

THE UNIVERSITY OF AKRON

1955-56 CATALOG



ANNOUNCEMENTS FOR 1956-57

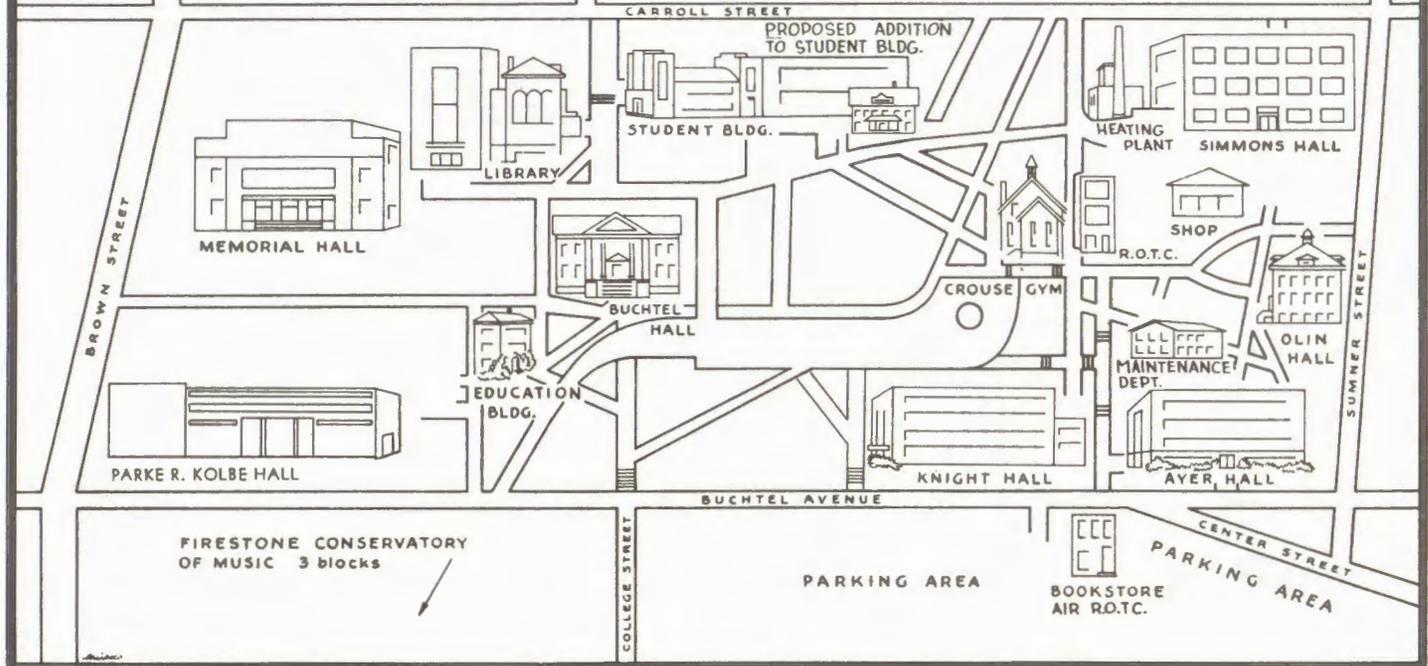
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THE UNIVERSITY OF AKRON

AKRON • OHIO

THE UNIVERSITY OF AKRON AKRON, OHIO

BUCHTEL FIELD
4 blocks



The University of Akron

Annual Catalog 1955-1956

With Announcements For 1956-1957



Buchtel Hall

Published By
The University of Akron
Akron, Ohio

TABLE OF CONTENTS

	PAGE
CALENDAR	3
BOARD OF DIRECTORS	5
ADMINISTRATIVE OFFICERS	5
UNIVERSITY FACULTY AND ASSISTANTS	6

GENERAL INFORMATION AND REGULATIONS

HISTORY	20
ACCREDITATION	20
GENERAL OBJECTIVES	21
ORGANIZATION OF THE UNIVERSITY	21
BUILDINGS	23
ADMISSION	24
DEGREE REQUIREMENTS	25
EXTRACURRICULAR PROGRAM	27
ATHLETICS	27
GRADING SYSTEM	29
COURSE NUMBERING	29
STUDENT ORGANIZATIONS	30
FEES AND EXPENSES	33

THE GENERAL COLLEGE

ENTRANCE REQUIREMENTS	37
CURRICULUM	37
GENERAL STUDIES	37
PREPARATION FOR UPPER COLLEGES	38
NEW PROGRAM IN GENERAL STUDIES	39

THE UPPER COLLEGES

BUCHTEL COLLEGE OF LIBERAL ARTS	
Objectives of the College	41
Divisions of the College	41
Fields of Concentration and Majors	42
Graduate Study	45
Subjects of Instruction	48
THE COLLEGE OF ENGINEERING	
The Cooperative Plan	86
Civil Engineering	92
Electrical Engineering	96
Mechanical Engineering	100
Industrial Option	102
THE COLLEGE OF EDUCATION	
General Information	104
Courses of Study and Degrees	105
Graduate Study	117
Subjects of Instruction	121
THE COLLEGE OF BUSINESS ADMINISTRATION	
General Information	134
General Business	137
Accounting	141
Industrial Management	143
Secretarial Science	145
<hr style="width: 20%; margin: 10px auto;"/>	
SUMMER SESSION	149
EVENING AND ADULT EDUCATION DIVISION	150
RESERVE OFFICERS' TRAINING CORPS	151
PRIZES, FELLOWSHIPS, SCHOLARSHIPS, HONORS, AND SPECIAL FUNDS	155
INDEX	165

UNIVERSITY CALENDAR

1956

January 3, Tuesday.....Classes resumed
 January 19, Thursday.....Founders Day
 January 28, Saturday.....Termination of semester final examinations

SPRING SEMESTER

January 30, Monday.....Orientation program begins. Required of all new students.
 February 2, 3, Thursday and Friday, February 4, Saturday until noonFinal registration for day session
 February 6, Monday.....Classes begin for day session
 February 6-10, Monday through Friday, 6-8:30 p.m.; February 11, Saturday until noon.....Registration for evening session
 February 13, Monday.....Evening classes begin
 February 22, Wednesday.....Washington's birthday—a holiday
 April 2, Monday.....Mid-semester grades due
 April 2-7, inclusive.....Spring recess
 April 9, Monday.....Classes resumed
 May 5, Saturday.....Examinations for candidates for graduate degrees with a major or minor in education and psychology
 May 25, Friday.....May Day
 May 30, Wednesday.....Memorial Day—a holiday
 June 9, Saturday.....Termination of semester final examinations
 June 10, Sunday.....Baccalaureate
 June 11, Monday.....Commencement

SUMMER SESSION 1956

June 14, 15, Thursday, Friday, and June 16, Saturday until noonFinal registration for summer session
 June 18, Monday.....Summer session classes begin
 June 18, Monday, 6-8:30 p.m.....Registration for Evening classes
 June 20, Wednesday.....Summer evening classes begin
 July 4, Wednesday.....Independence Day—a holiday
 July 27, Friday.....Six-week session ends
 August 10, Friday.....Eight-week session ends

FALL SEMESTER 1956-57

August 20, Monday to September 7, Friday, inclusivePre-registration of entering freshmen
 September 10, Monday.....Orientation program begins. Required of all new students.
 September 13, 14, 15, Thursday, Friday, Saturday until noon...Final registration for day session
 September 17, Monday.....Classes begin for day session

September 15, Saturday, 9 a.m.-
 3 p.m. Registration for evening session
 September 17-19 inclusive, Mon-
 day through Wednesday,
 6-8:30 p.m. Registration for evening session
 September 24, Monday..... Evening classes begin
 November 12, Monday..... Mid-semester grades due
 November 21, Wednesday, 5 p.m.. Thanksgiving recess begins
 November 26, Monday, 8 a.m..... Classes resumed
 December 19, Wednesday -
 January 1, Tuesday inclusive.. Christmas recess

1957

January 2, Wednesday Classes resumed
 January 18, Friday..... Founders Day
 January 26, Saturday..... Termination of semester final examinations

SPRING SEMESTER

January 28, Monday..... Orientation program begins. Required of all new
 students.
 January 31, February 1, Thursday
 and Friday, February 2, Satur-
 day until noon Final registration for day session
 February 4, Monday..... Classes begin for day session
 February 2, Saturday 9 a.m.-
 3 p.m. Registration for evening session
 February 4-6, Monday through
 Wednesday, 6-8:30 p.m..... Registration for evening session
 February 11, Monday..... Evening classes begin
 February 22, Friday..... Washington's birthday - a holiday
 April 1, Monday..... Mid-semester grades due
 April 15-21, inclusive..... Spring recess
 22 April 22, Monday..... Classes resumed
 May 11, Saturday..... Examinations for candidates for graduate degrees
 with a major or minor in education and psy-
 chology
 May 24, Friday..... May Day
 May 30, Thursday..... Memorial Day - a holiday
 June 8, Saturday..... Termination of semester final examinations
 June 9, Sunday..... Baccalaureate
 June 10, Monday..... Commencement

SUMMER SESSION 1957

June 13, 14, Thursday, Friday and
 June 15, Saturday until noon.. Final registration for summer session
 June 17, Monday..... Summer session classes begin
 June 17, Monday, 6-8:30 p.m.... Registration for evening classes
 June 19, Wednesday..... Summer evening classes begin
 July 4, Thursday..... Independence Day - a holiday
 July 26, Friday..... Six-week session ends
 August 9, Friday..... Eight-week session ends

BOARD OF DIRECTORS

TERM EXPIRES DECEMBER 31, 1957

HURL J. ALBRECHT750 East Tallmadge Avenue
 HARRY P. SCHRANK120 Twin Oaks Road
 E. J. THOMAS1144 E. Market Street

TERM EXPIRES DECEMBER 31, 1959

KURT ARNOLD999 E. Market Street
 H. L. BESSHARDT872 Carroll Street
 MRS. W. A. HOYT175 Merriman Road

TERM EXPIRES DECEMBER 31, 1961

LEE J. FERBSTEIN531 Second National Bldg.
 CHARLES J. JAHANT655 North Portage Path
 JOSEPH THOMAS1200 Firestone Parkway

OFFICERS FOR 1956

ChairmanHURL J. ALBRECHT
Vice ChairmanHARRY P. SCHRANK
Vice ChairmanE. J. THOMAS
SecretaryLESLIE P. HARDY

ADMINISTRATIVE OFFICERS AND ASSISTANTS

NORMAN P. AUBURN, LL.D.*President of the University*
 LESLIE P. HARDY, M.S.ED.*Vice President in Charge of Finance*
 CECIL A. ROGERS, B.S. BUS. ADM.*Treasurer*
 ERNEST H. CHERRINGTON, JR., PH.D.*Dean of the Buchtel College of Liberal Arts
 and Director of Graduate Studies*
 R. D. LANDON, C.E., M.S.*Dean of the College of Engineering*
 HOWARD R. EVANS, PH.D.*Dean of the College of Education and
 Director of the Summer Session*
 WARREN W. LEIGH, PH.D.*Dean of the College of Business Administration*
 DONFRED H. GARDNER, M.A.*Dean of Administration and
 Director of General Studies*
 EDWIN D. DURYEA, JR., ED.D.*Dean of the Evening and Adult Education Division*
 DOMINIC J. GUZZETTA, ED.D.*Assistant Dean of the Evening
 and Adult Education Division*
 BRUCE W. ALDERMAN, M.S.*Registrar*
 DOROTHY HAMLEN, B.S.L.S.*Librarian*
 GORDON HAGERMAN, B.A.*Director of Student Personnel*
 RICHARD HANSFORD, M.A.ED.*Adviser of Men*
 MRS. PHYLLIS PAUL, M.A.*Acting Adviser of Women*
 ULYSSES S. VANCE, B.A.*University Editor*
 JOHN M. DENISON*Director of Alumni Relations*
 RUSSELL B. HARRIS, M.A.*Director of Public Relations*
 EBBA LARSON*Assistant Registrar*
 ROBERT BERRY, B.S. BUS. ADM.*Business Manager*
 CLYDE W. ROTH, B.A.ED.*Assistant Adviser of Men*
 BARBARA E. WINKLER, B.S.*Assistant Adviser of Women*

UNIVERSITY FACULTY AND ASSISTANTS 1955-56

FULL-TIME FACULTY

NOTE: The dates in parentheses indicate the beginning of service at Buchtel College or The University of Akron; unless otherwise stated, service began in the month of September.

- NORMAN P. AUBURN, *President of the University* (1951)
B.A., University of Cincinnati, 1927; LL.D., Parsons College, 1945; University of Cincinnati, 1952.
- PAUL ACQUARONE, *Associate Professor of Botany and Geology* (1931)
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.
- BRUCE W. ALDERMAN, *Registrar* (July, 1954)
B.A., M.S., State University of Iowa, 1947.
- FRANK T. ALUSOW, *Assistant Professor of Speech* (February, 1956)
B.A., Cornell College; M.A., State University of Iowa, 1941.
- WESLEY ALVEN, *Associate Professor of Psychology* (1945)
Th.B., Northern Baptist Theological Seminary; Ph.B., Loyola University; M.A.Ed., The University of Akron; Ph.D., Western Reserve University, 1950.
- DAVID E. ANDERSON, *Assistant Professor of Engineering Materials and Director of Testing Laboratory* (1923)
B.A., Augustana College; M.S., University of Chicago, 1923.
- §*FREDERIC E. AYER, *Dean Emeritus of the College of Engineering* (March, 1914)
C.E., Lafayette College, 1900; D.Eng., The University of Akron, 1947; P.E., Ohio.
- ¶NEAL BALANOFF, *Instructor in Speech* (February, 1952)
B.A., M.A., Western Reserve University, 1950.
- MRS. GWENDOLYN BAUER, *Instructor in Health and Physical Education* (February, 1953)
B.S.Ed., The University of Akron, 1951.
- IRENE C. BEAR, *Professor of Home Economics* (1944) (1948)
B.S., Illinois Wesleyan University; M.A., Texas State College for Women, 1937.
- HELEN BECKER, *Associate Professor of Primary Education* (1949)
B.S., M.A., Ed.D., Columbia University, Teachers College, 1949.
- RUSSELL J. BEICHLY, *Assistant Professor of Physical Education and Basketball Coach* (March, 1940)
B.A., Wittenberg College, 1926.
- ROBERT BERRY, *Business Manager* (August, 1946)
B.S.Bus.Adm., The University of Akron, 1942.
- MICHAEL BEZBATCHENKO, *Associate Professor of Mechanical Engineering* (June, 1949)
B.M.E., The University of Akron; M.S., Case Institute of Technology, 1954; P.E., Ohio.
- †ROBERT M. BJORK, *Assistant Professor of Sociology* (1955)
B.A., University of Colorado; D.S.S., Syracuse University, 1955.
- WARREN C. BRAY, *Assistant Professor of Accounting and Finance* (1949)
B.S., University of Massachusetts; M.A., Columbia University, 1943.
- **CHARLES BULGER, *Dean Emeritus of Buchtel College of Liberal Arts and Hilton Professor Emeritus of Modern Languages* (February, 1910)
Ph.B., Buchtel College; M.A., Ph.D., University of Wisconsin, 1925; Litt.D., The University of Akron, 1953.
- ***RENA NANCY CABLE, *Associate Professor Emeritus of Art* (1927)
B.E., M.Ed., The University of Akron, 1931.

*Retired June, 1947.

§Deceased October, 1955.

¶Leave of Absence 1955-56.

**Retired June, 1951.

†Resigned June, 1956.

***Retired June, 1953.

- RAY CAMPBELL, *Instructor in Education* (1947)
B.A.Ed., M.A.Ed., The University of Akron, 1948.
- ANNA BELLE CHALFANT, *Assistant Professor of French* (1947)
B.A., Ohio State University; M.A., Middlebury College, 1934.
- ERNEST H. CHERRINGTON, JR., *Dean of the Buchtel College of Liberal Arts and Professor of Astronomy, and Director of Graduate Studies* (August, 1948)
B.A., M.S., Ohio Wesleyan University; Ph.D., University of California, 1935.
- FRANCES CLARK, *Assistant Professor of Accounting* (1946)
B.S., The University of Akron; M.Ed., University of Pittsburgh, 1946.
- KENNETH COCHRANE, *Associate Professor of Physical Education and Director of Athletics* (1948)
B.E., The University of Akron; M.Ed., University of Pittsburgh, 1941.
- WALTER A. COOK, *Buchtel Professor of Chemistry* (1926)
B.A., M.A., Ph.D., University of Cincinnati, 1924.
- GERALD CORSARO, *Assistant Professor of Chemistry* (1948)
B.S., Fenn College; M.S., Ph.D., Western Reserve University, 1944.
- MALCOLM J. DASHIELL, *Assistant Professor of Art* (1953)
B.F.A., John Herron Art School; M.F.A., State University of Iowa, 1953.
- EMILY DAVIS, *Professor of Art* (1945)
B.A., Ohio State University; M.A., Columbia University, Teachers College; Ph.D., Ohio State University, 1936.
- RICHARD C. DAVIS, *Assistant Professor of Mathematics* (1946)
B.S.Ed., The University of Akron; M.A., University of Michigan, 1951.
- *HARMON O. DEGRAFF, *Professor Emeritus of Sociology* (1930)
B.A., M.A., State University of Iowa; Ph.D., University of Chicago, 1926.
- JOHN DENISON, *Director of Alumni Relations* (February, 1946)
The University of Akron.
- HJALMER W. DISTAD, *Professor of Education* (1934)
B.S.Ed., M.A., Ph.D., University of Minnesota, 1926.
- HOWARD M. DOUTT, *Professor of Secretarial Science* (February, 1926)
B.A., The University of Akron; M.A., University of Chicago, 1934.
- ¶CHARLES DUFFY, *Pierce Professor of English Literature* (1944)
Ph.B., University of Wisconsin; M.A., University of Michigan; Ph.D., Cornell University, 1939.
- THEODORE DUKE, *Professor of Latin and Greek* (1946)
B.A., The University of Akron; M.A., Western Reserve University; Ph.D., Johns Hopkins University, 1946.
- JAMES F. DUNLAP, *Assistant Professor of Speech* (1955)
B.S.Ed., Wilmington College; M.A., Ph.D., Ohio State University, 1954.
- †EDWIN D. DURVEA, JR., *Dean of the Evening and Adult Education Division* (June, 1953)
B.A., St. Lawrence University; Ed.D., Stanford University, 1948.
- ELMER ENDE, *Associate Professor of Music* (1930)
B.Mus., American Conservatory of Music, Chicago; M.A., Ohio State University, 1930.
- HOWARD R. EVANS, *Dean of the College of Education and Professor of School Administration and Director of the Summer Session* (1929)
B.A., Indiana State Teachers College; M.A., Columbia University; Ph.D., Northwestern University, 1930.
- THOMAS EVANS, *Assistant Professor of Physical Education and Assistant Football Coach* (April, 1948)
B.A., College of Wooster; M.Ed., Kent State University, 1955.
- ELDORA FLINT, *Associate Professor of Secretarial Science* (1929)
B.E., The University of Akron; M.S.Ed., Syracuse University, 1935.
- VAUGHN WILBUR FLOUTZ, *Associate Professor of Chemistry* (1941)
B.A., Olivet College; M.A., Ph.D., University of Colorado, 1932.
- OMER R. FOUTS, *Associate Professor of Physics* (1926)
B.A., Wittenberg College; M.A., Ohio State University, 1925.
- DONFRED H. GARDNER, *Dean of Administration and Professor of History and Director of General Studies* (1924)
B.A., M.A., Princeton University, 1923.
- ††MRS. MARILYN GEMBERLING, *Instructor in Speech* (1955)
A.B., The University of Akron; M.A., Ohio State University, 1952.

*Retired June, 1951.

¶Leave of Absence, 1955-56.

†Resigned July, 1956.

††Resigned January, 1956.

