John E. Furchner:	Biology
E. Louise Goeke:	Biology
Larry Jean Gordon:	Biology
Douglas M. Gragg:	Mathematics
Philip T. Hayes:	Geology
Owen Foster Kline:	Biology
Ferdinand Hobert Kruse:	Chemistry
Jorge Barriga Ledesma:	Civil Engineering
James David Griffith Lindsay:	Physics
Thomas Robert Lyons:	Geology
W. Riley McGaughran:	Chemistry
Martin Roeder:	Biology
William Alan Rogers:	Physics
Robert G. Schrandt:	Mathematics
James Francis Tribby:	Physics
John Jacob Vandertulip:	Civil Engineering
Dean Carleton Watland:	Biology
Robert W. Wheat:	Biology
Asa Calvin Wilson:	Civil Engineering

MASTER OF BUSINESS ADMINISTRATION

Carol L. Williams:	Management
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DOCTOR OF PHILOSOPHY

Frank Davis Adams:	English
Frank Gibbs Anderson, Jr.:	Anthropology
Francis Joseph Keneshea, Jr.:	Chemistry
Charles Henry Lange:	Anthropology
Edmund Gerald Meyer:	Chemistry
Grace Laura Nichols:	Spanish

Katharine Ferris Nutt:
David Pomeroy:
Paul Stillson:
Elizabeth Tallichet Stout:
Vina Elizabeth Walz:

History
Physics
Chemistry
Spanish
History

HONORARY DEGREE

Name:
George Boas:

Degree
Doctor of Laws

GENERAL COLLEGE DIPLOMAS

(TWO-YEAR COURSE)

Buddy Mack Adams
J. F. Branson
Patsy Jean Briggs
Leonidas Brown
Levita Fern Buckner
Jack Burdue
Catherine Callan
Hamel Carrell
Emilia Castillo
Jack Cecil
Helena Cepek
Glen E. Clelland
Owen Rogers Coats
Frank B. Collins
Earl Cook
Donald Coudriet
Danny Crago
Donald W. Crow
John Mitchell Drabelle
Harvey Engel
Joyce Fitzpatrick
Beverly Frost
Felix Garcia
Robert Charles Greiner
James E. Hare
Marjorie Gay Helper
Rosemarie Henderson
Donald Hutchinson
Benjamin S. Imershein

Francis V. Kremer
Edmundo H. Lucero
DeWayne Miller
Robert Wesley Morgan
Hendrick Nyland
William David O'Donnell
Elliott Eugene Okins
James L. Padilla
Mary Ann Ramos
Therese Reilly
Henry L. Riley
James G. Rodgers
Joe Leon Romo
Anita Sanchez
Pearl Scanlan
Aaron Schechter
Sam Sosa
Orlando Stevens
Charles G. Taylor
Herbert J. Taylor
Joe James Verce
Michael Wallner
David Raphael Ward
Gerald Westreich
Robert E. Wickham
Lindy Williams
Molly Sharon Woods
Carl Young

AWARDS AND SCHOLARSHIPS, 1950-51

- The Albuquerque Classroom Teachers Association Scholarship—Barbara Gere Brooks
- The American Association of University Women Scholarship—Sadie Ayer
- *The Anonymous Law Scholarship—Santiago Campos
- The Philo S. Bennett Scholarship—Judy Ann Ford
- The Clarence Milton Botts, Jr., Memorial Scholarship—Alice G. Huston
- *The Nacio Herb Brown Music Scholarship—Beverly Eakins
- *The Edward C. Cabot Award in Community Journalism—James W. Pinkerton, Clint E. Smith
- *The El Crepusculo Journalism Scholarship—Joseph Calvin Aaron
- The Daughters of Penelope Memorial Scholarship—Ilse Glidden Jenkins
- The James M. Doolittle Memorial Scholarship—Almeda J. Allen
- The Faculty Women's Club Scholarship—Georgia Manley

* New Award, 1950-51.

- *The Lt. John D. Gamble Memorial Law Scholarship—Ruben Rodriguez
- The Alfred Grunsfeld Memorial Scholarships—Leslie Klein, Robert Stuart
- The Miriam N. Grunsfeld Memorial Scholarships—Jacqueline Cox, Georgina Radosevich
- The Inter-American Affairs Scholarships—Romaine Roché, Richard E. Greenleaf, Richard Mahlon Frazer, Donna Lou Scalf, Rubén D. Recio (Cuba), José Pérez Albo (Mexico), Luz Maria Wong (Mexico), Rodolfo Giocochea (Peru), Haydee Molina Monge (Costa Rica), Eva Maria Castro (Peru), Pedro de Araujo (Brazil).
- The Ives Memorial Scholarships—Frances Roberta Curns, Mary Kuykendall, Mary Margaret Mitchell
- The Kappa Kappa Gamma Memorial Scholarship—Margaret Avis
- The Frederick Herbert Kent and Christina Kent Scholarship—James H. Pierson
- The Khatali Scholarship—William R. Speer
- The Robert W. Korber Memorial Scholarship—Charles Hill
- The Laura MacArthur Memorial Scholarship—Charles B. Martin
- The Newman Club Scholarship—Patricia Springer
- The Clyde Oden Memorial Scholarship—John M. Willis
- *The S. W. Papert Journalism Scholarship—George Taylor
- The Phrateres Club Scholarship—Georgina Radosevich
- *The Raton *Daily Range* Journalism Award for Women—Ellen Juanita Hill
- The Santa Fe *New Mexican* Scholarship—Jack Gill
- *The Wilma Loy Shelton International Fellowship for Women—Marie Sommerville
- The Soroptomist Club Scholarship in Law—Florence Ruth Jones
- The Spurs Scholarship—Pat Ann Davis
- The Thomas M. Wilkerson Memorial Scholarship—John R. Wiley
- The Zonta Club Scholarship in Business Administration—Cecelia Altuna
- The Alpha Delta Pi Prize in Art—Joan Jelinek
- The Dove Asch Prize in Physical Education—Jo Ann Severns
- The George E. Breece Prize in Engineering—Allen Fuhs
- *The Bristol Laboratories Award—Blanche Morek
- *The Nathan Burkan Memorial Competition—Howell R. Spear
- The Chi Omega Prize in Economics—Marie Nelson Dolder
- The Charles Florus Coan Prize in History—Beverly Ann Ream
- The Marian Coons Prize—Louisita Baca Warren
- The Harry L. Dougherty Memorial Prize in Engineering—Neal F. Current
- The English Faculty Poetry Prize and the Marcella Reidy Mulcahy Memorial Prize for Poetry—Fred Black, Peggy Patterson, James Richard Hassall, Jr., Roberta Colgan
- The Charles LeRoy Gibson Memorial Chemistry Prize—Ignacio Tinoco
- The H. J. Hagerman Prize in Public Finance—Gordon Janicek, Don Rhoades
- The Telfair Hendon, Jr., Memorial Prize in English—Agnes Caroline Sheevers
- The H. E. Henry Award in Pharmacy—Kenneth Schroeder
- *The College of Law Book Prizes: The Allen Smith Company Book Prize—Fred C. Tharp; The Bancroft-Whitney Publishing Company Award—Donald R. Fowler; The Bobbs Merrill Company Book Prizes—Donald R. Fowler, Robert L. White; The Bureau of National Affairs Prize—Charles Alsop; The Callaghan and Company Prize—Florence Ruth Jones; The Commerce Clearing House Book Prize—Derwood Knight; The Dennis and Company Book Prize—John A. Babington; The Lawyers Cooperative Company Prizes—Santiago E. Campos, John B. Clark, Robert Cox, Daniel A. Davis (two prizes), Douglas Florance, Donald R. Fowler (two prizes), Monroe Fox, Emmett C. Hart, Florence Ruth Jones, Derwood Knight, Glenn B. Neumeyer, Kenneth Patterson, Albert T. Ussery (two prizes); The Matthew Bender and Company Book Prize—Donald R. Fowler; The Michie Casebook Corporation Award—Donald R. Fowler; The West Publishing Company Awards—Daniel A. Davis, Monroe Fox.
- The William A. McCarthy Prize in History—William I. Waldrip
- The Merck Award in Pharmaceutical Chemistry—Jack Manley
- The Merck Award in Pharmacology—George Hoeft
- The New Mexico Section of the American Society of Civil Engineers Award—Marion Cottrell
- The Phi Kappa Phi Prizes for Freshmen—Frieda Flook, Danny Robert Swain

* New Award, 1950-51.

- The Phi Kappa Phi Senior Prize—Dolores Kallas Sundt
 The Rose Rudin Roosa Prize in Political Science—Frederick Rawlins
 The George St. Clair Memorial Prize in Dramatic Art—Barbara Helen Eager
 The Sigma Alpha Iota Alumnae Prize in Music—Frances Craig, 1949, Gracia Smith, 1950,
 Neil Wilson, 1951
 The Katherine Mather Simms Memorial Prize for Composition—Koji Taira
 The Summer Creative Writing Prize—Reynalda Dinkel
 The *Thunderbird* Award—Robert H. Lawrence
 The Lenna M. Todd Memorial Prize for Narrative—Joseph Paull, Louise Myers,
 Howard Peterson, Peggy Patterson, Seishiro Hokama
 The Alpha Kappa Psi Key in Business Administration—James H. Heberling
 The Delta Sigma Pi Scholarship Key in Business Administration—James H. Heberling
 The C. T. French Medal—Dolores Kallas Sundt
 The Kappa Psi Award in Pharmacy—No award, 1951
 The Phi Gamma Nu Scholarship Key in Business Administration—Nancy Frazier
 The Phi Sigma Certificates of Merit in Biology—Barbara Ruth Woody, undergraduate,
 John C. Donahoe, graduate

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 1951-52

	<i>Men</i>	<i>Women</i>	<i>Total</i>
Semester I, 1951-52	2718	1078	✓ 3796
Semester II, 1951-52	2502	1061	3563
Summer Session, 1951	1158	490	1648
Field Sessions, 1951	26	18	44
Taos Workshop	6	5	11
Education Workshop	13	35	48
Correspondence courses *	170	180	350
Extension courses *	106	158	264

* For the period March 1, 1951, to February 29, 1952.

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