- JAMES W. GLENNEN, *Associate Professor of Modern Languages* (1934)
B.A., The University of Akron; M.A., Western Reserve University; Ph.D., University of Pennsylvania, 1943.
- DENNIS GORDON, *Professor of Accounting* (1946)
B.A., M.B.A., University of Chicago, 1938; C.P.A., Ohio, 1947.
- *FRED S. GRIFFIN, *Professor Emeritus of Mechanical Engineering* (1921)
M.E., Ohio State University, 1911; P.E., Ohio.
- OSSIAN GRUBER, *Assistant Professor of Business Administration* (1946)
B.A., University of Minnesota; M.B.A., Northwestern University, 1928.
- DOMINIC J. GUZZETTA, *Assistant Dean of the Evening and Adult Education Division and Assistant Professor of Education* (1954)
B.A., M.Ed., Ed.D., University of Buffalo, 1953.
- GORDON HAGERMAN, *Director of Student Personnel* (July, 1941)
B.A., The University of Akron, 1941.
- E. K. HAMLIN, *Associate Professor of Coordination* (March, 1946)
B.M.E., The University of Akron, 1928; P.E., Ohio.
- PETER J. HAMPTON, *Associate Professor of Psychology and Director of Psychological Services* (August, 1954)
B.A., M.A., University of Manitoba; Ph.D., Western Reserve University, 1950.
- RICHARD HANSFORD, *Adviser of Men* (August, 1949)
B.A.Ed., M.A.Ed., The University of Akron, 1954.
- WILLIAM S. HARDENBERGH, *Instructor in Political Science* (1954)
B.A., M.A., Ph.D., University of Illinois, 1954.
- LESLIE P. HARDY, *Vice President in Charge of Finance* (1934)
B.S.Ed., Kent State University; M.S.Ed., The University of Akron, 1935.
- RUSSELL B. HARRIS, *Director of Public Relations* (May, 1956)
A.B., Kent State University; M.A., New York University, 1954.
- ELIZABETH J. HITTLE, *Assistant Professor of Speech* (1950)
B.S.Ed., The University of Akron; M.A., Kent State University, 1949.
- †ARTHUR E. HOOVER, *Assistant Professor of Psychology* (1954)
B.S., United States Merchant Marine Academy; B.A., Roosevelt College; M.S., Ph.D., Illinois Institute of Technology, 1954.
- IRENE HORNING, *Assistant Professor of Biology* (1946)
B.S., Western Reserve University, 1934.
- **FRED F. HOUSEHOLDER, *Professor Emeritus of Physics* (1918)
B.A., M.A., University of Wisconsin, 1916.
- JOHN HULL, *Instructor in English* (1946) (1954)
B.A., The University of Akron; M.A., Western Reserve University, 1953.
- MRS. JULIA HULL, *Assistant Professor of English* (1946)
B.A., The University of Akron; M.A., Western Reserve University, 1950.
- PAUL O. HUSS, *Associate Professor of Electrical Engineering* (January, 1941)
B.S.Ed., B.S.E., M.S.E., Sc.D., University of Michigan, 1935; P.E., Ohio.
- DONATO INTERNOSCIA, *Associate Professor of Modern Languages* (1938)
B.A., Broadview College; M.A., Ph.D., Northwestern University, 1938.
- PRISCILLA A. IRVING, *Instructor in English* (1955)
B.A., The University of Akron; M.A., University of Michigan, 1955.
- ROBERT T. ITTNER, *Professor of Modern Languages, and Chairman of the Division of Humanities* (1950)
B.A., Ph.D., University of Illinois, 1937.
- MRS. EMMA D. JOHNSON, *Assistant Professor of Physics* (1950)
M.A., University of Edinburgh; M.A., Ohio State University, 1950.
- EDWARD W. JONES, *Associate Professor of Geography* (January, 1944)
B.S., Western Reserve University; M.A., Kent State University, 1940.
- ††MRS. MARY KEATING, *Adviser of Women* (1936) (1949)
B.S., The University of Akron, 1936.

*Retired June, 1951.

†Resigned January, 1956.

**Retired June, 1950.

††Resigned March, 1956.

- DON A. KEISTER, *Professor of English* (1931)
B.A., M.A., The University of Akron; Ph.D., Western Reserve University, 1947.
- DUANE R. KELLER, *Professor of Civil Engineering* (1955)
B.S.C.E., Ohio University; M.S.E., University of Alabama, 1949; P.E., Maryland, Alabama.
- ROGER F. KELLER, JR., *Assistant Professor of Biology* (1954)
B.S., University of New Hampshire; Ph.D., Michigan State College, 1953.
- GRACE C. KIMBALL, *Assistant Professor of Biology* (1955)
A.B., University of Rochester; Ph.D., Cornell University, 1937.
- DAVID KING, *Associate Professor of Political Science* (1927)
B.A., Maryville College; M.A., University of Chicago, 1925.
- GEORGE W. KNEPPER, *Instructor in History and Assistant Adviser of Men* (August, 1954)
B.A., The University of Akron; M.A., Ph.D., University of Michigan, 1954.
- WALTER C. KRAATZ, *Professor of Biology* (1924)
B.A., University of Wisconsin; M.A., Ph.D., Ohio State University, 1923.
- SYDNEY J. KRAUSE, *Instructor in English* (1955)
B.A., University of Missouri; M.A., Yale University, 1950.
- MILTON L. KULT, *Assistant Professor of Electrical Engineering* (June, 1954)
B.S.E.E., M.S., University of Illinois, 1952; P.E., Illinois, Ohio, 1955.
- LAURENCE J. LAFLEUR, *Associate Professor of Philosophy* (February, 1952)
B.A., Princeton University; Ph.D., Cornell University, 1931.
- R. D. LANDON, *Dean of the College of Engineering and Professor of Civil Engineering* (February, 1946)
C.E., M.S., University of Cincinnati, 1927; P.E., Ohio.
- EBBA LARSON, *Assistant Registrar* (August, 1926)
The University of Akron.
- ANTHONY S. LATERZA, *Instructor in Physical Education and Assistant Football Coach* (August, 1955)
B.S.Ed., The University of Akron, 1952.
- DOROTHY LAUBACHER, *Assistant Professor of Home Economics* (1950)
B.S., M.A., Ohio State University, 1941.
- WARREN W. LEIGH, *Dean of the College of Business Administration and Professor of Commerce and Business Administration* (1926)
B.A., University of Utah; M.B.A., Ph.D., Northwestern University, 1936.
- GEORGE LEUCA, JR., *Assistant Professor of Modern Languages* (1951)
B.A., The University of Akron; M.A., Ph.D., Harvard University, 1951.
- MO CHIH LI, *Assistant Professor of Civil Engineering* (1951)
B.S.C.E., C.E., Purdue University; M.S.S.E., Massachusetts Institute of Technology; M.S.E., Sc.D.C.E., University of Michigan, 1944.
- CLARENZ LIGHTFRITZ, *Special Teacher of Piano* (November, 1941)
Bowling Green State University; private instruction with Ernest White and Miss Rena Wills.
- WILL LIPSCOMBE, *Associate Professor of Mathematics* (1921)
B.S., Florida State College; M.S., Ohio State University, 1926.
- STEWART MCKINNON, *Assistant Professor of Commerce* (1949)
B.A., M.A., University of Wisconsin, 1941.
- JAMES MCLAIN, *Assistant Professor of Economics* (1946)
B.A., The University of Akron; M.A., Western Reserve University, 1942.
- JOSEPH H. McMULLEN, *Associate Professor of Physical Education and Head Football Coach* (June, 1954)
Sc.B., B.A., Brown University; M.S., Westminster College, 1952.
- ANDREW MALUKE, *Assistant Professor of Physical Education and Assistant Football Coach* (February, 1946)
B.S.Ed., The University of Akron; M.A., Kent State University, 1949.
- MARGARET EVELYN MAUCH, *Associate Professor of Mathematics* (1945)
B.S., Huron College; M.S., Ph.D., University of Chicago, 1938.
- MAURICE MORTON, *Professor of Polymer Chemistry and Director of the Institute of Rubber Research* (October, 1948)
B.S., Ph.D., McGill University, 1945.
- SAMUEL C. NEWMAN, *Associate Professor of Sociology* (1951)
B.A., University of Pittsburgh; M.A., Oberlin College; Ph.D., Ohio State University, 1939.

- *JAY L. O'HARA, *Professor Emeritus of Economics* (January, 1934)
B.A., University of Michigan; Ph.D., University of Minnesota, 1927.
- MRS. HELEN PAINTER, *Assistant Professor of Education* (1945)
B.A., M.A., Ed.D., Indiana University, 1941.
- WILLIAM I. PAINTER, *Associate Professor of Education* (1945)
B.A., Oakland City College; M.A., Ph.D., Indiana University, 1933.
- HELEN PARK, *Assistant Professor of Biology* (1947)
B.S., Ottawa University; M.A., Nebraska University, 1923.
- VIRGIL PARMAN, *Professor of Music* (1948)
B.A., Kansas Wesleyan; M.M.Ed., Northwestern University, 1942.
- EDWARD A. PAUL, *Instructor in English* (1955)
B.A., The University of Akron; M.A., Western Reserve University, 1948.
- MRS. PHYLLIS PAUL, *Acting Adviser of Women* (July, 1955)
B.A., The University of Akron; M.A., Western Reserve University, 1937.
- DONNA M. PERRIE, *Instructor in Physical Education* (1955)
B.S.Ed., The University of Akron, 1952.
- W. M. PETRY, *Professor of Mechanical Engineering* (1946)
B.S.M.E., University of Missouri; M.S.M.E., Case Institute of Technology, 1951; P.E., Ohio.
- FRANK T. PHIPPS, *Assistant Professor of English* (1953)
B.A., M.A., Miami University; Ph.D., Ohio State University, 1953.
- †JOHN J. POTTINGER, *Instructor in Education* (1949)
B.S., University of Edinburgh; B.A.Ed., M.S.Ed., The University of Akron, 1950.
- MRS. RUTH PUTMAN, *Assistant Professor of English* (1934)
B.A., Howard College; M.A., Western Reserve University, 1938.
- **RUTH MARGUERITE RAW, *Associate Professor of English in the College of Engineering* (1929)
B.A., M.A., Hiram College; M.A., Columbia University, 1924.
- ALVIN M. RICHARDS, JR., *Assistant Professor of Civil Engineering* (1949)
B.C.E., The University of Akron; M.S., Harvard University, 1949; P.E., Ohio, 1955.
- DAVID C. RIEDE, *Instructor in History* (1955)
B.A., M.A., State University of Iowa, 1951.
- MABEL RIEDINGER, *Professor of Education* (February, 1947)
B.A., Mt. Union College; M.A., University of Chicago; Ed.D., Columbia University, Teachers College, 1946.
- EDGAR C. ROBERTS, *Assistant Professor of English* (1926)
B.S.Ed., M.A., Ohio State University, 1924.
- CLARA G. ROE, *Associate Professor of History* (1947)
B.A., University of Michigan; M.A., University of Chicago; Ph.D., University of Michigan, 1943.
- CECIL A. ROGERS, *Treasurer* (1932)
B.S.Bus.Adm., The University of Akron, 1932.
- CHARLES ROGLER, *Professor of Sociology* (1949)
B.A., M.A., University of Michigan; Ph.D., University of Kansas, 1935.
- MRS. MARGARET F. ROGLER, *Assistant Professor of Marketing* (1948)
B.S., University of Nebraska; M.S., University of Denver, 1944.
- LOUIS ROSS, *Assistant Professor of Mathematics* (February, 1946)
B.S., B.A., M.A.Ed., The University of Akron; Ph.D., Western Reserve University, 1955.
- CLYDE W. ROTH, *Assistant Adviser of Men* (July, 1955)
B.A.Ed., The University of Akron, 1953.
- RAY H. SANDEFUR, *Professor of Speech* (1950)
B.A., B.S.Ed., Emporia State Teachers College; M.A., University of Colorado; Ph.D., State University of Iowa, 1950.
- GABE SANDERS, *Assistant Professor of Education* (1951)
B.S.Ed., Milwaukee State Teachers College; M.A., Ed.D., Columbia University, Teachers College, 1952.
- ***RICHARD H. SCHMIDT, *Professor Emeritus of Chemistry* (April, 1918)
B.A., Wesleyan University; M.A., Columbia University, 1915.

*Retired June, 1955.

†Resigned July, 1956.

**Retired August, 1956.

***Retired July, 1955.

- MRS. ANNETTE K. SEERY, *Assistant Professor of Economics* (1951)
B.A., Mount Holyoke College; M.A., Washington University, 1947.
- *FREDERICK S. SEFTON, *Professor Emeritus of Physical Education* (1915)
B.S., Colgate University; M.Ed., Harvard University, 1925.
- SAMUEL SELBY, *Ainsworth Professor of Mathematics and Chairman of the Division of Natural Sciences* (1927)
B.A., M.A., University of Manitoba; Ph.D., University of Chicago, 1929.
- MRS. LUCY T. SELF, *Assistant Professor of Secretarial Science* (February, 1933)
B.A., Ohio Wesleyan University, 1920.
- THOMAS W. SHARKEY, *Instructor in Business Administration* (1954)
B.S.C., Ohio University; M.B.A., Indiana University, 1952.
- JAMES E. SHEARER, *Assistant Professor of Mechanical Engineering* (February, 1953)
B.S.M.E., M.S., University of Tennessee, 1953; P.E., Ohio, 1954.
- ROY V. SHERMAN, *Professor of Political Science and Chairman of the Division of Social Sciences* (1929)
B.A., M.A., Ph.D., State University of Iowa, 1927.
- KENNETH F. SIBILA, *Professor of Electrical Engineering* (February, 1940)
B.S.E.E., M.S.E.E., Case Institute of Technology, 1937; P.E., Ohio.
- NOEL SIMMONS, *Instructor in Chemistry* (1955)
B.S., City College of City of New York; M.S., Ohio State University, 1948.
- FRANK SIMONETTI, *Professor of Business Administration* (February, 1942)
B.S., The University of Akron; M.B.A., Boston University, 1941; D.B.A., Indiana University, 1954.
- MARY VERNON SLUSHER, *Assistant Professor of Accounting* (1947) (1954)
B.S., M.S., Virginia Polytechnic Institute, 1931; C.P.A., Virginia, 1953.
- HENRY P. SMITH, *Associate Professor of Music Education* (1947)
B.M., Illinois Wesleyan; M.A., Carnegie Institute of Technology; Ed.D., Columbia University, Teachers College, 1949.
- PAUL C. SMITH, *Associate Professor of Electrical Engineering* (1925)
B.S.E.E., Purdue University, 1917; P.E., Ohio.
- §**ALBERT I. SPANTON, *Dean Emeritus of Buchtel College of Liberal Arts* (1900)
Ph.B., Buchtel College; M.A., Harvard University, 1905; Litt.D., The University of Akron, 1938.
- JOHN F. STEIN, *Special Teacher of Voice* (1933)
Private Instruction with Herbert Witherspoon, Enrico Rosati, and Maria Kurenko.
- HOWARD STEPHENS, *Instructor in Rubber Chemistry and Research Chemist* (1950)
B.S., M.S., The University of Akron, 1950.
- WILLIAM J. STEVENS, *Instructor in English* (1950)
B.A., M.A., Dalhousie University, Halifax, N.S., 1939.
- ROBERT E. STRAIN, *Associate Professor of Economics* (1955)
B.A., University of Wichita; M.Ph., Ph.D., University of Wisconsin, 1953.
- THOMAS SUMNER, *Professor of Chemistry* (1950)
B.S., Ph.D., Yale University, 1951.
- ERNEST A. TABLER, *Assistant Professor of Mathematics* (1935)
B.S., Kent State University; M.A., Western Reserve University, 1933.
- MRS. HELEN S. THACKABERRY, *Assistant Professor of English* (February, 1940)
B.A., M.A., State University of Iowa, 1937.
- ROBERT E. THACKABERRY, *Associate Professor of English* (1938)
B.A., M.A., Ph.D., State University of Iowa, 1937.
- ERNEST R. THACKERAY, *Professor of Physics* (1949)
B.A., M.A., University of Saskatchewan; Ph.D., University of Wisconsin, 1948.
- ROLLAND R. TOUGAS, *Instructor in Psychology* (1955)
B.A., Queen's University (Kingston, Ont.); M.A., Ph.D., Syracuse University, 1955.
- EVELYN M. TOVEY, *Associate Professor of Nursing Education* (1950)
B.S., M.S. in Nursing, Western Reserve University, 1950.
- MRS. AUDRA TENNEY TUCKER, *Associate Professor of Secretarial Science* (1926)
B.A., The University of Akron; M.A., New York University, 1936.

*Retired June, 1954.

**Retired June, 1943.

§Deceased August, 1955.

- PAUL E. TWINING, *Professor of Psychology* (November, 1941)
B.S., Ottawa University (Kansas); M.A., University of Kansas; Ph.D., University of Chicago, 1938.
- *CLARENCE R. UPP, *Associate Professor Emeritus of Mechanical Engineering* (1925)
M.E., Ohio State University, 1910; P.E., Ohio.
- ULYSSES S. VANCE, *Associate Professor of Journalism and University Editor* (1923)
B.A., State University of Iowa, 1923.
- DONALD S. VARIAN, *Associate Professor of Speech* (1934)
B.A., M.A., University of Wisconsin, 1934.
- †ALBERT WALKER, *Director of Public Relations* (1952)
B.A., Baker University; M.S.J., Northwestern University, 1947.
- BERNARD M. WEINER, *Instructor in Art* (1953)
B.S., Cleveland Institute of Art and Western Reserve University; M.A., Western Reserve University, 1951.
- **GEORGE STAFFORD WHITBY, *Professor Emeritus of Rubber Chemistry* (1942)
A.R.C.Sc., B.S., University of London; M.S., Ph.D., D.Sc., McGill University, 1939;
LL.D., Mount Allison University, New Brunswick, 1932.
- ***MRS. FLORENCE N. WHITNEY, *Associate Professor Emeritus of English* (1936)
B.A., Dakota Wesleyan University; M.A., Columbia University, 1913.
- NELLIE WHITTAKER, *Special Instructor in Piano* (1945)
B.E., M.Ed., The University of Akron, 1935; Juilliard School of Music.
- EARL R. WILSON, *Associate Professor of Mechanical Engineering* (1929)
B.M.E., Ohio State University, 1916; P.E., Ohio.
- MARY H. WILSON, *Assistant Professor of Home Economics* (April, 1943)
B.S., Iowa State College, 1932.
- BARBARA E. WINKLER, *Assistant Adviser of Women* (February, 1956)
B.S., The University of Akron, 1952.
- DARREL E. WITTERS, *Assistant Professor of Music* (1941)
B.S.Ed., Bowling Green State University, 1933.
- ALVIN C. WOLFE, *Associate Professor of Chemistry* (October, 1942)
B.A., M.S., Ph.D., Ohio State University, 1941.
- WINNIGENE WOOD, *Assistant Professor of Home Economics* (1944)
B.S., Miami University; M.A., Columbia University, Teachers College, 1939.
- DONALD P. WOODWARD, *Instructor in Psychology* (1955)
B.A., Ph.D., University of Buffalo, 1954.

LIBRARY

- DOROTHY HAMLIN, *Librarian and Professor of Bibliography* (February, 1937)
B.A., The University of Akron; B.S.L.S., Western Reserve University, 1942.
- JOHN B. ARMSTRONG, *Head Cataloger and Instructor in Bibliography* (June, 1955)
B.S., University of Pittsburgh; M.L.S., Carnegie Institute of Technology, 1950.
- MRS. HELEN ARNETT, *Education Librarian and Assistant Professor of Bibliography* (1953)
A.B., The University of Akron; B.S.L.S., Western Reserve University, 1941; M.A., San Jose State College (Cal.), 1952.
- MRS. BARBARA CLARK, *Assistant Cataloger* (September, 1948)
B.A., The University of Akron, 1950.
- MRS. RUTH CLINEFELTER, *Periodicals Librarian* (June, 1952)
B.A., M.A., The University of Akron, 1953.
- MRS. LILLIAN COOK, *Science and Technology Librarian and Rubber Division Librarian* (1954)
B.S., The University of Akron, 1954.
- WILLIAM FISHER, *Head of Audio-Visual Aids* (August, 1955)
The University of Akron.
- PAULINE FRANKS, *Reference Librarian and Assistant Professor of Bibliography* (1950)
B.S.Ed., Kent State University; B.S.L.S., Western Reserve University, 1940.
- MRS. MARGARET MANCZ, *Order Librarian and Instructor of Bibliography* (September, 1952)
B.A., The University of Akron; M.S.L.S., Western Reserve University, 1950.

*Retired June, 1950.

†Resigned January, 1956.

**Retired June, 1952.

***Retired June, 1953.

PART-TIME FACULTY

(Day Session)

- HOLLIS ALLAN, *Instructor in General Business* (1953)
 B.A., The University of Akron; LL.B., The University of Michigan, 1949.
- MRS. EDNA ARCHER, *Instructor in Art for the Grades* (1947)
 B.E., The University of Akron; M.A., Columbia, 1939.
- NORRIS BROOMALL, *Instructor in Oboe and Bassoon* (1953)
 Dana Music Institute.
- MRS. THERESA HANEY, *Instructor in English* (1954)
 B.A., Western Reserve University; M.A., The University of Akron, 1954.
- MARTIN HEYLMAN, *Instructor in Flute* (1952)
 B.S., M.A. in Musicology, Western Reserve University, 1951.
- FRANK IRELAND, *Instructor in Psychology* (1948)
 B.A., B.D., Kenyon College; M.S., University of Michigan, 1946.
- MRS. MAE KRAMER, *Instructor in Reading Improvement* (1955)
 B.S., Wisconsin State College; M.Ed., Temple University, 1953.
- ROSE MARY KRAUS, *Instructor in Handicrafts* (1947)
 B.E., The University of Akron; M.A., Columbia University, 1926.
- LEON LAMONICA, M. D., *Instructor in Medical Science* (February, 1955)
 M.D., New York Medical College, 1934.
- WILLIAM LONG, *Instructor in Percussion* (February, 1956)
 Graduate, Eastman School of Music, 1948.
- MRS. HELEN MITCHELL, *Instructor in Voice* (1947)
 B.M., University of Michigan, 1932; Juilliard School of Music.
- JAY L. O'HARA, *Professor Emeritus of Economics* (January, 1934)
 B.A., University of Michigan; Ph.D., University of Minnesota, 1927.
- ROBERT PAOLUCCI, *Instructor in Brass Instruments* (February, 1954)
 Juilliard School of Music.
- THEODORE R. PRICE, *Instructor in Business Law* (1956)
 B.A., The University of Akron; LL.B., Duke University, 1948.
- LAWRENCE SCARPITTI, *Instructor in Violin* (1953)
 B.S.Ed., The University of Akron, 1954.
- RICHARD STERNBERG, *Instructor in General Business* (1954)
 B.A., University of Chicago; B.S.Bus.Admin., The University of Akron; LL.B., Western Reserve University, 1952.
- ROLAND L. VOTH, *Instructor in Psychology* (1955)
 B.S.Ed., Kent State University; M.Litt., University of Pittsburgh, 1944.
- MRS. ANN WELZER, *Instructor in Home Economics* (1955)
 B.S.Ed., Kent State University, 1952.
- CLARENCE R. UPP, *Associate Professor Emeritus of Engineering* (1925)
 M.E., Ohio State University, 1910; P.E., Ohio.

PUBLIC SCHOOL FACULTIES COOPERATING WITH THE COLLEGE OF EDUCATION

Officers of Akron Public Schools

- MARTIN ESSEX, B.S., M.A., PED.D.....*Superintendent of Schools*
 HAROLD NICHOLS, A.B., M.A., PH.D.....*First Assistant Superintendent of Schools*
 A. J. DILLEHAY, B.ED., M.A.....*Assistant Superintendent*
 GEORGE F. WEBER, M.A.ED.....*Executive Director*
 MRS. MARY LOUISE BEVERLY.....*Principal of Spicer School*

Officers of Other Cooperating Schools

- CARL COFFEEN, B.S., M.A.ED.....*Superintendent of Schools, Summit County*
 FRED H. BODE, B.S.ED., M.A.....*Superintendent of Schools, Cuyahoga Falls*
 A. R. GAFFGA, B.S., M.A.....*Superintendent of Schools, Norton Township*
 PAUL G. GUNNETT, B.A., M.A.....*Superintendent of Schools, Barberton*

TEACHERS IN SPICER DEMONSTRATION
LABORATORY SCHOOL, 1955-1956

Mrs. Olga Adams (*7th grade*), Harold Bakewell (*Physical Education*), Mrs. Mary Louise Beverly (*Principal*), Jane Blankenship (*2nd-3rd grades*), Mrs. Dorothy Boesche (*Music*), Mrs. Elsie Bowman (*4th grade*), Mrs. Mildred Collis (*1st grade*), Mrs. Hazel Converse (*Art*), Adelyn Dwyer (*Pri. S. S.*), Mrs. Marilyn Easterday (*3rd-4th grades*), Robert Eley (*Instr. Music*), Mrs. Caroline French (*4th-5th grades*), Virginia Gillooly (*6th grade*), Mrs. Thelma Grimes (*2nd grade*), Alton Haller (*Instr. Music*), Grace Ion (*5th grade*), Rose Kraus (*2nd grade*), Mrs. Bessie Miller (*1st grade*), Lila Neal (*3rd grade*), Mrs. Anne Petry (*Adv. S. S.*), Catherine Redinger (*Kindergarten*), Laura Roundy (*1st grade*), Maude Rumsey (*6th grade*), Dorothy Schorle (*3rd grade*), Fann Walcott (*7th grade*).

DIRECTING TEACHERS, SUMMER 1955 THROUGH
JUNE 1956

Rose Ahern (*Portage Path*), Mrs. Lillian Artola (*East*), DeWitt Asher (*Kent*), Mrs. Olive Ashton (*Hill*), Mrs. Frances Baker (*Maple Valley*), Elizabeth Barrow (*Goodyear*), Mrs. Edna Bauch (*Schumacher*), Louis Bauman (*Kenmore*), Mrs. Florence Benson (*Bryan*), Vincent Biondo (*Buchtel*), Zella Boedicker (*Norton Twp.*), Twylah Book (*Barberton*), Mrs. Loudell Boyes (*Garfield*), Herbert Bracken (*East*), Dorothy Browne (*Voris*), Francis Browning (*Kent*), Paul Bryant (*North*), Flora Bump (*West*), Anita Cahill (*East*), Mrs. Marian Caldwell (*Fairlawn*), Mrs. Lillian Christenson (*Seiberling*), Thomas Collier (*Glover*), Mrs. Carolyn Cook (*Hill*), Donna Cooper (*Margaret Park*), Lelah Culler (*Seiberling*), Evangeline Dadoly (*Kenmore*), Ralph Daily (*Seiberling*), Robert Davis (*Crouse*), Larry Dessart (*Goodyear*), Philip Dienoff (*Garfield*), Freda Dodson (*Lincoln*), Morvydd Doerler (*Betty Jane*), Sister M. Dominica (*St. Vincent*), Mrs. Florence Dougherty (*Schumacher*), Emil D'Zurik (*Barberton*), Hazel Easterday (*Miller*), Martha Effinger (*Seiberling*), Robert Ely (*Goodrich*), Clinton Ensworth (*Perkins*), Goldie Everett (*Voris*), Helen Fairbanks (*Seiberling*), Madeline Fifer (*Perkins*), Helen Fisher (*Rankin*), Anna Mae Flint (*Garfield*), Dan Flossie (*Garfield*), Mrs. Mary Gallagher (*West*), E. N. Geisler (*Barberton*), Sister Mary Girard (*St. Mary's*), Lillie Greer (*Smith*), Mrs. Belle Grensler (*Lincoln*), Mrs. Thelma Grimes (*Spicer*), Ann Growdon (*Perkins*), Ruth Haines (*Central*), Vida Hall (*South*), Cecilia Hansen (*Hotchkiss*), Frank Hansen (*North*), Gladys Hardman (*Rankin*), Robert Harris (*Buchtel*), Marjorie Harry (*Cuy. Falls*), Julia Haskins (*Hotchkiss*), Betty Heepe (*Schumacher*), Mathilda Herman (*Allen-Lane*), Bill Hollingsworth (*South*), Harland Horton (*Buchtel*), Donna Hosfield (*Fairlawn*), Mrs. Jean Howes (*East*), Mrs. Betty Hugg (*Rimer*).

Mary Kapioltas (*Kenmore*), Dorothy Kester (*Bd. of Ed.*), Mrs. Evelyn Kiefer (*Jewish Center*), Princilla King (*West*), Mrs. Evelyn Kirk (*Firestone Park*), Mrs. Bess Krahl (*Fairlawn*), Dorothy Leffler (*East*), Mrs. Mary Leitch (*Hotchkiss*), Joseph Lentine (*North*), William Lewis (*South*), Sister M. Loretta (*St. Vincent*), Mrs. Ruth Mahoney (*Fraunfelder*), Mrs. Audrey Marriott (*Robinson*), Jeanette Marsh (*Spicer*), Mrs. Lucy McMurtrey (*Fraunfelder*), Mrs. Mary Ann Mier (*Hill*), Mrs. Belle Monahan (*Seiberling*), Pauline Mottmiller (*Barberton*), Eldon Motz (*Ellet*), Harriet Myers (*Jackson*), Zita Nagle (*Voris*), Lila Neal (*Spicer*), Mrs. Abbie Nicholson (*Lane*), Sarah Orlinoff (*North*), George Pappas (*West*), Eugenia Paveloi (*Garfield*), Mrs. Anne Petry (*Spicer*), Wilbur Pfeifer (*Garfield*), H. A. Pieffer (*Barberton*), Sylvia Pierce (*Barber*), Mary Lou Radak (*Bryan*), Leona Rains (*Fraunfelder*), Mrs. Maxine Riblet (*Hotchkiss*), Edith Richards (*Bryan*), Barbara Rohrbaugh (*Lincoln*), Mrs. Lois Rook (*Cuy. Falls*), Mary Lou Rosche (*Maple Valley*), Laura Roundy (*Spicer*), Mrs. Lela St. John (*Jennings*), Roger Schaeffer (*South*), Harry Schaller (*Buchtel*), Mrs. Rosa Schroeder (*Seiberling*), Harold Schumacher (*Perkins*), Robert Schumacher

(*Schumacher*), Kathleen Scott (*Fairlawn*), Anne Seruch (*Betty Jane*), Mrs. Fanny Severns (*Mason*), Dorothy Shank (*North*), William Shaw (*East*), Mercedes Sheibley (*Henry*), Luther Smith (*East*), Gordon Snyder (*South*), Arlene Spahr (*Ellet*), Leonard Snyder (*Ellet*), Jane Steiner (*West*), Leona Sterley (*North*), Mrs. Mary Stermock (*Jackson*), Mrs. Alberta Thompson (*Cuy. Falls*), Mrs. Mildred Trusley (*Betty Jane*), Mrs. Isa Udell (*Central*), Lucy Vielhaber (*West*), John Van Sickle (*North*), Robert Vernon (*Garfield*), Eugene Vinciguerra (*Ellet*), William Waggoner (*Garfield*), Blanche Walker (*Rankin*), Mrs. Mary Walsh (*Portage Path*), Mrs. Barbara Walter (*Kenmore*), Dorothy Whittington (*Buchtel*), Mrs. Nell Williams (*South*), Parker Wilcox (*North*), Mrs. Marie Wilson (*Bryan*), Mrs. Edna Wolfe (*South*), Carol Wood (*Fraunfelder*), Mrs. Sara Wood (*Schumacher*), Catherine Yonally (*Voris*), George Zienka (*North*).

PART-TIME FACULTY

(Evening Session)

- EINAR G. ANDERSON, *Instructor in General Business*
B.S., B.A., The University of Akron, 1942.
- MRS. EDNA ARCHER, *Instructor in Art for the Grades*
B.E., The University of Akron; M.A., Columbia, 1939.
- JOHN H. BACHMANN, *Instructor in Chemistry*
B.Ch.E., Ph.D., University of Minnesota, 1939.
- ROBERT E. BAKER, *Instructor in Engineering*
B.M.E., The University of Akron, 1944.
- C. B. BECKER, *Instructor in Chemistry*
B.S., M.S., University of Chicago; Ph.D., University of Illinois, 1932.
- PAUL BECKER, *Instructor in Psychology*
B.S.Ed., M.S.Ed., The University of Akron, 1948.
- EUGENE R. BELL, *Instructor in Design*
B.S., The University of Akron, 1947.
- MARLYN J. BROCK, *Instructor in Chemistry*
B.S., Butler University; Ph.D., University of Illinois, 1946.
- MRS. ELISABETH BUEHL, *Instructor in General Business*
Ohio State University.
- L. E. BUNTS, *Instructor in Engineering*
B.M.E., The University of Akron, 1935.
- ANTHONY J. CACIOPPO, *Instructor in Psychology*
B.S., M.A., Kent State University; Ph.D., State University of Iowa, 1954.
- CHESTER F. CONNER, *Instructor in General Business*
Ph.B., Buchtel College, 1906.
- GLEN COWAN, *Instructor in Industrial Management*
B.S.Ed., Kent State University, 1935.
- JAMES W. DANNEMILLER, *Instructor in Industrial Management*
B.S., The University of Akron, 1952.
- HARMON O. DEGRAFF, *Professor Emeritus of Sociology*
B.A., M.A., State University of Iowa; Ph.D., University of Chicago, 1926.
- MARVIN A. DEISZ, *Instructor in Chemistry*
B.S., M.S., The University of Akron, 1954.
- HAROLD W. FIELD, *Instructor in General Business*
Mutual Insurance Institute, Aetna Insurance School.
- EARL W. FORD, *Instructor in Physics*
A.B., Muskingum College; M.S., Ph.D., Ohio State University, 1933.
- MERLE A. FULLER, *Instructor in Engineering*
B.E.E., The University of Akron, 1936.
- ARCHIE M. GALBREATH, *Instructor in English*
A.B., The University of Akron, 1955.

- SAMUEL GOLDMAN, *Instructor in General Business*
A.B., Miami University; LL.B., Harvard Law School, 1948.
- ROBERT C. GRIFFIN, *Instructor in Engineering*
B.S.Metal.Eng., Purdue University, 1950.
- CARL W. GRONCY, *Instructor in Industrial Management*
B.M.E., The University of Akron, 1938.
- MRS. ADENA HANDWERK, *Instructor in Secretarial Science*
B.A.Ed., The University of Akron, 1941.
- MRS. THERESA HANEY, *Instructor in English*
B.A., Western Reserve University; M.A., The University of Akron, 1954.
- MRS. PHYLLIS HARDENSTEIN, *Instructor in Speech*
B.A., The University of Akron; M.A., University of Wisconsin, 1952.
- ELIZABETH S. HENRICKS, *Instructor in English*
A.B., Wellesley, 1945.
- H. B. HORTON, *Instructor in Accounting*
B.B.A., Western Reserve University; M.A., Kent State University, 1938.
- T. DONALD JOHN, *Instructor in Journalism*
Copy Editor, Akron Beacon Journal.
- CYRIL JONES, *Instructor in Speech*
B.A., M.A.Ed., The University of Akron, 1934.
- ROBERT KATZENMEYER, *Instructor in Accounting*
B.S., M.B.A., Kent State University, 1954; C.P.A., Ohio, 1953.
- JOHN T. KIDNEY, *Instructor in Industrial Management*
Manager, Employees Service Division, The Goodyear Tire and Rubber Company.
- MRS. MARY KONSTAND, *Instructor in Secretarial Science*
B.S., The University of Akron; M.S., Boston University; M.S., The University of Akron, 1948.
- WILLIAM LANTZ, *Instructor in General Business*
The University of Akron.
- RICHARD LESHIN, *Instructor in Chemistry*
B.S., City College of the City of New York; M.S., Ph.D., New York University, 1952.
- WALTER LIPPS, *Instructor in Education*
B.E., The University of Akron, 1928.
- MRS. ALICE M. MAYOR, *Instructor in Chemistry*
B.S., Michigan State Normal College; M.S., Purdue University, 1947.
- MARSHALL DONALD McCOLLUM, JR., *Instructor in Marketing*
B.S.B., Miami University; M.B.A., Indiana University, 1954.
- JAMES MILLER, *Instructor in Accounting*
B.S.Bus.Adm., The University of Akron, 1952.
- JAMES H. MILLER, *Instructor in Engineering*
B.S., State University of Iowa, 1948.
- DONALD MORRIS, *Instructor in General Business*
B.S.Bus.Adm., The University of Akron; LL.B., Akron Law School, 1942.
- MARY MOSTENIC, *Instructor in English*
B.S.Ed., B.A., M.A., The University of Akron, 1951.
- MRS. VERA NELSON, *Instructor in Secretarial Science*
B.S., The University of Akron, 1937.
- MRS. MARTHA W. NYE, *Instructor in Psychology*
B.A., M.A., The University of Akron, 1955.
- MRS. KATHERINE OANA, *Instructor in Secretarial Science*
B.S.Ed., The University of Akron, 1941.
- MRS. BETTY W. OBLISK, *Instructor in Secretarial Science*
B.S., The University of Akron, 1947.
- JAY L. O'HARA, *Professor Emeritus of Economics*
B.A., University of Michigan; Ph.D., University of Minnesota, 1927.
- SARAH ORLINOFF, *Instructor in Mathematics*
B.A., M.A.Ed., The University of Akron, 1954.

- DEAN M. PEEBLES, *Instructor in General Business*
B.A., Washington State College, 1951.
- PHILIP E. PHILLIPS, *Instructor in Industrial Management*
B.S., M.B.A., University of Wisconsin, 1955.
- THOMAS POWERS, *Instructor in General Business*
A.B., Cornell University; LL.B., Cleveland Law School, 1927.
- K. L. REYNOLDS, *Instructor in General Business*
B.S., University of Illinois, 1927.
- ROBERT J. SIMMONS, *Instructor in Accounting*
B.A., The University of Akron; M.B.A., Kent State University, 1953.
- RUSSELL E. SIMMONS, *Instructor in Accounting*
B.S., M.S., University of Illinois, 1927; C.P.A., Illinois.
- ELI SOLOP, *Instructor in Engineering*
B.M.E., The University of Akron, 1950.
- LEONA STERLEY, *Instructor in Secretarial Science*
B.S.Sec.Sc., The University of Akron; M.A.Bus.Ed., New York University, 1942.
- HENRY C. STEVENS, *Instructor in Chemistry*
B.S., Columbia University; M.S., Ph.D., Western Reserve University, 1951.
- LEONARD SWEET, *Instructor in Mathematics*
B.A.Ed., The University of Akron; M.Ed., Kent State University, 1954.
- WAYNE TYLER, *Instructor in English*
B.A., M.A., University of Wisconsin, 1936.
- CLARENCE R. UPP, *Associate Professor Emeritus of Mechanical Engineering*
M.E., Ohio State University, 1910; P.E., Ohio.
- SUMNER VANICA, *Instructor in Education*
B.A., M.A.Ed., The University of Akron, 1944.
- C. W. VOBBE, *Instructor in Industrial Management*
B.B.A., University of Toledo, 1935.
- DWITE A. WALKER, *Instructor in Engineering*
B.M.E., The University of Akron, 1949.
- MRS. BETTY WETTSTYNE, *Instructor in Secretarial Science*
B.S.Sec.Sc., The University of Akron; M.B.A., University of Chicago, 1944.

GENERAL INFORMATION AND REGULATIONS

The University of Akron is an outgrowth of Buchtel College which was established in 1870 by the Ohio Universalist Convention and which took its name from its most generous benefactor, Hon. John R. Buchtel. Today, Buchtel College retains its name and identity in the Buchtel College of Liberal Arts.

On August 25, 1913, the City Council of Akron, Ohio, passed the ordinance accepting Buchtel College, reading in part as follows: ". . . the entire property, plant and endowment of Buchtel College so to be transferred and conveyed to the City of Akron, shall be used for the purpose of establishing and maintaining a municipal university . . ." On December 15, 1913, Mayor Frank Rockwell certified the appointments of nine men as members of the first Board of Directors, thus completing the establishment of The University of Akron.

PRESIDENTS OF BUCHEL COLLEGE

*S. H. McCOLLESTER, D.D., Litt.D.	1872-1878
*E. L. REXFORD, D.D.	1878-1880
*ORELLO CONE, D.D.	1880-1896
*CHARLES M. KNIGHT, Sc.D. (ad interim)	1896-1897
*IRA A. PRIEST, D.D.	1897-1901
*A. B. CHURCH, D.D., LL.D.	1901-1912
*PARKE R. KOLBE, Ph.D., LL.D.	1913-1914

PRESIDENTS OF THE UNIVERSITY OF AKRON

*PARKE R. KOLBE, Ph.D., LL.D.	1914-1925
*GEORGE F. ZOOK, Ph.D., LL.D.	1925-1933
*HEZZLETON E. SIMMONS, D.Sc., LL.D.	1933-1951
NORMAN P. AUBURN, A.B., LL.D.	1951-

ACCREDITATION

The University of Akron is accredited or approved by the following associations:

The North Central Association of Colleges and Secondary Schools, Ohio College Association, American Medical Association, American Chemical Society, the Engineers' Council for Professional Development, and National Council for Accreditation of Teacher Education.

The University of Akron is a member of the following organizations:

American Council on Education, Association of American Colleges, Association of Urban Universities, American Society for Engineering Education, Ohio College Association, and the American Association of Colleges for Teacher Education.

Women graduates of the University with approved degrees (requiring at least two years or a minimum of 60 credit hours of non-professional, non-technical work credited toward an A.B. degree) are eligible to membership in the American Association of University Women.

*Deceased.

GENERAL OBJECTIVES OF THE UNIVERSITY

The University of Akron is a municipal university supported in part by city taxes. It, therefore, plans its educational services especially to serve the people of Akron.

The University of Akron has as its aims :

To give students a survey of the chief fields of knowledge and thus acquaint them with the world of nature and human life; to develop their ability to make sound judgments and to profit from experience; to arouse their intellectual curiosity and stimulate their scholarly growth; to aid them in their physical well-being; to help them to appreciate beauty in all its forms and thus to furnish them with resources for enjoying their leisure hours.

To develop and strengthen in students a sense of social responsibility so that they might have a proper regard for the rights of others; to prepare them for a sane and loyal family life and an active and intelligent citizenship.

To prepare students for greater social and individual effectiveness in public service, commerce and industry, and the professions; for entering the professional schools of law, medicine, and dentistry, and for advanced study in other fields; for careers in art, music, home economics, and secretarial science.

In the attainment of these objectives, The University of Akron will utilize its available resources to the utmost. Students will be expected to have a satisfactory degree of intellectual maturity, and adequate scholastic preparation along with the necessary aptitudes and interests. It is also expected that their educational objectives will harmonize with those of the University.

The University has further aims :

To provide expert advice for various civic and educational agencies; to furnish a scientific testing service for commerce and industry; to offer educational programs for the dissemination of culture and knowledge.

ORGANIZATION OF THE UNIVERSITY

The University of Akron is composed of a General College and four Upper Colleges, divided on the basis of educational objectives. The Upper Colleges are Liberal Arts, Engineering, Education, and Business Administration.

The allocation of departments and particular fields of study to the several colleges does not mean that election of courses is restricted to students enrolled in a particular college. The student may cross college lines in special cases.

I. THE GENERAL COLLEGE

The purpose of the General College is two-fold: (1) to furnish a general cultural education for (a) students who plan to enter an Upper College and obtain an academic degree, and (b) students who desire approximately two years of general education; (2) to furnish pre-professional or terminal courses of an occupational nature for students who do not plan to enter an Upper College.

II. THE UPPER COLLEGES

BUCHTEL COLLEGE OF LIBERAL ARTS

The departments are grouped in three divisions as follows:

<i>Humanities</i>	<i>Social Sciences</i>	<i>Natural Sciences</i>
Art	Economics	Biology
Latin and Greek	History	Chemistry
Literature	Political Science	Home Economics
Modern Languages	Sociology	Mathematics
Music		Physics
Philosophy		
Speech		

A major is also offered in Psychology.

THE COLLEGE OF ENGINEERING

Civil Engineering Electrical Engineering Mechanical Engineering

THE COLLEGE OF EDUCATION

There are no divisions in the College of Education, but preparatory courses are offered in a variety of teaching fields:

Art	Home Economics	Physical Education
Commerce	Kindergarten	Psychology
Elementary	Music	Nursing Education
High School	Primary	

THE COLLEGE OF BUSINESS ADMINISTRATION

Accounting General Business Industrial Management Secretarial Science

EVENING AND ADULT EDUCATION DIVISION

Persons who wish to continue their education but cannot attend the regular day session at the University have opportunities in the evening session offered by the Division.

The evening offerings of the Division include a program of regular credit courses in liberal arts and science, engineering, education, and business administration in the Evening College and a program of special courses for adults (without credit) in the Community College.

More complete information on these two programs and other activities of the Division is included in another section of this catalog and in special announcements which may be obtained from the Evening Office in Buchtel Hall.

SUMMER SESSION

The University of Akron operates a six- and an eight-week summer session. For details, see the section on Summer Session.

GRADUATE STUDY

Graduate work leading to the Master's degree is offered in the College of Liberal Arts in the fields of Chemistry, Economics, English, History, Physics, Political Science, and Psychology. For specific requirements, consult the Graduate Study section under Buchtel College of Liberal Arts.

In the College of Education, graduate work is offered leading to the following degrees: Master of Arts in Education, and Master of Science in Education. For specific requirements, consult the Graduate Study section under College of Education.

Graduate work leading to the Master of Science degree in Business Administration is offered in the College of Business Administration. For information and requirements, consult the Dean of The College of Business Administration.

BUILDINGS

The University campus, bounded by E. Buchtel Avenue, Brown, Carroll and Sumner Streets, is half a mile east of the city's business center, on a bus line, and comprises 19 acres, including parking facilities.

The principal buildings include:

Ayer Hall, providing offices, laboratories, and classrooms for the College of Engineering.

Buchtel Hall, accommodating the University's administrative offices, the Psychological Services, and some classrooms.

Curtis Cottage, containing laboratories and offices for the Department of Home Economics.

Education Building, providing offices and classrooms for the College of Education.

The Firestone Conservatory of Music, a gift of the Harvey S. Firestone family, consisting of two buildings located at E. Market and Forge Streets, three blocks north of the campus, and housing the Department of Music.

Home Management House, a completely furnished two-story dwelling on the campus, providing Home Economics majors an opportunity to learn to manage a home.

Knight Hall, housing the Chemistry Department and the Office of Rubber Research; and featuring a rubber mill, curing and physical testing rooms, plastics laboratory, and classrooms.

Parke R. Kolbe Hall, opened in October, 1955, houses the University Theatre, television and radio studios; the Office of the Dean of Buchtel College of Liberal Arts, the Speech and Hearing Clinic, and the Departments of Biology, English and Speech plus offices and class rooms.

Memorial Hall, the new physical and health education building, opened in September 1954, with large and small gymnasiums, a swimming pool, the University Health Service, and departmental offices.

Olin Hall, used for Home Economics and Industrial Management.

Student Building, containing dining facilities, student lounge (also used for receptions), offices of student publications, and game rooms.

Simmons Hall, including offices of the College of Business Administration, some laboratories of the College of Engineering, the City Testing Laboratory, classrooms and faculty offices.

Toward the west end of the campus are old *Crouse Gymnasium*, the *R. O. T. C. Armory*, the central heating plant, and a frame structure for temporary offices.

The *University Bookstore*, *Post Office*, and *Air R. O. T. C.* offices are located in a brick building across Buchtel Avenue from Knight Hall.

Buchtel Field is situated about four blocks south of the campus, at Wheeler and Kling Streets. Its Athletic Building services the teams and facilitates the physical education program.

Spicer School, an elementary school under the Akron Board of Education, at Carroll and Elwood Streets, one-half block east of the campus, is used for observation by the College of Education for its student teachers.

UNIVERSITY LIBRARY

The University Library, known as Bierce Library, occupies Carl F. Kolbe Hall and its modern annex. The total book collection is 98,961 volumes, with periodicals totaling 617 titles, including the unique Rubber Research Library. The Art Department has its specialized facilities on one floor of the annex; the Audio-Visual Aids Department is also located in the Library.

ADMISSION TO THE UNIVERSITY*

Candidates for admission to The University of Akron are eligible for admission if they have been graduated from a regionally accredited school with a program including the following units of study:

- 4 units English
- 1 unit Mathematics
- 3 units Social Studies (including American History)
- 1 unit Natural Science
- 1 additional unit from the above

Other candidates for admission to The University of Akron may be admitted upon the basis of the quality of their secondary school work and their standing upon the counseling tests as given by the University.

Students who have been admitted will be permitted to take courses for which they are qualified by the nature of their secondary school record and the standing on the counseling tests.

ADMISSION OF TRANSFER STUDENTS

Candidates for admission as advanced students should have transcripts and evidence of honorable dismissal sent to the University Registrar from the institution last attended.

To be accepted, the student must have a satisfactory scholastic record and must be eligible to re-enter the institution from which he desires to transfer.

In general, 16 credit hours a semester represent a full allowance of credit for transfer purposes. Such evaluations and credit allowances are tentative, and depend upon a satisfactory record at the University.

Transfer students become eligible for a degree from The University of Akron only after a full year in residence and completion of 32 credit hours of work. Three-fourths of these hours must be completed in the college granting the degree, and must have a 2 point average for work taken at The University of Akron.

All candidates for the baccalaureate degree must take their last year of work in the University unless excused by their Dean.

Students must obtain permission of their Dean before taking work simultaneously in another institution, if they want that work credited toward a University of Akron degree.

REGULAR AND SPECIAL STUDENTS

A *regular* student is a student who meets the admission requirements and is following a regular curricular sequence. In order to enroll in a course not in a regular curricular sequence, the student must obtain permission from the proper authority.

* Admission to the University is necessarily limited by its capacity to provide for students' educational objective.

A *special* student is a student who does not meet the admission requirements but is admitted by petitioning the Committee on the General College for permission to take courses for which he is qualified by maturity and special qualifications. A *special* student may take only 15 hours of work unless transferred to regular status by action of the Committee on the General College.

AUDITORS

A student may apply to his Dean for permission to audit a course. Permission may be granted if (1) the student's scholarship is good, and (2) if the student has taken and passed the particular course, or if his life experience qualifies him to take the course.

An auditor is required to do all the work prescribed for students enrolled for credit except taking examinations. The fee is the same as for regular credit enrollment. Designation as an Auditor must be made at the time of registration.

REGISTRATION AND CLASSIFICATION

A student who wishes to gain admission should ask his high school principal to mail a statement of his high school record on a blank supplied by the University Registrar upon request. The applicant is expected to present himself in person to register at the specified times.

The registration days for students in both day and evening sessions will be found in the University Calendar in the opening pages of this catalog.

The week preceding the opening of the regular session is devoted to general assembly, tests, physical examination, lectures, and payment of fees. Entering freshmen must report Monday, Sept. 10, 1956, for the fall session, and participate in all Orientation Week activities.

DEGREE REQUIREMENTS

Students in Liberal Arts, Education and Business Administration must present at least 128 semester hours with no less than a 2 point average. Engineering students must present at least 159 semester hours with at least a 2 point average. No student is eligible for a degree unless he has the same ratio of quality points in his major subject as is required for graduation. Some departments may require a higher than 2 point average for their major students.

To complete Upper College work, a student should have at least 50 per cent of his total work in his major division. It is desirable, however, that he take not more than 75 per cent of his total work in his major division, exclusive of general education requirements.

To receive a second bachelor's degree from The University of Akron, the student must complete all requirements for the degree with a minimum of 32 semester hours not counted for the first degree.

Participation in Baccalaureate and Commencement exercises and discharge of all University obligations are required for the degree.

Candidates for a degree are required to file an application with the Registrar by February 1 of their senior year.

A statement of degrees conferred upon completion of specific courses of study is given under the descriptive matter of each college.

Time Limitation on Requirements for Graduation, to be effective September, 1954: If a student does not complete the requirements for graduation for the Bachelor's degree within a period of ten calendar years

from the date of the beginning of his first semester at The University of Akron, his requirements for graduation may be changed to those currently in effect by action of his Dean.

GRADUATION "WITH DISTINCTION"

Students with an average grade of 90 per cent or higher (or a quality point ratio of 3.25) for all four undergraduate years, will be graduated with distinction.

In addition, transfer students must maintain a quality point average of 3.25 or higher at The University of Akron to be graduated with distinction.

PROBATION AND FAILURE

A General College student who fails to maintain a quality point ratio of 2 may be subject to change of courses, suspension, or some other form of academic discipline.

An Upper College student whose scholarship is unsatisfactory may be placed on probation, suspended for a definite period of time, or dropped from the University at any time, by the Dean of the College in which he is enrolled.

The academic program for each probationary student is determined by the Dean who has jurisdiction over him.

Students who have been dropped from the University are not eligible to register for credit courses in day, evening or summer sessions.

Reinstatement of students in the General College is under the jurisdiction of the Committee on the General College.

Reinstatement of Upper College students is under the jurisdiction of the Dean of the College in which he wishes to be enrolled.

CHANGES OF SCHEDULES

All changes by Upper College students from one field of concentration to another, or from one college to another, must be approved by the Dean of the College in which he is enrolled.

If a student withdraws from a course on recommendation of his Dean, it will not count as work attempted.

If a student leaves a course without the recommendation of his Dean, or is dropped from any course by his Dean, he is given a failing grade, and it is counted as work attempted.

All grades received by students, whether passing, failing, or dropped, are used in compiling statistical averages for student groups.

No student is permitted to enter a course after the first week of the semester.

First-year students are permitted to elect work above the freshman year, by special permission only.

REPEATING COURSES

With the permission of his Dean, a student may repeat a course once in which he has received a D grade subject to these conditions:

- a. The new or second grade only shall be counted in the student's total record.
- b. The course may not be repeated in the semester in which the student is a candidate for graduation.
- c. If the D grade is in a course which the student has previously failed, the privilege of repeating the course shall not be granted.

STUDENT LOAD

Sixteen hours a semester are considered a full program. The Dean of the College may permit a student to take more than 17 hours.

PROMOTION TO AN UPPER COLLEGE

For promotion to an Upper College, the student must make a minimum quality point ratio of 2 for the work taken and must complete at least 64 hours of work including general courses required in first two years.

Students who plan to meet requirements for promotion to upper college standing in the Colleges of Liberal Arts, Education, and Business Administration should consult the list of studies laid down by the department concerned as prerequisite for promotion. Some departments require courses to be taken in the freshman year. This is especially true in the Natural Science division, and in commerce, home economics, secretarial science and art.

In other cases, the choice of a major need not be made until the sophomore year because of a smaller amount of prescribed work involved. Still others do not list specific requirements until the junior year.

Acceptance of students in the Upper College is the responsibility of the academic Deans in consultation with administrative officers of the General College and heads of the departments concerned.

CREDIT BY EXAMINATION

Qualified students may obtain credit for subjects not taken in course by passing special examinations. The grade obtained is recorded on the student's permanent record. The fee for such examination is \$5 per credit hour. Students should apply with their Dean. Credit by examination is not permitted during last semester before graduation.

EXTRA-CURRICULAR PROGRAM

The University of Akron offers a well-rounded student program of extra-curricular activities through such organizations as the Student Council, Women's League, Y. M. C. A. and Y. W. C. A., departmental clubs, religious groups, sororities and fraternities. Opportunities for personal development in special fields are afforded through participation in athletics for men and women, campus radio, drama, musical events, The Buchtelite (student newspaper), and the Tel-Buch (student year-book). These activities take place variously in Memorial Hall (physical and health education), Arts and Sciences Building (theatre and radio studios), Firestone Conservatory of Music, and the Student Building (lounge, publication offices, etc.).

INTRAMURAL AND INTERCOLLEGIATE ATHLETICS

STATEMENT OF POLICY ON ATHLETICS

The University of Akron is aware that it must be concerned for the physical well-being in addition to the mental development of its students. Accordingly, it provides physical and health education for both men and women students. Intercollegiate and intramural sports are important features of this physical education program. The program also serves as a laboratory for students preparing for careers as elementary and secondary teachers in this field, or as leaders in recreation and health activities.

Intercollegiate athletics are directed and controlled in the same manner as all other academic and extra-curricular activities. The Director of Athletics and the coaches of intercollegiate teams are members of the faculty, holding academic rank.

The principal difference between the intramural and the intercollegiate programs is that the former provides wholesome recreation and physical exercise for all able-bodied men and women students, whereas the latter necessarily is limited to those who have especial skills and aptitudes. But participants in both must be college students whose fundamental aim is to obtain a sound college education.

To aid in the administration of its program of intercollegiate athletics, the University has a faculty Committee on Athletics, appointed by the President. This Committee is responsible for the conduct of the intercollegiate athletic program including the approval of schedules, coaching personnel, budgets, etc.

The University believes that a well-balanced program of intercollegiate sports is important so long as it remains in its proper focus as an adjunct to the real purpose of the institution—teaching and research; so long as it is under academic control; so long as the players are bona fide college students; and so long as the coaches strive to instil qualities of honor, sportsmanship, and clean play.

The University is conducting its program of intercollegiate athletics in accordance with this set of principles.

ATHLETIC INJURIES

The University assumes no legal responsibility or obligations for the expense of treating injuries received by athletes while training for, or participating in, intramural or intercollegiate sports, unless the treatment is first authorized by the University medical officer for athletes.

STUDENT ACCIDENTS

The University of Akron assumes no responsibility for student accidents incurred while attending or participating in classroom, gymnasium, or laboratory work.

THE UNIVERSITY HEALTH SERVICE

The University Health Service maintains complete physical records of all students. The University physician and registered nurse are on duty daily.

STUDENT EMPLOYMENT

The Student Personnel Office serves as a clearing center for student employment. Students must report the number of hours they are employed and significant changes to their Dean, or be subject to disciplinary action.

DISCIPLINE

The University reserves the right to penalize any student whose conduct at any time is in its judgment detrimental to the institution.

ABSENCE

Students are expected to attend all class meetings for which they are registered, and may be dropped from a course by the Dean in cases of excess absence, if recommended by the instructor. Students may be reinstated in the same manner.

THE SEMESTER HOUR

The unit of instruction is one hour per week for one semester. Three hours of laboratory work (including time for writing reports) is equivalent to one recitation hour. This unit is known as a "semester hour" or "credit."

GRADING SYSTEM

Percentage	Grade	Quality Points per Credit Hour
93-100 inclusive	A	4
85-92 inclusive	B	3
77-84 inclusive	C	2
70-76 inclusive	D	1
Below 70	F	0
Conditioned*		
Failed		
Incomplete**	I	

* "Conditioned" means that although the semester's work is not of passing grade the deficiency may be made up without repeating the course in class. Failure to remove the deficiency satisfactorily by the close of the student's next semester in the University converts the grade to F. No higher grade than D is given for the removal of a "Condition."

The grade "Conditioned" may be given only for the first semester's work in a subject continuing through two or more semesters, such as first-year chemistry or first-year foreign language.

** "Incomplete" means that the student has done passing work in the course, but some part, for good reason, has not been completed. Failure to make up the omitted work satisfactorily within the first half of the following semester converts the grade to F. A fee of \$2 per course is charged each student for the removal of an "Incomplete."

SYSTEM OF COURSE NUMBERING

Each course is designated by a code number, a course number, and a title. The first number is the code number. The number following the colon is the course number. Courses bearing course numbers—

- 1 - 99 General College Courses
- 100 - 199 Upper College (undergraduate)
- 200 - 299 Undergraduate courses for which graduate credit may be obtained.
- 300 - 399 Graduate courses for which a few undergraduates who have shown unusual ability may be accepted.
- 400 - 499 Graduate courses for which the prerequisite is the completion of the requirements for the bachelor's degree.

Code numbers are as follows:

0—Community College & Non-credit courses	17—Mathematics & Astronomy	31—Nursing Education
1—General Studies	18—Music	33—Engineering, Basic
2—Art	19—Philosophy	34—Engineering, Civil
3—Biology	20—Physics	35—Engineering, Electrical
5—Chemistry	21—Political Science	36—Engineering, Mechanical
6—Economics	22—Sociology	39—Accounting
7—English	23—Spanish	40—General Business
8—French	24—Speech	42—Industrial Management
9—Geology	27—Education	43—Secretarial Science
10—German	28—Geography	46—R. O. T. C., Air
11—Greek	29—Health & Physical Education	47—R. O. T. C., Army
12—History	30—Psychology	
13—Home Economics		
16—Latin		

STUDENT ORGANIZATIONS

HONORARY

Alpha Chi Sigma (N) Chemistry; Alpha Lambda Delta (N) Freshman Scholastic; Alpha Sigma Lambda (N) Evening; A. E. Honorary Fraternity (L) Evening; Arnold Air Society (N) Advanced Air Force ROTC; Beta Delta Psi (L) Commerce; Kappa Delta Pi (N) Education; Omicron Delta Kappa (N) Men's Activities; Pershing Rifles (N) Basic Military; Phi Alpha Theta, (N) History; Phi Eta Sigma (N) Freshman Scholastic; Phi Sigma Alpha (L) Liberal Arts Scholastic; Phi Sigma Society (N) Biological; Pi Kappa Delta (N) Forensic; Pi Omega Pi (N) Business Education; Pi Sigma Alpha (N) Political Science; Pierian (L) Senior Women's Activities; Psi Chi (N) Psychology; Scabbard and Blade (N) Advanced Military; Sigma Pi Epsilon (L) Education; Sigma Tau (N) Engineering; Sigma Theta Tau (L) Secretarial Science; Tau Kappa Phi (L) Home Economics.

STUDENT CLUBS

American Institute of Electrical Engineers; American Society of Civil Engineers; American Society of Mechanical Engineers; Association for Childhood Education; Art Club; Biology Club; Chemistry Club; Commerce Club; Economics Association; Future Teachers of America; History Club; Home Economics Club; Independent Student Organization; Industrial Management Club; Johnson Club; LeCercle Francais; Newman Club; Ohio Society of Professional Engineers; Philosophy Club; Physical Education Club; Physical Education Society; Physics Club; Political Science Club; Psychology Club; Secretarial Science Club; Sociology Club; Speech Club; Tertulia Espanola; University Christian Fellowship; University Theatre; Varsity "A" Club; Women's Athletic Association; Y. M. C. A.; Y. W. C. A.; Marketing Club.

SORORITIES

Kappa Kappa Gamma (N) Chartered 1877; Delta Gamma (N) Chartered 1879; Phi Mu (N) Chartered 1912; Alpha Gamma Delta (N) Chartered 1922; Zeta Tau Alpha (N) Chartered 1929; Theta Phi Alpha (N) Chartered 1931; Alpha Delta Pi (N) Chartered 1938; Theta Upsilon (N) Chartered 1939; Gamma Beta (L) Evening Session, Chartered 1935.

FRATERNITIES

Alpha Epsilon Pi (N) Chartered 1941; Lambda Chi Alpha (N) Chartered 1919; Phi Delta Theta (N) Chartered 1875; Phi Kappa Tau (N) Chartered 1938; Phi Sigma Kappa (N) Chartered 1942; Pi Kappa Epsilon (L) Chartered 1882; Tau Kappa Epsilon (N) Chartered 1948; Theta Chi (N) Chartered 1942; Chi Sigma Nu (N) (Evening Session) Chartered 1932.

Note: N means National. L means Local.

COMMUNITY COOPERATION

The University of Akron, as a municipal institution, aims to serve the community in every way consistent with its educational philosophy. In addition to the regular civic contribution of each college by way of teaching, research, consultation, and cultural and scientific talks and demonstrations, there are extension courses through the Division of Adult Education, University-sponsored conferences on various phases of public welfare, and radio and television broadcasts on educational subjects.

Of significance are the following special services :

THE TESTING LABORATORY OF THE CITY OF AKRON

In accordance with the proposal made by the Directors of the University and accepted by the Akron City Council when Buchtel College became The University of Akron in 1913, the Testing Laboratory does much of the chemical and physical testing work of the City. It serves especially the Board of Education, the Police Department, the Service Department, the Coroner's Office, and the Smoke Inspection Division. It answers many calls requesting chemical or other technical information. In addition it serves as a commercial laboratory for those concerns which do not have testing equipment of their own and in cases in which this service does not duplicate facilities already existing. The Laboratory is in Simmons Hall.

GOVERNMENT LABORATORIES

Early in 1944 the University assumed management of the Government-owned pilot plant and evaluation laboratories at 351 W. Wilbeth Road, Akron. They consist of 10 buildings housing equipment for production and testing of experimental rubbers, and the annual budget exceeds \$1,000,000.

This operation was scheduled to be terminated on June 30, 1956, at the expiration of the University's Contract with the National Science Foundation.

OFFICE OF RUBBER RESEARCH

Located in Knight Hall, this Office of Rubber Research supervises and sponsors fundamental and applied research in synthetic and natural rubbers, based on contracts with government agencies and private industry.

RUBBER RESEARCH LIBRARY

Under the sponsorship of the Rubber Division of the American Chemical Society, this collection, housed in the Library, provides a complete and current clearing house on data related to developments in rubber, natural and synthetic, and serves industry as well as universities.

PSYCHOLOGICAL SERVICES

The Psychological Services Office of the University provides testing and counseling service to members of the community at a nominal fee. Testing includes tests on intelligence, personality, achievements, aptitudes, interests, and sensori-motor capacities. Psychotherapeutic counseling includes vocational guidance, child guidance, and personal, social, emotional, and marital counseling. Students may take advantage of the testing and counseling offered by making application to the Student Personnel Office.

THE SPEECH AND HEARING CLINIC

The Clinic, which is available to all citizens of Akron, provides guidance and assistance in the diagnosis and treatment of all kinds of voice and speech disorders. Remedial treatment is offered to a limited number. Advanced students assist with the work of the Clinic, which is in Kolbe Hall.

MISCELLANEOUS

Other University facilities are available to the public when not in conflict with regular college requirements: Bierce Library, musical programs, athletic contests, art exhibits, theatre productions, and rental of certain University auditoriums.

FEES AND EXPENSES

All fees must be paid at the Treasurer's office at the time of enrollment. Fees are subject to change without notice.

Failure to meet financial obligations is cause for suspension from classes and refusal to permit registration, transfer of credits, or granting of a degree.

The following is a typical charge for a student enrolled for a schedule of 12 or more credit hours each semester.

	First Semester	Second Semester
Resident of Akron.....	\$120.00	\$120.00
Non-resident of Akron.....	240.00	240.00

VETERANS' EXPENSES

Disabled veterans of the Korea emergency, who are eligible for admission to the University may, if certified by the Veterans Administration, register for courses without payment of fees.

Full payment of fees is required, if the veteran does not have his Certificate of Eligibility at the time of registration. The cash payment will be refunded when the veteran presents his Certificate of Eligibility.

Non-disabled veterans of the Korea emergency must pay their fees at the time they register. They will receive specified allowances under Public Law 550.

FEES IN DETAIL

MAINTENANCE AND INCIDENTALS

Payable by all students.

For 1 to 11 credit hours inclusive, per credit hour.....\$ 10.00
 For 12 credit hours or more, per semester..... 120.00
 Engineering students enrolled on the cooperative plan will pay at the above rates, but never more than \$240 for two half semesters and one summer session in one academic year.

TUITION

Payable by non-residents of Akron in addition to other fees.

Day Session—Fall and Spring Semester

For 1 to 11 credit hours inclusive, per credit hour.....\$ 10.00
 For 12 credit hours or more, per semester..... 120.00
 Engineering students enrolled on the cooperative plan will pay at the above rates, but never more than \$240 for two half semesters and one summer session in one academic year.

Evening and Summer Sessions

For 1 to 7 credit hours inclusive, per credit hour (Summer day only)...\$ 3.00
 *For 1 to 7 credit hours inclusive, per credit hour (Evening only).....\$ 5.00
 For 8 to 11 credit hours inclusive, per credit hour.....\$ 10.00
 For 12 credit hours or more, per semester.....\$120.00

LATE REGISTRATION

A fee of \$5.00 will be charged all students who have not completed registration, classification, and payment of fees before the closing time of registration in the session in which they are registered.

* Effective Fall 1956

MUSIC

Two individual half-hour lessons per week, in piano, voice, violin, organ or band instruments, each semester.....\$80.00
 One individual half-hour lesson per week, in piano, voice, violin, organ or band instruments, each semester..... 40.00
 Semi-private voice lessons (small group instruction), each semester..... 20.00
 Organ rental by special arrangement.

HOME MANAGEMENT RESIDENCE

Board and room for six weeks.....\$55.00

THESIS AND BINDING

For candidates for the Master's Degree (Payable at time of application for degree).

Thesis fee (when required).....\$10.00
 Binding fee, per volume..... 2.00

Two volumes must be deposited in the University Library.

GRADUATION IN ABSENTIA

Fee\$ 5.00

AUDITORS

The fees for an auditor in any course or group of courses are the same as if taken for credit.

COMMUNITY COLLEGE

A fee of \$10 is charged for each Community College course unless otherwise noted in the circular printed each semester which describes the courses.

MISCELLANEOUS

One free transcript of record is furnished a student. A fee of \$1 is charged for each additional copy.

A fee of \$2 is charged for each two-year or three-year certificate.

A fee of \$5 per credit is charged for each examination in college work not taken in course.

A fee of \$5 is charged five-year nursing students when they register for Clinical Experience.

A change of schedule fee of \$1 per course is charged each student who, after completing registration, enrolls for an additional or substitute course or section except when such change is made at the request of the dean having jurisdiction over the student.

A fee of \$1 per test is charged each student who is given a make-up test after having been absent from an announced, full-period examination.

A fee of \$2 per course is charged each student for the removal of an "Incomplete."

A rental fee of \$1 per year plus a deposit of \$1 is charged each student who engages a locker on campus.

ROTC UNIFORM FEE

For the fitting, cleaning and maintenance of each uniform issued.

Basic \$4.00
 Advanced \$2.00

Deposits of \$5.00 each are required for the following courses:

Band.

Biology: 77, 78, 107, 108.

Chemistry: 21, 22, 23, 24, 25, 26, 27, 28, 43, 44, 47, 48, 55, 56, 105, 106, 107, 108, 151, 152, 303, 304, 307, 308, 309, 321, 322, 326, 329, 330, 333, 334, 337, 338, 365, 366.

Engineering—Basic: 111, 135, 137, 138.

Engineering—C.E.: 47, 104, 109, 110, 112, 120, 123, 130.

Engineering—E.E.: 30, 131, 135, 136, 137, 138, 141, 143, 144, 146, 147, 149, 154, 156, 161, 162, 164, 165, 166, 168.

Engineering—M.E.: 41, 174, 177, 181, 184, 191, 193, 195, 197.

Industrial Management: 167, 168.

A deposit of \$10.00 is required for ROTC.

RULES GOVERNING NON-RESIDENT TUITION

Payment of non-resident tuition is required of those students who do not qualify as permanent residents of Akron, as defined by the University. A permanent resident, for the purpose of the University, is considered to be one who has established a bona fide domicile by the acquiring of a dwelling place in Akron and has formed the intent to make the City of Akron a permanent home for purposes other than attendance at The University of Akron. The qualifications are as follows :

1. For a student 20 years of age or under as of the first day of the semester for which he is registering, at least one parent or legal guardian must be a permanent resident within the corporation lines of Akron on the first day of the semester and must have been a permanent resident of Akron for the twelve consecutive months prior to the first day of the semester.
2. A student 21 years of age or over as of the first day of the semester for which he is registering must be a permanent resident within the corporation lines of Akron on the first day of the semester for which he is registering and must have been a permanent resident of Akron for the twelve consecutive months prior to the first day of the semester.
3. In case a qualified permanent resident of the City of Akron is appointed the guardian of a minor who would not otherwise qualify as a permanent resident, for purposes other than to avoid payment of tuition, the residence shall be considered to be in Akron only after the expiration of one year after such appointment.

A student's correct residency status as of the first day of the semester shall not be considered changed any time within the semester.

A student whose original registration was as a non-resident shall be presumed to be a non-resident thereafter unless it can be clearly proved by him to the University's satisfaction that his former domicile has been abandoned and a new domicile established in the City of Akron and maintained for at least 12 consecutive months for purposes other than attending the University. A fraternity house may not be considered a qualified domicile.

The responsibility of proving qualified residence in the City of Akron rests with the student.

Any student who falsely claims to be a permanent resident of Akron to avoid the payment of tuition shall be required to pay in addition to the tuition due a penalty of \$25 and may be subject to such other discipline as determined by the President of the University.

The residence of wives shall follow that of their husbands.

REGULATIONS REGARDING REFUNDS

Fees are refunded in full to a student who withdraws before the first day of the semester or session, or if the University cancels the course, or if the University does not permit the student to enroll, or if the student is drafted, but not one who enlists, into the military forces of the United States of America.

On or after the first day of the semester, provided the student presents a withdrawal form signed by the Dean of the College or Division in which the student is enrolled and indicating thereon that the student is withdrawing in good standing and provided the student has no obligations to the Bookstore, Library, R.O.T.C., Laboratory, or other department, refund of fees will be made only under the following conditions:

1. Serious illness that prevents student from attending classes as evidenced by a written statement of a physician.
2. Change in hours of employment that prevents student from attending classes as evidenced by a written statement of an employer.
3. Any circumstance arising since the first day of the semester which prevents student from attending classes provided evidence is supplied to the satisfaction of the Treasurer of the University that the circumstance is entirely beyond the control of the student.

If it is determined by the Treasurer of the University that a refund is proper, it shall be made after the first 30 days of the semester, or one week after receipt of the written evidence required, whichever comes later. It is also a requirement that the student return his activity book, provided one has been issued to him, before a refund will be made.

Refunds will be made according to the following schedule:

If Date of Withdrawal is Before the End of the	Session or Semester		
	Summer	Co-op	Regular
First Week	50%	60%	80%
Second Week	10%	20%	60%
Third Week	0	0	40%
Fourth Week	0	0	20%

No refunds will be made on the following fees:

1. Late registration
2. Special examination and test
3. Change of schedule
4. Incomplete removal
5. Community College (except when course is cancelled by University)
6. ROTC Uniform (after issued)

No refunds will be made when a student is dismissed from the University for disciplinary reasons.

THE GENERAL COLLEGE ENTRANCE REQUIREMENTS

Before enrolling in the Freshman Class, each student must file an application form, have his high school transcript sent in, and be available for the counseling program. Attendance at the Orientation Program is required.

There are certain prerequisite subjects for freshmen planning to major in science or engineering.

For engineering, at least $1\frac{1}{2}$ units of high school algebra, 1 unit of plane geometry and $\frac{1}{2}$ unit of solid geometry or $\frac{1}{2}$ unit of trigonometry, and 1 unit of physics or chemistry are required.

Each candidate desiring chemistry, physics, pre-dental or pre-medical courses is required to take college mathematics for which $1\frac{1}{2}$ years of high school algebra and 1 year of plane geometry are prerequisite.

GENERAL COLLEGE CURRICULUM

Courses in the General College have been planned to attain the general objectives of the University.

In addition to work in general education, the General College offers pre-professional and terminal courses of an occupational nature for students who can attend the University for only a short period.

PRE-PROFESSIONAL AND TERMINAL COURSES

In addition to the work offered in general education, the General College offers pre-professional and terminal courses of an occupational nature for students who do not desire or are unable to remain longer at the University.

PROGRAM IN GENERAL STUDIES

The work in the General College covers two years. However, students may shorten the time by taking special examinations.

The courses in General Studies listed below are required of new students in September, 1955 or thereafter.

1:1-2	Written English6 hours, first year
1:3-4	Written English4 hours, second year
1:6-7	Effective Speaking4 hours, first and second year
1:11	Numbers Communication2 hours, before 64 hours
1:13-14	Reasoning and Understanding in Science...	.6 hours, first year
1:15-16	Institutions in The United States6 hours, before 64 hours
1:17-18	Western Cultural Traditions6 hours, before 96 hours
1:19	Personal Development2 hours, first year
1:21-22	Physical Education1 hour, first year
1:101	(To be announced later)2 hours, final year
	Military Science and Tactics (for men)...	.6 hours, first two years

PREPARATION FOR UPPER COLLEGES

The following are required courses which the student planning to major in a department of the College of Liberal Arts may have to take while he is still in the General College:

THE HUMANITIES DIVISION

ART—*Required*: Art 21, 22, 29, 30, 43, 45, 46, 70, Engineering Drawing 25, second year of a foreign language (French recommended).

ENGLISH—*Required*: English 46, 65, 66, second year of a foreign language (French, German, or Latin recommended).

LATIN AND GREEK—*Required*: Latin 43, 44, 61, 62. *Recommended*: History 43, 44.

MODERN LANGUAGES—*Required*: Modern foreign language, both years.

MUSIC—*Required*: Music 22, 23, 41, 42, 55, 56, four hours of Applied Music, second year of a foreign language.

PHILOSOPHY—*Recommended*: Consultation with the department.

SPEECH—*Required*: Speech 41, 51, second year of a foreign language. *Recommended*: English 47, 48 (or 65, 66), Psychology 41, 45 (or 43), Speech 53, 54. Since Upper College work in Speech embraces the fields of public speaking, debate, dramatics, speech correction, and interpretation, the student should elect a program in General College that will apply directly to the specific interests in the field of Speech which he proposes to follow in Upper College.

THE SOCIAL SCIENCE DIVISION

ECONOMICS—*Required*: Economics 45, 46, second year of a foreign language. *Recommended*: Psychology 41, Political Science 41, and Sociology 41.

HISTORY—*Recommended*: History 41, 42, 45, 46, second year of a foreign language (French, German, or Latin).

POLITICAL SCIENCE—*Required*: Political Science 41 and 3 other hours of Political Science, second year of a foreign language. *Recommended*: 6 hours of Economics, History or Sociology.

SOCIOLOGY—*Required*: Sociology 41, 42, second year of a foreign language. *Recommended*: Speech 41, 42, and 6 hours of Political Science.

THE NATURAL SCIENCE DIVISION

BIOLOGY—*Required*: Biology 51, 52, 61, 62, Chemistry 21, 22, second year of French or German. *Recommended*: Sociology 41, Psychology 41.

PRE-MEDICAL—For details concerning this curriculum, see Biology in Liberal Arts section.

MEDICAL TECHNOLOGY—*Required*: Biology 61, 62, 91, 128, Chemistry 23, 24, 47-48 or 55-56, Psychology 41.

CHEMISTRY—*Required*: Chemistry 21, 22, 43, 44, Mathematics 24, 43, 45, 46, second year of German.

HOME ECONOMICS—*Required*: Home Economics 21, 22 or 23, 45, 46, 53, Economics 82, second year of a foreign language. Foods and Nutrition majors take in addition Chemistry 23, 24, 55, 56, Physiology 91 and Bacteriology 107. *Recommended*: Art 21, 22.

MATHEMATICS—*Required*: Mathematics 24, 43, 45, 46, second year of French or German.

PHYSICS—*Required*: Physics 51, 52, Mathematics 24, 43, 45, 46, second year of French or German.

NOT IN ANY DIVISION

PSYCHOLOGY—See under Psychology in the Liberal Arts section.

THE COLLEGE OF ENGINEERING

Students who are definitely planning to take engineering have a different group of required subjects. The full curriculum is listed in the engineering section of the catalog.

THE COLLEGE OF EDUCATION

The suggested curriculum for the first two years for students desiring to enter the College of Education is given below. Differences will occur, depending upon the teaching fields for which preparation is being made. This is not rigid. It is for guidance purposes.

<i>First Year</i>		<i>Second Year</i>	
	<i>Cr. Hrs.</i>		<i>Cr. Hrs.</i>
1:1-2	Written English 6	1:11	Numbers Communication 2
1:19	Personal Development.. 2	1:15-16	Institutions in the U. S.. 6
1:6	Effective Speaking 2	1:3-4	Written English 4
1:21-22	Physical Education 1	1:7	Effective Speaking 2
1:13-14	Reasoning and Under- standing in Science... 6		ROTC (Men) 3
	ROTC (Men) 3		Educ. Psych. 52 3
	Intro. to Educ. 55 3		Elective (in teaching fields) 12
	General Psych. 41 3		
	Electives 6		

THE COLLEGE OF BUSINESS ADMINISTRATION

Students who are planning to take Business Administration should consult the Business Administration section of this catalog.

BASIC COURSES

B-1. BASIC LANGUAGE SKILLS. *3 credits.**

This course includes training and exercises in English grammar, spelling, punctuation, vocabulary building, and in the writing of short expository themes. Its objective is to enable students whose preparation in English is limited to write clearly and simply, to analyze and correct such errors as they may make, and to read with understanding.

NEW PROGRAM IN GENERAL STUDIES

The courses in General Studies listed below are required of new students entering in September, 1955 or thereafter.

1:1-2. WRITTEN ENGLISH. *3 credits each semester.*

1:1 is prerequisite to 1:2. 1:6 must be taken concurrently with 1:2.

1:3-4. WRITTEN ENGLISH. *2 credits each semester.*

1:2 is prerequisite to 1:3. 1:3 is prerequisite to 1:4. 1:7 must be taken concurrently with 1:3.

These courses are intended to enable the student to obtain proficiency in the reading and writing of English. The reading materials used will be, primarily, outstanding literary works of our Western tradition.

Through these courses the student will gain competence in reading and writing. He will improve his writing skill through short expository papers (writing at least one a week), including a documented paper in 1:1; and, in the following courses, progress to writing longer and more complex critical and analytical pieces, including, in 1:2, a longer documented paper. He will improve his reading skill through reading, analysing, and discussing selected materials arranged in order of increasing difficulty and through critical analysis and appraisal of his own and other students' compositions.

1:6-7. EFFECTIVE SPEAKING. *2 credits each semester.*

1:6 is prerequisite to 1:7. 1:6 must be taken concurrently with 1:2. 1:7 must be taken concurrently with 1:3.

Through these courses the student will acquire speaking-listening proficiency: he will develop an awareness of and skill in the use of accurate language and learn to relate fundamentals of effective speaking to certain aspects of reading, writing,

*Not accepted by the Colleges of Education, Engineering, Liberal Arts or Business Administration as constituting part of the minimum credits required for graduation.

and listening. He will use understandable English in content, and demonstrate an appropriate degree of speaking effectiveness. These courses will be devoted to developing speaking-listening skills in courses closely co-ordinated with the writing courses offered in those semesters. Thereby the student will have a unified experience in increasing his skill in written and in spoken English.

1:11. NUMBERS COMMUNICATION. *2 credits.*

Through this course in the language of quantitative relationships the student will develop his ability to receive and to express ideas in mathematical symbols, increase his appreciation of the methods of mathematical reasoning, and come to understand and think creatively about the quantitative aspects of the world in which he lives. One lecture and two participation-discussion periods each week.

1:13-14. REASONING AND UNDERSTANDING IN SCIENCE. *3 credits each semester.*

1:13 is prerequisite to 1:14. The primary objectives of this course are to enable the student to grasp the processes of accurate thinking and to understand the principles used in science as illustrated in the study of natural phenomena. The study of the use of the method will be emphasized, rather than of the end products obtained by its use. This procedure will involve the use of case histories chosen from the various fields of science. Two lectures and one two-hour demonstration-discussion period each week.

1:15-16. INSTITUTIONS IN THE UNITED STATES. *3 credits each semester.*

1:15 is prerequisite to 1:16. The primary objective of this course is to enable the student to achieve an understanding of human relationships through a comparative descriptive, and analytical study of institutions of the United States. An exposition of basic institutional principles will be followed by a discussion of these principles in the light of both the student's reading and the student's direct contact with institutional reality. One lecture and two discussion periods each week.

1:17-18. WESTERN CULTURAL TRADITIONS. *3 credits each semester.*

Prerequisites: 1:2 or permission. 1:17 is prerequisite to 1:18. The primary objectives of this course are to enable the student to understand human experience, both individual and group, of the past, so that he may develop an intelligent and constructive standard of personal behavior and may become a responsible member of society. To achieve these objectives, it is necessary for the student to grasp the essential features of the traditions of Western civilization as manifested in its outstanding accomplishments and creative endeavors in letters, music, and the visual arts. It is not intended that this course give a complete portrayal or minute development of any one of these fields, but rather that certain particularly important eras which have especial significance for our time should be chosen. Two lectures and two participation-discussion periods each week.

1:19. PERSONAL DEVELOPMENT. *2 credits.*

The primary objectives of this course are to enable the student to acquire the knowledge involved in maintaining and improving physical and emotional well-being and personal relationships, including those concerned with the family, the home, and his vocational future. To achieve these objectives, it is necessary that the student have an understanding of physiology and health laws, insight into human behavior, and acquaintance with mental processes and fundamentals of personality development. One lecture and one discussion period each week.

1:21-22. PHYSICAL EDUCATION. *½ credit each semester.*

Participation in individual and group sports, with each individual to acquire knowledge and skill in activities which can be of value and satisfaction to him throughout his life. Two periods each week.

1:101. (Title to be announced later.) *2 credits.*

Prerequisite: Senior standing. The objectives of this course are to encourage the student to examine significant current social problems analytically, and by studying their origin and development, to consider possible solutions for them.

THE UPPER COLLEGES

BUCHTEL COLLEGE OF LIBERAL ARTS

ERNEST H. CHERRINGTON, JR., PH.D., Dean

Buchtel College was founded as a College of Liberal Arts in 1870 by the Ohio Universalist Convention. It became the original part of the Municipal University of Akron (now The University of Akron) December 15, 1913, and is known as Buchtel College of Liberal Arts.

OBJECTIVES OF THE COLLEGE

1. To acquaint students with the world of nature and human life by introducing them to the chief fields of knowledge.
2. To train them in the scientific method, and help them form habits of clear thinking.
3. To arouse their intellectual curiosity and stimulate their scholarly growth.
4. To assist them in general preparation for post-graduate study; for entering schools of law, medicine, dentistry, and other professions; or for careers in art, music, and other cultural fields.
5. To help them appreciate beauty in all its forms, and thus furnish them with resources for enjoying their leisure hours.
6. To develop and strengthen in them a sense of social responsibility in order that they may have a proper regard for the rights of others, and to prepare them for an active and intelligent citizenship.
7. To help them acquire good manners and develop a moral strength adequate to cope with the various situations in which they find themselves.

DIVISIONS OF THE COLLEGE

Buchtel College of Liberal Arts includes three divisions: Humanities, Social Sciences, and Natural Sciences.

See section on Organization of the University.

OBJECTIVES OF THE HUMANITIES DIVISION

1. To develop in the student an awareness of, and appreciation for, man's cultural heritage in literature, art, music, and philosophy, together with an understanding of the necessity for its preservation and enrichment.
2. To send out into the world men and women who not only can do things but also can understand things; who view the present in its proper relation to the past; who remain hopeful because they have enjoyed an ennobling acquaintance with the aspirations and achievements of the world's great creative artists; who are better citizens because they are thoughtful citizens; who are happier human beings because they can enjoy the use of their own minds.

3. To aid the student in his efforts to express himself clearly and forcefully in his mother tongue.
4. To motivate the student toward independent study so that he may continue to pursue his aesthetic and philosophical interests after he has finished his college work.
5. To offer the student such training in the individual subject fields that he may be able to pursue his chosen study beyond his undergraduate work.
6. To encourage the student to develop latent creative ability.

OBJECTIVES OF THE NATURAL SCIENCE DIVISION

1. To acquaint the student with the various fields of science as an aspect of world culture.
2. To prepare the student for further training in the graduate, professional, and technical schools.
3. To provide those who either do not desire or are unable to continue their academic training, with such knowledge, techniques, and skills as will enable them to become competent citizens.
4. To make technical service and information available to the city and its industries through the libraries and laboratories of the division.

In order to accomplish these objectives, the division offers courses designed to prepare students for the following fields:

- Graduate study in biology, chemistry, mathematics, physics.
- The study of medicine.
- The teaching of science in high school.
- Technical laboratory work in rubber chemistry.
- Technical laboratory work in applied physics.
- Position as hospital technician.
- Expert technical service.

OBJECTIVES OF THE SOCIAL SCIENCE DIVISION

1. To give students cultural and useful information in the fields of economics, history, political science, and sociology.
2. To prepare students for graduate study in the professions, in public service, and in business, and in so doing to emphasize sound methods of inquiry, fair criticism, and love of truth.
3. To inculcate in students a sense of social responsibility, and a respect for the opinions and rights of others; to equip them with a knowledge of human relationships and with qualities of leadership so that they may function worthily in, and seek to improve, our social order; and to enable them to enjoy human fellowship and to maintain a saving sense of humor in the process of social adjustment.
4. To supply the local community with expert service in the field of social science.

FIELDS OF CONCENTRATION

When he is ready, each student chooses some field of concentration. Under the guidance of the department head or divisional chairman, he pursues a program of studies which meets his individual needs. The emphasis is on what will best prepare the student for his career.

DIVISIONAL MAJORS

For students who do not desire a narrower field of concentration than the division itself, the following divisional majors are provided:

In Humanities, each program must include:

- a. At least 48 hours in the division, at least 24 hours of which must be in courses of 100 level or above. The minimum of 48 hours must include:
- b. At least 6 hours in each of any five of the following in so far as these hours are applicable toward the B.A. degree: English, Philosophy, Speech, Music, Art, French, German, Spanish, Latin and Greek. These hours must include courses beyond the requirements in General Studies and Foreign Language for promotion to Upper College.
- c. In addition, at least six hours in the Department of History.

In Social Science, irrespective of the introductory courses in General Studies, each program must include:

- a. At least 54 semester hours in the division.
- b. At least 18 hours and not more than 21 hours in each of two departments. No hours in excess of 21 in any one department will be accepted for credit unless the student meets the major requirements of such department for graduation.
- c. At least 9 hours in each of two other departments, or 18 hours in one other department.
- d. At least 24 hours of divisional courses on the upper college level.
- e. At least 24 hours outside the division.

In Natural Science, in addition to the introductory and other required courses in General Studies each program must include:

- a. At least 54 semester hours in the division.
- b. At least 12 semester hours each in Biology, Chemistry, Mathematics, and Physics.
- c. An additional 6 semester hours in the upper college in the division.

Students choosing a divisional major in Social Science are required to pass a general final examination in the second semester of the senior year.

DEPARTMENTAL MAJORS

Specific requirements for concentration in each department offering a major program will be found at the head of the section devoted to the work of that department. The departments of instruction are listed alphabetically following the section on graduate study.

REQUIREMENTS FOR GRADUATION

1. Electives included in the 128 semester hours of total work required for the degree may consist of any courses offered for credit in the University provided that the prerequisites as set forth in the Catalog are met and further provided that not more than 2 semester

hours of physical education activities, 8 semester hours of applied music, 4 semester hours of music organizations, and 4 semester hours of typing are included.

2. The recommendation of the student's major professor.
3. Except in the labor relations and medical technology curriculums, completion of the second year of a foreign language on the university level.
4. Other requirements set forth in the section on University Regulations.

DEGREES

The following degrees are granted in the divisions:

The Humanities: Bachelor of Arts.

The Social Sciences: Bachelor of Arts; Bachelor of Science in Labor Relations.

The Natural Sciences: Bachelor of Science; Bachelor of Science in Medical Technology. (However, at the discretion of the divisional chairman, students majoring in mathematics may be granted the Bachelor of Arts degree if much of their work is in the humanities or social sciences.)

PREPARATION FOR HIGH SCHOOL TEACHING

Liberal Arts students preparing for high school teaching must register their intention with the Dean of the College of Education two years before they expect to begin teaching.

Prospective high school teachers must be prepared to teach in one major, preferably a comprehensive field and one minor field, according to the grouping of subjects by the State Department of Education.

Minimum professional requirements are the following:

		<i>Second Year General College</i>	
First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
General Psychology	3	Educational Psychology	3
Introduction to Education.....	3		
(first or second semester)			
		<i>First Year Upper College</i>	
Methods	3	Tests and Measurements.....	2
		<i>Second Year Upper College</i>	
Principles of Education.....	3	Student Teaching	6
—or—		School Management.....	2
Student Teaching	6	—or—	
School Management.....	2	Principles of Education.....	3

For additional information concerning teaching requirements see College of Education section.

GRADUATE STUDY

Graduate study leading to the degree of Master of Arts or Master of Science is provided from time to time by certain departments of Buchtel College. It is hoped that in the future through necessary additions to both teaching personnel and research facilities it may be possible to offer graduate programs in additional areas of study and to present the graduate courses more frequently.

At present, properly qualified students may enroll in Buchtel College for study leading to the Master's degree with specialization in any one of the following areas: Chemistry, Economics, English, History, Physics, Political Science, Psychology. Several additional departments are prepared to offer a limited amount of work on the graduate level which may supplement the major program of study and constitute the customary minor subject.

Graduate work is characterized by quality as well as quantity. The degree is granted on the basis of high level of attainment in a certain field rather than for the collection of a specified number of credit hours.

The applicant for admission to graduate study must satisfy the Admissions Committee that all required secondary school and college credits have been secured and that the candidate has received a bachelor's degree from a college of recognized standing. A complete transcript of record must be sent directly to the Registrar from the institution at which the applicant earned his baccalaureate degree, and it is the responsibility of the applicant to see to it that the transcript is sent sufficiently in advance of the date of contemplated enrollment to permit the necessary evaluation of his undergraduate work. The Committee on Graduate Study reserves the right to require any applicant for graduate work to prove that he has a satisfactory background for such work by taking and passing such examination or examinations as the committee may prescribe.

The head of the department in which the major is to be taken and, if necessary, some other specialist member of that department will serve as members of the Committee on Graduate Study for the purpose of evaluating the applicant's preparation for graduate work. The extent of undergraduate preparation in the major field required for admission to full graduate standing varies with the department and may be ascertained in consultation with the Dean. The applicant for graduate study leading to the master's degree with major in one of the natural sciences or in one of the social sciences must show that he has met all requirements for the undergraduate major in that science or that he has performed work which the head of that department approves as equivalent to the undergraduate major. (This restriction shall not bar any student who has not met this requirement but who has met the prerequisites for a graduate course in the natural or social sciences from taking that course provided he does not seek admission to candidacy for the master's degree.) It is further required for admission to full graduate standing

that the applicant show quality point ratios of at least 2.50 for all undergraduate work and at least 2.75 in the major field. However, the Committee on Graduate Study may grant probationary status to applicants whose scholastic records are slightly below these minimums.

Depending upon the area of study selected, the total graduate credit required for the master's degree varies from 26 to 30 semester hours. If both major and minor subjects are laboratory sciences, the total credit required is 26 semester hours. If either major or minor subject is a laboratory science, the total credit required is 28 semester hours. If neither major nor minor subject is a laboratory science, the total credit required is 30 semester hours. The writing of a thesis or formal report on the research problem, prepared according to the rules prescribed by the Committee on Graduate Study, is required for the degree. Up to 4 semester hours of credit may be granted for the thesis, which credit will constitute the final portion of the required total credit as set forth above. If the thesis or report represents the outcome of a "research" or "problems" course in which the candidate has been enrolled, no credit other than that stipulated for the course will be given for the thesis or report.

A maximum of ten semester hours of graduate work done elsewhere in an accredited graduate school may be accepted for credit toward the master's degree. The balance of the work must be taken in residence at The University of Akron. No work done more than five years prior to the date of granting the degree will be accepted in fulfillment of the minimum semester hour requirement as set forth in the preceding paragraph.

Graduate credit will not be granted for courses bearing numbers under 200. Courses numbered from 200 to 299 inclusive are primarily of fourth year (undergraduate) level, but graduate credit for such courses may be established through proper arrangement at the time of registration and by performance of a greater amount and a higher quality of work than is required of the undergraduate students enrolled in the course. In order to receive such credit the student must: (1) Declare his intention to earn graduate credit at registration. (2) See to it that his enrollment blank is marked "Graduate" opposite the course in question. (3) Inform the instructor at the first meeting of the class that he expects to earn graduate credit. (4) Perform the additional assignments given him by the instructor. Courses numbered from 300 to 499 automatically carry graduate credit when satisfactorily completed.

A further limitation on the granting of graduate credit for work done in any course numbered from 200 to 299 is that the grade earned must be a "B" or an "A." No graduate credit will be given upon completion of courses numbered from 300 to 499 if the grade earned is lower than "C," and no more than six semester hours of graduate work of "C" quality will be accepted in fulfillment of the minimum semester hours requirement for the master's degree. All other work presented must be of "B" or "A" quality. The following additional quality requirement must be met by all candidates for the master's degree with major

in the natural sciences or the social sciences: An over-all quality point ratio of at least 3.00 ("B" average) must be attained in all work taken for the degree.

Choice of the minor as well as the major must have the approval of the head of the major department and other members of the Committee on Graduate Study. Subject to such approval the minor may be taken in any other department of the University which offers sufficient suitable graduate work, or the minor may be taken in another area of the same department. In either case, the student should be able to show that in view of his interest and need there is sufficient relationship between major and minor to lead to a well integrated program of study. The extent of the minor varies with the department, from one-fifth to one-half of the graduate program. A student who is primarily interested in secondary school teaching and who seeks the master's degree with work in education and natural science should take the major in education with the minor in natural science.

The topic for the thesis or the problem upon which a formal report is to be made must be selected in conference with and approved by the head of the major department not later than November 1 of the academic year in which the student expects to receive the degree. Informal reports of progress should then be made to the department head at frequent intervals. Two copies of the thesis or formal report in its final form should be presented to the head of the department and the professor who has supervised the research on or about May 1 of the final year. The two copies must then be forwarded to the Dean of the College not later than May 15, and they must bear the signatures of the research supervisor and the department head, signifying that they have read and approved the thesis or problem report. Upon approval by the Dean of the College, both copies will be delivered to the University Library for binding and preservation.

Each candidate for the master's degree must pass such written and oral examinations covering the thesis and the major and minor fields as are prescribed by the major department. Early in his graduate program he should consult the department head regarding the number and nature of such examinations and the dates on which or by which they must be taken. Each candidate for the master's degree in the humanities is required to demonstrate a reading proficiency in a foreign language which is acceptable as one appropriate to the particular field of study. This requirement must be satisfied prior to the semester in which the degree is to be granted.

Each candidate for the master's degree must file with the Registrar an application for the degree not later than one semester prior to the date on which he expects to receive the degree (Applications for degrees at the Commencement in June must be filed not later than January). When the application is filed, appropriate fees must be paid.

Attendance at and participation in the Baccalaureate and Commencement exercises at which the degree is conferred are required.

SUBJECTS OF INSTRUCTION

ART

*Professor Davis, Assistant Professor Dashiell, Mr. Weiner,
Mrs. Archer, Mr. Bell*

Prerequisites in the General College: To major in Art, students should have completed the following courses in the General College, in addition to the required courses in General Studies, including G17 and 18: Design, 4 credits; Art Appreciation, 4 credits; Engineering Drawing 25, 3 credits; Industrial Design, 2 credits; Drawing and Rendering, 4 credits; Crafts 70, 2 credits; and the second year of a foreign language.

Required Courses in the Upper College

	Cr. Hrs.		Cr. Hrs.
Ceramics	4	Costume or Interior Decoration..	6
History of Art	9	Figure Drawing	4
Commercial Art	4	Still Life Painting	4
Graphic Arts	2	Electives in Art	6
Crafts 102	2		

Students interested in Occupational Therapy should consult the department head.

Students taking laboratory courses should rent lockers to store their materials.

2:21. DESIGN. *Either semester. 2 credits.*

Basic principles of design and color theory.

2:22. DESIGN. *Either semester. 2 credits.*

Prerequisite, 21. Problems in commercial design, and designs suitable for adaptation to textiles, wood, metal, and plastics.

2:23-24. COSTUME—STYLES AND FASHION. *2 credits each semester.*

It is desirable for Design 21-22 to precede this course. Costume design and influences contributing to styles and fashions. Attention is given to costume and accessories, considering the human figure, occasion and the individual. No credit toward major.

2:29-30. ART APPRECIATION. *2 credits each semester.*

The basic principles of design as applied to our surroundings. A foundation for a critical evaluation of the visual arts. Particular attention to materials, their possibilities and limitations.

2:33-34. HOUSE PLANNING AND DECORATION. *2 credits each semester.*

It is desirable for Design 21-22 to precede this course. Various types of housing and interiors, a survey of furniture, textiles, etc., with emphasis on historic and contemporary styles. Lectures, discussions, and demonstrations, with some simple laboratory problems. No credit toward major.

2:37-38. DESIGN AND COMPOSITION IN COMMERCIAL ART. *2 credits each semester.*

It is desirable for Design 22 or Drawing and Rendering 46 to precede this course. Basic principles of design in their relation to the field of Commercial Art. Lettering, color theory, layout, the use of commercial art techniques as applied to specific problems. No credit toward major.

2:43. INDUSTRIAL DESIGN. *Second semester. 2 credits.*

Prerequisite, 22 and Engineering Drawing 25. Consideration of the requirements for Industrial Design, of materials and processes and the carrying out of the full procedure in design to meet these requirements.

2:45-46. DRAWING AND RENDERING. 2 credits each semester.

Basic course in freehand perspective, composition and representation of still life, figures and landscape through the use of various mediums.

2:50-51. DRAWING AND PAINTING. 2 credits each semester.

It is desirable for Drawing and Rendering 45-46 to precede this course. The aim is to develop an appreciation of color and composition through laboratory participation. Problems will be in still life, every effort being made to offer the student a wide range of painting experiences. First semester, oil and the second, water color. No credit toward major.

2:59. CERAMICS. First semester. 2 credits.

Prerequisite, 22. Simple forming processes, hand built, and wheel, with consideration of decorating, glazing and firing procedures.

2:60. CERAMICS. Second semester. 2 credits.

Prerequisite, 59. More advanced work in the design of pottery forms, with some attention to use of molds. Considerable emphasis is given to ceramic sculpture and glazes.

2:70. CRAFTS. 2 credits.

Prerequisite, 22. Simple crafts using a diversified assortment of materials, and stressing the design element.

2:75. HISTORY OF ART, CLASSICAL AND MEDIEVAL. 2 credits.

A consideration of the architecture, painting, sculpture, and the minor arts, from Prehistoric times to the close of the Middle Ages. No credit toward major.

2:76. HISTORY OF ART, RENAISSANCE. 2 credits.

It is desirable for History of Art 75 to precede this course. A survey of the arts of Western Europe from 1500. Emphasis will be upon architecture, painting and sculpture. No credit toward major.

2:77. HISTORY OF ART, MODERN. 2 credits.

It is desirable for History of Art 76 to precede this course. A consideration of the arts of France and the United States, with considerable emphasis upon contemporary art. No credit toward major.

UPPER COLLEGE

2:102. CRAFTS. 2 credits.

Prerequisite, 70. More advanced work in crafts with particular attention given to materials and their limitations.

2:105. GRAPHIC ARTS. Second semester. 2 credits.

Prerequisite, 46. Acid and dry point etching, screen printing, film and touche, wood cut and wood engraving.

2:106-107. WEAVING. 2 credits each semester.

Prerequisite, 22. Warping and threading of looms; plain and pattern weaving on different types of looms.

2:108-109. METAL CRAFT. 2 credits each semester.

Prerequisite, 22. Work in copper, brass, pewter, silver, using different methods: hammering, sawing, etching, stone setting and enameling.

2:115-116. STILL LIFE PAINTING. 2 credits each semester.

Prerequisite, 46. Oil paints and water colors are the mediums used. Skill in handling these materials and a feeling for color composition, and expression.

2:131-132. COMMERCIAL ART. 2 credits each semester.

Prerequisite, 22 and 45. A practical course in advertising art-layout, lettering, processes of reproduction, materials and mediums.

2:151-152. COSTUME. 3 credits each semester.

Prerequisite, 22. Emphasis on creative design in Costume. Consideration of Historic Costume as source material.

2:171-172. INTERIOR DECORATION. *3 credits each semester.*

Prerequisite, 22, 45 and Engineering Drawing 25. Modern and traditional interior design; house plans and elevations; study of interiors and furnishings.

2:175-176. FIGURE DRAWING. *2 credits each semester.*

Prerequisite, 46. Study of anatomy, action and proportion of the human figure.

2:179. ILLUSTRATION. *First semester. 2 credits.*

Prerequisite, 176. Psychology of art for children of different ages; illustration of children's books.

2:200. HISTORY OF ART, CLASSICAL AND MEDIEVAL. *First semester. 3 credits.*

A survey of architecture, sculpture, painting and the minor arts as they developed in Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Roman, Byzantine, Romanesque and Gothic civilizations.

2:201. HISTORY OF ART, RENAISSANCE. *Second semester. 3 credits.*

A survey of the arts in Italy, Spain, Flanders, Holland, Germany, and England with historical background.

2:202. HISTORY OF ART, MODERN. *First semester. 3 credits.*

A survey of the arts of France and America. Study of conditions leading to modern movements and reactions of the present day.

2:203-204. HISTORY OF ART SEMINAR. *3 credits each semester.*

Prerequisite, 202. A restricted field of study to be selected.

2:225-226. SPECIAL PROBLEMS IN ART. *3 credits each semester.*

Prerequisite, permission of head of department. Problems of an advanced nature in the field of special interest.

BIOLOGY

Professor Kraatz, Associate Professor Acquarone, Assistant Professors Park, Horning, Keller, and Kimball

Biology major students must obtain 36 credits in biology. A greater total may be necessary to meet all preparatory requirements of graduate departments of botany, zoology, and some others.

Major students must include Zoology 61-62 and Botany 51-52, in the General College. Either can be taken in the freshman year, and the other in the sophomore year, or both in the sophomore year. If one of these is deferred until the junior year, it will be impossible to work in a sequence of advanced courses in that science in the remaining year.

Upper College courses may be: (1) General Biological, which may include any combination of Upper College biology courses, but including Biology Seminar; (2) Zoological, which must include Biology Seminar, General Genetics, and as many of the following as feasible: Organic Evolution, Invertebrate Zoology, Entomology, Vertebrate Zoology, Vertebrate Anatomy, Embryology, and Human Physiology; (3) Botanical, which must include Biology Seminar, Field Botany, Plant Physiology, and General Genetics or Plant Anatomy, or at least one semester of Bacteriology.

Biological Problems is open to seniors, *and in exceptional cases to juniors*, who desire to work on some definite problems, a type of minor research.

Geology and Conservation of Natural Resources do not count in the Biology Major. They are free electives.

Required work in other departments. Chemistry 21-22 or 23-24 are required of all. For some biological work organic chemistry is essential. Either German 43-44 or French 43-44 and Psychology 41 are required. Physics, mathematics, and sociology are among recommended subjects.

PRE-MEDICAL MAJOR COURSE

First Semester		<i>First Year</i>		Second Semester		Cr. Hrs.	
1:1	WRITTEN ENGLISH	3		1:2	WRITTEN ENGLISH	3	
1:19	PERSONAL DEVELOP- MENT	2		1:6	EFFECTIVE SPEAKING ..	2	
1:21	PHYSICAL EDUCATION ..	½		1:22	PHYSICAL EDUCATION ..	½	
	ROTC 11 or 13*	1½			ROTC 12 or 14*	1½	
5:21	CHEMISTRY	4		5:22	CHEMISTRY	4	
1:15	INSTITUTIONS IN THE U. S.	3		1:16	INSTITUTIONS IN THE U. S.	3	
17:24	MATHEMATICS	4					
<i>Second Year</i>							
1:3	WRITTEN ENGLISH	2		1:4	WRITTEN ENGLISH	2	
1:7	EFFECTIVE SPEAKING ..	2		3:62	ZOOLOGY	4	
3:61	ZOOLOGY	4		5:44	CHEMISTRY	4	
5:43	CHEMISTRY	5		10:22	GERMAN	4	
10:21	GERMAN	4			ROTC 44 or 54*	1½	
	ROTC 43 or 53*	1½					
<i>Third Year</i>							
1:17	WESTERN CULTURAL TRADITIONS	3		1:18	WESTERN CULTURAL TRADITIONS	3	
3:155	ANATOMY	4		3:256	EMBRYOLOGY	4	
5:107	CHEMISTRY	4		20:52	PHYSICS	4	
20:51	PHYSICS	4		10:44	GERMAN	3	
10:43	GERMAN	3					
<i>Fourth Year</i>							
3:235	PHYSIOLOGY	3		1:101	(NO TITLE AS YET)	2	
20:53	PHYSICS	4		5:106	CHEMISTRY	4	
5:105	CHEMISTRY	4		30:43	PSYCHOLOGY	3	
30:41	PSYCHOLOGY	3		3:148	GENETICS	2	
					Elective	3	

*Women students must take six more hours elective in Humanities or Social Science division in place of the six credits of ROTC.

Men planning to take advanced ROTC should take German 43-44 in the summer session preceding the third year.

Biology courses listed in third and fourth years may have to be reversed in the schedule because Biology 235, 236, and 148 are given in alternate years.

A Pre-Dental major program comprises the same courses as in the first three years of the Pre-Medical major.

MEDICAL TECHNOLOGY COURSE

3 Years at The University of Akron

First Semester		<i>First Year*</i>		Second Semester		Cr. Hrs.	
1:1	WRITTEN ENGLISH	3		1:2	WRITTEN ENGLISH	3	
1:13	REASONING & UNDER- STANDING IN SCIENCE.	3		1:14	REASONING & UNDER- STANDING IN SCIENCE.	3	
1:19	PERSONAL DEVELOP- MENT	2		1:6	EFFECTIVE SPEAKING ..	2	
1:21	PHYSICAL EDUCATION ..	½		1:22	PHYSICAL EDUCATION ..	½	
5:23	CHEMISTRY	3		5:24	CHEMISTRY	3	
3:61	GENERAL ZOOLOGY	4		3:62	GENERAL ZOOLOGY	4	
<i>Second Year*</i>							
1:3	WRITTEN ENGLISH	2		1:4	WRITTEN ENGLISH	2	
1:7	EFFECTIVE SPEAKING ..	2		1:16	INSTITUTIONS IN THE U. S.	3	
1:15	INSTITUTIONS IN THE U. S.	3		1:11	NUMBERS COMMUNICA- TIONS	2	
3:91	PHYSIOLOGY	4		30:41	PSYCHOLOGY	3	
5:55	CHEMISTRY	3		5:56	CHEMISTRY	3	
	Elective	3		3:128	HISTOLOGY	3	
<i>Third Year</i>							
1:17	WESTERN CULTURAL TRADITIONS	3		1:18	WESTERN CULTURAL TRADITIONS	3	
3:107	BACTERIOLOGY	4		3:108	BACTERIOLOGY	4	
5:47	CHEMISTRY	4		5:48	CHEMISTRY	4	
20:51	PHYSICS	4		20:52	PHYSICS	4	
3:127	HISTOLOGICAL TECH- NIQUE	2			Elective	2	

*Men will enroll in Basic ROTC for an additional 1½ credits per semester during the first and second years.

PROFESSIONAL TRAINING

The 3 year University curriculum is followed by 12 months of medical technology instruction in any of the four approved schools of medical technology in Akron, at City Hospital, Peoples Hospital, St. Thomas Hospital, or Children's Hospital.

The hospital period is completed by taking an examination of the Registry of Medical Technologists, which grants the certificate M.T. (A.S.C.P.). The University grants the B.S. in Medical Technology, after receipt of information that examination has been taken and passed.

GENERAL COLLEGE

3:33. MICROBIOLOGY. *3 credits.*

Bacteria and other micro-organisms in their relation to man. Two lectures and one 2-hour laboratory period a week. Required in the nurses' training curriculum.

3:35. NATURE STUDY. *3 credits.*

Common plants and animals of this region, their life, habits and interrelations. Adapted to use of teachers of nature study. Some field trips will be made.

3:41-42. GENERAL GEOLOGY. *4 credits each semester.*

The earth, its materials, its surface features, and its changes during the ages. Three lectures and one 3-hour laboratory period a week.

3:47-48. ANATOMY AND PHYSIOLOGY. *3 credits each semester.*

The anatomy of the human body, chiefly gross anatomy of all organ systems, and the functions or processes of the organ systems. Two lectures and one 3-hour laboratory and demonstration period a week. Required in the nurses' training curriculum. Not open to biology and pre-medical majors.

3:51-52. GENERAL BOTANY. *4 credits each semester.*

Plants, their anatomy, physiology, and a survey of plant groups and evolution in the plant kingdom. Required of biology majors. Two lectures and three 2-hour laboratory periods a week.

3:61-62. GENERAL ZOOLOGY. *4 credits each semester.*

Animals, their general characteristics and functions; sequential study of all animal phyla during two-thirds of the unified 2-semester course, capped by an explanation of evolution and heredity. Both semesters should be taken. Required of biology, pre-medical and pre-dental majors. Two lectures and three 2-hour laboratory periods a week.

3:77-78. INTRODUCTORY BACTERIOLOGY. *4 credits each semester, or lecture separately, 2 credits each semester.*

Micro-organisms in nature, industry and disease. Morphology, physiology, cultural and serological techniques. Two lecture hours and two 3-hour laboratories a week, on two evenings. Students getting credit for 77-78 cannot take 107-108.

3:82. CONSERVATION OF NATURAL RESOURCES. *Second semester. 3 credits.*

Survey of the principles and practice of conservation of mineral, plant and animal resources. Three class periods a week.

3:91. INTRODUCTORY HUMAN PHYSIOLOGY. *Either semester. 4 credits.*

The physiology or functioning of the human body. The processes operating in the organ systems. A briefer and slightly simpler course than 135-136. Not open to pre-medical majors. Two lectures and 2 two-hour laboratory and demonstration periods a week.

UPPER COLLEGE

3:107-108. BACTERIOLOGY. *4 credits each semester.*

Micro-organisms in nature, industry and disease. Morphology, physiology, and cultural and serological techniques. Required in pre-technicians' course. Two lecture hours and three 2-hour laboratory periods a week. Prerequisite, 52, 62, or General Chemistry.

3:113-114. FIELD BOTANY. *3 credits each semester.*

The classification and recognition of plants, principally seed plants of the region. Two lectures and three hours of laboratory a week. Course 52 is desirable as background.

3:127. HISTOLOGICAL TECHNIQUE. *First semester. 2 credits.*

The methods of preparation of tissues and other specimen materials for microscopical study. No lectures. Six hours of laboratory work a week. Prerequisite, 62.

3:128. HISTOLOGY. *Second semester. 3 credits.*

The study of animal tissues. Two lectures and one 3-hour laboratory period a week. Prerequisite, 62.

3:135-136 HUMAN PHYSIOLOGY. *3 credits each semester.*

The physiology or functioning of the human body. The processes going on in all organ systems, including considerable emphasis on metabolism and blood. For biology majors. Not open to pre-medical majors. Two lectures and one 3-hour laboratory period a week. Prerequisite, General Zoology 62 or equivalent and some beginning chemistry.

3:141. INVERTEBRATE ZOOLOGY. *First semester. 4 credits.*

All invertebrate groups, their classification, anatomy and life history of representative types. Two lectures and two 3-hour laboratory periods a week. Prerequisite, 62.

3:144. GENERAL ENTOMOLOGY. *Second semester. 4 credits.*

Insects, their nature, structure, life history, and economic importance. Most of the time is devoted to a study of insect orders, with reference to representative families and types. An insect collection is made. Prerequisite, 62.

3:146. GENERAL GENETICS. *First or second semester. 3 credits.*

The principles of heredity illustrated by plant and animal organisms. Three class periods a week. 62 or 52 or equivalent desirable as background. 1954-1955 and alternate years.

3:148. HUMAN GENETICS. *First or second semester. 2 credits.*

The principles of heredity as illustrated by the human species, and with attention to eugenics problems. Required of pre-medical majors. Prerequisite, 61-62, but for advanced sociology students without this prerequisite.

3:151. ORGANIC EVOLUTION. *First semester. 3 credits.*

History of the evolution concept. A study of all the fields of evidence for evolution. Trends of animal evolution through the ages. Theories of methods of evolution. Three lectures a week. Prerequisite, 62.

3:155. VERTEBRATE ANATOMY. *First semester. 4 credits.*

The vertebrate animals, and the related protochordates. A comparative study of all organ systems from fishes to mammals included. Laboratory work on shark, Necturus, and cat. Required of pre-medical majors. Prerequisite, 62. Two lectures and two 3-hour laboratory periods a week.

3:215-216. PLANT PHYSIOLOGY. *4 credits each semester.*

Water, soil and mineral requirements of plants, and their metabolism, growth, and response to stimuli. Two lectures and six hours of laboratory a week. Prerequisite, 52 and some knowledge of chemistry.

3:217. PLANT ANATOMY. *First semester. 4 credits.*

Structure of cells, tissues and organs of land plants; relation of structure to utilization of plants. Two lectures and six hours of laboratory a week. Prerequisite, 51-52. 1951-52 and alternate years.

3:235. GENERAL PHYSIOLOGY. *3 credits.*

Physiological principles. Fundamental life processes as exhibited in all organisms, especially in the complicated organ systems of the higher vertebrates. Required of pre-medical students. Prerequisites, Inorganic and Organic Chemistry. Two lectures and one 3-hour laboratory period a week.

3:256. EMBRYOLOGY OF VERTEBRATES. *Second semester. 4 credits.*

General early embryonic development of vertebrates and relatives, and the more detailed embryology of frog and chick. Two class periods and two 3-hour laboratory periods a week. Required of pre-medical majors. Prerequisite, 155.

3:258. VERTEBRATE ZOOLOGY. *Second semester. 3 credits.*

Classification of vertebrates and related protochordates. Primitive fishes through mammals, orders, classes, and some families and representative types are studied as to significant characteristics. Available types are examined in the laboratory. Two lecture hours and one 3-hour laboratory period a week. Prerequisite, 62.

3:265. BIOLOGY SEMINAR. *First semester. 2 credits.*

Discussions and written reports on biological books and papers from current literature. One class period a week. Required of biology major seniors.

3:267-268. BIOLOGICAL PROBLEMS. *1 to 3 credits each semester.*

Individual problem work of laboratory type. Open to seniors and, in exceptional cases, to juniors. Two continuous semesters are advisable.

3:367-368. RESEARCH. *3 or more credits each semester.*

Individual problem work of a more advanced nature. Open to graduate students. Not offered 1955-56.

CHEMISTRY

Professors Sumner, Cook, and Morton, Associate Professors Floutz and Wolfe, Assistant Professor Corsaro, Mr. Simmons, Mr. Stephens, Mr. Bachmann, Mr. Becker, Mr. Deisz, Mr. Brock, Mr. Leshin, Mrs. Mayor, Mr. Stevens

To qualify for promotion to the Upper College with a major in Chemistry, the student must have completed in the General College the required courses in general education and in addition the following or their equivalent: General Inorganic Chemistry 21-22, Qualitative Analysis 43, Elementary Organic Chemistry 44, College Algebra-Trigonometry 24, Analytic Geometry 43, Differential Calculus 45, Integral Calculus 46.

In the Upper College the student must complete the following courses or their equivalent: Quantitative Analysis 105-106, Intermediate Organic Chemistry 107, Advanced Organic Chemistry 108, Chemical Calculations 118, Physical Chemistry 151-152, General Physics 51-52, Sound and Light 53, German 21-22, German 43-44. (The foreign language must be German.)

Fees: A deposit of \$5 for breakage is required in each laboratory course.

GENERAL COLLEGE

5:21-22. GENERAL INORGANIC CHEMISTRY. *2 credits recitation. 2 credits laboratory each semester.*

A study of the basic facts and principles of chemistry, the occurrence, preparation, and properties of the elements. Production and properties of the more important compounds with emphasis on inorganic chemistry. Laboratory experiments illustrate the principles studied.

5:23-24. INORGANIC CHEMISTRY. *2 credits recitation, 1 credit laboratory each semester.*

Designed primarily for students in home economics and for laboratory technicians. This course presents the fundamental laws and theories of chemistry together with a study of the more important elements and their compounds.

5:25. CHEMISTRY FOR NURSES. *3 credits.*

Planned especially for women taking nurses' training course in hospitals. The course covers the necessary fundamentals in inorganic, organic and physiological chemistry.

5:27-28. GENERAL INORGANIC CHEMISTRY FOR ENGINEERS. *3 credits recitation, 1 credit laboratory each semester.*

See description for Chemistry 21-22.

5:43. QUALITATIVE ANALYSIS. *3 credits recitation, 2 credits laboratory.*

Prerequisite 22. The classwork emphasizes the mathematical aspects of chemical equilibrium. The semimicro method is employed in the laboratory for separation and identification of ions.

5:44. ELEMENTARY ORGANIC CHEMISTRY. *2 credits recitation, 2 credits laboratory.*

Prerequisite, 22. A general survey of the field of organic chemistry with particular emphasis on fundamentals.

5:47-48. ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS.

2 credits recitation, 2 credits laboratory each semester.

Prerequisite, 22 or 24. Intended primarily for students preparing to become laboratory or hospital technicians. Elementary theory and calculations in qualitative and quantitative analysis, with laboratory exercises to illustrate these principles. The second semester will emphasize methods and instruments used in hospital laboratories.

5:55. ORGANIC CHEMISTRY. *2 credits recitation, 1 credit laboratory.*

Prerequisite, 24. A course designed especially for students in home economics whose needs are given especial attention.

5:56. PHYSIOLOGICAL CHEMISTRY. *2 credits recitation, 1 credit laboratory.*

Prerequisite, 55. Planned as a continuation of 55 for students in home economics. The chemistry involved in digestion, absorption, and metabolism.

UPPER COLLEGE

5:105-106. QUANTITATIVE ANALYSIS. *2 credits recitation.*

2 credits laboratory each semester.

Prerequisite, 43. The theory, laboratory technique and calculations of quantitative analysis. Acidimetry and alkalimetry, oxidation and reduction, volumetric precipitation, and gravimetric methods, systematic analysis. The analysis of common ores, minerals and alloys.

5:107. INTERMEDIATE ORGANIC CHEMISTRY. *2 credits recitation, 2 credits laboratory.*

Prerequisite, 44. An intensive study of aliphatic and alicyclic compounds.

5:108. ADVANCED ORGANIC CHEMISTRY. *2 credits recitation, 2 credits laboratory.*

Prerequisite, 107. A thorough study of aromatics, heterocyclics, and certain special topics as time permits.

5:118. CHEMICAL CALCULATIONS. *2 credits recitation.*

Prerequisites, 43, 44, 105, Mathematics 46. Course is designed primarily for department majors. A review of the calculus with emphasis on its application to problems in physical chemistry. Principles of physical chemistry are introduced to demonstrate the mathematical technique used in correlating the fundamentals of physics to chemistry.

5:151-152. **PHYSICAL CHEMISTRY.** *3 credits recitation,
2 credits laboratory each semester.*

Prerequisites, 106, 107, 118, Physics 52, Mathematics 46. The physical states of matter, thermodynamics, solutions, colloids, equilibrium, the phase rule, thermochemistry, chemical kinetics, electrochemistry, atomic and molecular structure, special topics, problems. Laboratory experiments carried on concurrently.

5:250. **INDUSTRIAL CHEMISTRY.** *2 credits recitation.*

Prerequisites, 106, 107. Chemical engineering unit operations considered in non-mathematical language. Basic principles of instrumentation. Manufacture of various inorganic and organic chemicals.

GRADUATE COURSES

To qualify for the Master's Degree, a student must select a minimum of twelve hours, including at least two hours of laboratory, from the following list of courses: 307, 309, 311-312, 319-320, 321, 331-332, 333-334, 335-336, 337. He must also complete satisfactorily a research project which must be planned in advance, and supervised by a staff member. Credit for such a project and the thesis resulting from it will total four hours. In addition, the candidate must attend and participate in seminar type discussions as scheduled by the department. For additional requirements, see the section on Graduate Study.

5:307-308. **QUALITATIVE ORGANIC ANALYSIS.** *2 credits laboratory each semester.*

Prerequisites 106, 108. The characterization and identification of organic substances, the separation and identification of the components of organic mixtures.

5:309. **MICRO-QUANTITATIVE ORGANIC ANALYSIS.** *2 credits laboratory.*

Prerequisites 106, 108, and permission. Micro-quantitative analytical methods for determination of carbon, hydrogen, nitrogen, sulfur, and halogens in organic substances.

5:310. **SPECIAL TOPICS IN ORGANIC CHEMISTRY.** *2 credits recitation.*

Prerequisite 108. Topics in advanced organic chemistry selected by the instructor and approved by the department, such as terpenes, dyestuffs, medicinals, alkaloids, heterocyclic compounds, carbohydrates, etc.

5:311-312. **ADVANCED ORGANIC CHEMISTRY.** *2 credits recitation each semester.*

Prerequisite 108 and permission. Modern structural theory, resonance, reaction mechanisms, stereo-chemistry, rearrangements, free radicals, formation of carbon to carbon bonds.

5:319-320. **ADVANCED INORGANIC CHEMISTRY.** *2 credits recitation each semester.*

Prerequisite 152. Concepts of atomic structure integrated in the systematic classification of the elements, the periodic table, the study of elements and compounds according to periodic grouping, emphasis on extension of elementary inorganic chemistry, and on inorganic structural considerations.

5:321-322. **ADVANCED INORGANIC PREPARATIONS.** *1 credit laboratory each semester.*

Prerequisites 106, 152. Methods for preparing and purifying inorganic compounds. Such operations as crystallization, distillation, sublimation, precipitation, and liquefaction will be performed.

5:325. **COLLOID CHEMISTRY.** *2 credits recitation.*

Prerequisites 106, 107. The principles of colloid chemistry. Methods of preparation. A study of the properties and stability of colloids, dialysis, coagulation, aerosols, hydrosols, gels, emulsions, and foams, with emphasis on applications.

5:335-336. ADVANCED PHYSICAL CHEMISTRY. *2 credits recitation each semester.*

Prerequisite 152. An introduction to quantum chemistry, concepts of valence, nature of the chemical bond, correlation between structure and properties, elementary thermodynamics, chemical equilibrium, principles of electrochemistry, chemical kinetics, catalysis, reactions in solution.

5:337-338. ADVANCED PHYSICAL CHEMISTRY LABORATORY. *1 credit laboratory each semester.*

Prerequisite 152. 335-336 must be taken concurrently. Laboratory experiments to illustrate the topics listed under 335-336.

5:339. ADVANCED CHEMICAL THERMODYNAMICS. *2 credits recitation.*

Prerequisite 336. Chemical statistics and calculation of thermodynamic functions, partial molar quantities, methods of evaluating activities, coefficients.

COURSES IN RUBBER AND POLYMERS

5:301-302. CHEMISTRY OF POLYMERS. *2 credits recitation each semester.*

Prerequisite 108. Definitions and classification of polymeric substances into fibers, plastics and rubbers. Discussion of sources, structures and properties of naturally occurring polymers. Survey of monomers. Methods of preparation, structures and properties of organic and inorganic polymers. Discussion of the mechanism of condensation and addition polymerization reactions.

5:303-304. CHEMISTRY OF POLYMERS LABORATORY. *1 credit laboratory each semester.*

Prerequisite 108. 301-302 must be taken concurrently. Preparation of different polymers to illustrate the methods of polymerization and the properties of polymers discussed in 301-302.

5:326. CHEMISTRY OF LATEX LABORATORY. *2 credits laboratory.*

Prerequisite, permission. Properties of latex. Concentration, testing, compounding. Dipped goods. Vulcanization. Electrodeposition. Cord and fabric impregnation. Sponge and porous products. Molded goods, adhesives.

5:327-328. CHEMISTRY OF RUBBER TECHNOLOGY. *2 credits recitation each semester.*

Prerequisites 106, 107 and permission. A study of crude rubber, latex, vulcanization, accelerators, synthetic rubber, reclaimed rubber. Students are expected to register for the laboratory course 329-330 unless excused by instructor.

5:329-330. CHEMISTRY OF RUBBER LABORATORY. *2 credits laboratory each semester.*

Prerequisites 106, 107. 327-328 must be taken concurrently. Physical testing, compounding and other laboratory operations discussed in 327-328.

5:331-332. PHYSICAL CHEMISTRY OF HIGH POLYMERS. *2 credits recitation each semester.*

Prerequisite 152. Mechanism and kinetics of condensation polymerization, including molecular weight distribution and network formation. Kinetics of addition polymerization and copolymerization, including molecular weight distribution, three dimensional polymerization and emulsion polymerization. Thermodynamics of dilute and concentrated solutions of high polymers. Solution methods for determination of molecular weight including osmotic pressure, light scattering, sedimentation and viscosity. Dimensions of polymer molecules in solution.

5:333-334. EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS.

1 credit recitation, 1 credit laboratory each semester.

Prerequisite 152. 331-332 must be taken concurrently. Laboratory experiments to illustrate the method and principles discussed in 331-332.

5:343-344. MECHANICAL BEHAVIOR OF POLYMERS. *2 credits recitation each semester.*

Prerequisites 332 or permission. Physical properties and mechanical behavior of elastomers, plastics and fibers are treated in the light of present day theories, which are discussed fully. An attempt is made to relate the physical behavior of polymers to their molecular constitution.

5:365-366. RESEARCH. *1 to 3 credits each semester.*

Open to properly qualified students. Supervised original research in the fields of inorganic, analytical, physical and organic chemistry, and in the chemistry and technology of rubber and plastics.

ECONOMICS

*Associate Professor Strain, Assistant Professors Seery and McLain,
Mr. O'Hara, Professor Emeritus*

Students majoring in economics are expected to take at least 24 hours of work in the field of economics. To insure the best possible sequence of courses to meet the objectives of the student, it is important: (1) that the student select his field of concentration as early as possible, and (2) that he consult the head of his department promptly and arrange his tentative program for the remaining years of his course.

Credit in any of the following courses is accepted in meeting the requirements for a degree in economics. Economics 45-46 is prerequisite to all upper college courses.

For courses suggested but not required, see General College section.

GENERAL COLLEGE

6:42. CURRENT ECONOMIC PROBLEMS. *3 credits.*

A survey of such contemporary problems as inflation, deflation, and unemployment; taxation, public expenditures, and public debt; industrial conflict, and international trade. Designed for students who do not plan to pursue further studies in economics.

6:44. DEVELOPMENT OF ECONOMIC INSTITUTIONS. *3 credits.*

A study of medieval and modern economic history. The origins and growth of the significant institutions of modern economic life are traced.

6:45-46. PRINCIPLES OF ECONOMICS. *3 credits each semester.*

A general survey of economic activity and experience as it occurs within the institutional framework of our modern industrial society. Designed to develop systematic habits of thought and analysis, and thus to prepare the student for responsible participation in the process of shaping public policy toward efficient use of resources for the fulfillment of human wants. No credit for students who have received credit in Economics 41.

6:82. CONSUMER ECONOMICS. *3 credits.*

A study of the spending habits of American consumers, of the influences affecting their spending decisions, and of such particular aspects of personal finance as budget planning, savings programs, installment buying, insurance, investments, and housing finance.

UPPER COLLEGE

6:106. LABOR PROBLEMS. *3 credits.*

A survey of labor economics, including principles, issues, and public policy. Development of unions in the United States, with reference to their structure, objectives, and policies. Issues in labor-management relations. Negotiation of trade agreements and administration of grievance procedures. Economic effects of union activities, and problems of public control.

6:148. MONEY AND BANKING. 3 credits.

A study of the institutions of money, banking, and credit, with reference to the processes of monetary and credit expansion and contraction, and to public policies affecting this process, as well as to the historical development of our money and banking system.

6:204. MONETARY AND BANKING POLICY. 3 credits.

Prerequisite, 148. The exercise of control over currency and credit; policies of control by central banks and governments, with special emphasis upon the U. S. Treasury and the Federal Reserve System.

6:208. PUBLIC FINANCE. 3 credits.

A study of the tax systems and other sources of public revenue used by federal, state, and local governments to finance their activities; of changing patterns of public expenditures, and of fiscal policy and debt management. Emphasis on analysis of economic effects of public policy.

6:210. COMPARATIVE ECONOMIC SYSTEMS. 3 credits.

A study of different possible systems of economic organization, ranging from the theoretical extreme of unregulated private enterprise to the opposite theoretical extreme of Marxian communism. Chief emphasis is placed on comparison of the actual system of mixed public and private enterprise in contemporary United States with the form of state socialism practiced in the Soviet Union.

6:239. LABOR AND THE GOVERNMENT. 3 credits.

A study of the development of public policy for control of industrial relations, from the judicial control of the 19th century to the statutory and administrative controls of the World War II and postwar periods. Main emphasis is placed on analysis of the economic effects of public control, rather than on a more strictly legalistic approach. Prerequisite, 106.

6:241. ECONOMIC ANALYSIS. 3 credits.

An advanced course in economic theory, involving a study of the processes of economic decision-making among individuals and business firms, by which resources are allocated to different productive uses and income is distributed among the members of our society.

6:245. MONOPOLY AND PUBLIC UTILITIES. 3 credits.

The general principles of monopoly pricing and the theory of imperfect competition. The law and economics of public utilities including problems of valuation and rate making.

**6:260. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING.
3 credits.**

Prerequisite 164, 106 or their equivalent. The meaning, process, principles and organization of collective bargaining; collective bargaining agreements; the issues presented in labor disputes and settlements dealing with union status and securities, wage scales, technological change, production standards, etc. are considered. Administered jointly by the Economics department and the College of Business Administration.

6:265. SOCIAL SECURITY. 3 credits.

A study of the development of social security and social insurance programs in such fields as workmen's compensation, retirement and survivor's insurance, unemployment compensation, and sickness and disability insurance, emphasizing analysis of the economic effect of these programs.

6:268. INTERNATIONAL ECONOMIC RELATIONS. 3 credits.

An analysis of the theory of international trade and the foreign exchanges. Policies of free and controlled trade. Trade monopoly. International monetary problems. World economic planning.

6:293. DEVELOPMENT OF ECONOMIC THOUGHT. 3 credits.

The evolution of theory. Relation of the ideas of economists to the contemporary conditions of their times.

6:294. NATIONAL INCOME AND ITS VARIATIONS. 3 credits.

An advanced study of changes in the national income, production, employment, and price levels, emphasizing the determinants of long-term economic growth, as well as the determinants of short-term fluctuations of economic activity.

6:297. ECONOMIC RESEARCH. 2 credits.

The work of this course will normally center around the research project which the student undertakes in an effort to fulfill the thesis requirement. Senior standing required.

6:298. SEMINAR IN ECONOMICS. 3 credits.

Offered as required to provide opportunity for advanced students to pursue study of special fields of economics not otherwise provided for by the curriculum.

LABOR RELATIONS

Students who wish to prepare for careers in the growing field of industrial relations may qualify for the degree of Bachelor of Science in Labor Relations by fulfilling the requirements of the following curriculum. Required courses are shown in capital letters. Other courses listed are recommended.

LABOR ECONOMICS & LABOR RELATIONS MAJOR

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 WRITTEN ENGLISH	3	1:2 WRITTEN ENGLISH	3
1:13 REASONING & UNDER- STANDING IN SCIENCE	3	1:14 REASONING & UNDER- STANDING IN SCIENCE ...	3
1:19 PERSONAL DEVELOP- MENT	2	1:6 EFFECTIVE SPEAKING ...	2
1:11 NUMBERS COMMUNICA- TION	2	1:18 WESTERN CULTURAL TRADITIONS	3
1:17 ROTC 11 or 13*	1½	1:22 PHYSICAL EDUCATION... ROTC 12 or 14*	½
1:17 WESTERN CULTURAL TRADITIONS	3	22:41 SOCIOLOGY	3
1:21 PHYSICAL EDUCATION...	½		

Second Year

1:3 WRITTEN ENGLISH	2	1:4 WRITTEN ENGLISH	2
1:7 EFFECTIVE SPEAKING ...	2	1:16 INSTITUTIONS IN THE U. S.	3
1:15 INSTITUTIONS IN THE U. S.	3	ROTC 44 or 54*	1½
ROTC 43 or 53*	1½	6:46 PRINCIPLES OF ECONOMICS	3
39:21 Accounting	3	39:22 Accounting	3
6:45 PRINCIPLES OF ECONOMICS	3	30:116 Psychology	3
30:41 PSYCHOLOGY	3	21:41 AMERICAN GOVERN- MENT	3

Third Year

6:148 MONEY & BANKING	3	40:141 BUSINESS LAW	3
6:106 LABOR PROBLEMS	3	40:164 PERSONNEL RELATIONS.	2
40:163 PERSONNEL MANAGE- MENT	2	40:148 STATISTICS	4
22:42 Social Attitudes	3	Elective	3
6:241 ECONOMIC ANALYSIS ...	3		

Fourth Year

22:202 COLLECTIVE BEHAVIOR .	3	1:101 G101 (NO TITLE AS YET).	2
6:239 AMERICAN LABOR AND THE GOVERNMENT	3	21:205 CONSTITUTIONAL LAW..	3
6:294 NATL. INC. & ITS VAR...	3	6:260 COLLECTIVE BARGAINING	3
6:297 ECONOMIC RESEARCH ... Elective	2	Electives	6
	3		

* Women majors will substitute 6 credits in electives for ROTC.

ENGLISH

Professors Duffy and Keister; Associate Professors R. Thackaberry and Vance (Journalism); Assistant Professors Raw, Roberts, Putman, H. Thackaberry, Julia Hull, and Phipps; Mr. Stevens, Mr. Hull, Mr. Paul, Mr. Galbreath, Mrs. Haney, Mrs. Hendricks, Miss Mostenic, Mrs. Paul, Mr. Tyler

Students majoring in English must complete twenty-six hours in the department (in addition to the English courses in General Studies). The following courses are required: English 65-66 and English 46. The remainder must include six hours from English 41, 72, 73, 103, 201, 209, 212, 219, 220, and six hours from English 108, 121, 122, 202, 213, 214, 215, 216. Journalism 82, 133, and 134 will not be counted as part of the 26 hours required for the major in English. English and American history and three or four years of a foreign language are strongly recommended—in order of preference: French, German, Latin, Greek.

GENERAL COLLEGE

7:31. ADVANCED WRITING. *3 credits.*

Practice in various forms of writing: stories, plays, poems, essays. Frequent conference with instructor.

7:41. SHAKESPEARE. *3 credits.*

Reading of fifteen or more plays, with explanatory lectures and discussions.

7:42. THE MAKING OF MODERN ENGLISH. *3 credits.*

A study of modern English usage, with attention to historical backgrounds and the principles of descriptive grammar.

7:45. APPRECIATION OF FICTION. *3 credits.*7:46. APPRECIATION OF POETRY. *3 credits.*7:47-48. AMERICAN LITERATURE. *3 credits each semester.*

American literature from its colonial beginnings to the present. First semester: Captain John Smith to Melville; second semester: Whitman to the present.

7:50. APPRECIATION OF THE DRAMA. *3 credits.*

Courses 45, 46, and 50 constitute an approach to critical reading.

7:65-66. ENGLISH LITERATURE. *3 credits each semester.*

English literature from Anglo-Saxon to modern times. Required of English majors. Preferably taken in the sophomore year.

7:71. EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE. *3 credits.*

Representative French, German, Italian, and Spanish works, medieval to nineteenth century, in translation.

7:72. MODERN EUROPEAN LITERATURE. *3 credits.*

Representative European writers from about 1850 to the present.

7:73-74. THE ENGLISH BIBLE AS LITERATURE. *3 credits each semester.*

Extensive readings in the Bible with reference to literary values. First semester: the Old Testament, exclusive of the Wisdom Books. Second semester: the Wisdom Books and the New Testament.

UPPER COLLEGE

7:103-104. WORLD DRAMA. *3 credits each semester.*

The drama from ancient Athens to modern Broadway.

7:108. CONTEMPORARY ENGLISH AND AMERICAN LITERATURE. *3 credits.*

Contemporary fiction, poems, and plays.

- 7:121-122. ENGLISH FICTION. *3 credits each semester.*
First semester: Defoe to Scott; second semester, the Brontes to Hardy.
- 7:143-144. WRITING WORKSHOP. *2 credits each semester.*
Prerequisite, 31 or permission.
- 7:162. HISTORY OF THE ENGLISH LANGUAGE. *3 credits.*
The development of the English language from the Anglo-Saxon period to the present.
- 7:201. CHAUCER. *3 credits.*
A study of *The Canterbury Tales* as one of the masterpieces of English poetry and as a reflection of medieval life.
- 7:202. SIXTEENTH-CENTURY LITERATURE. *3 credits.*
A study of the non-dramatic literature of the Tudor period.
- 7:205. ANGLO-SAXON. *3 credits.*
Anglo-Saxon language and literature; linguistic studies of Old English as a predecessor of Modern English; readings in *Beowulf* and in Anglo-Saxon prose.
- 7:207. MIDDLE ENGLISH. *3 credits.*
The language and literature of the eleventh to the fifteenth centuries, exclusive of Chaucer.
- 7:209. SHAKESPEARE. *3 credits.*
Concentrated study of a few plays.
- 7:212. MILTON. *2 credits.*
Concentrated study of selected prose and the major poems.
- 7:213. SEVENTEENTH-CENTURY LITERATURE. *3 credits.*
A study of non-dramatic literature from Bacon to Dryden.
- 7:214. EIGHTEENTH-CENTURY LITERATURE. *3 credits.*
The literature of the century with emphasis upon the work of Pope and Johnson.
- 7:215-216. NINETEENTH-CENTURY LITERATURE. *3 credits each semester.*
First semester: the English Romantic Movement; second: the Victorian era.
- 7:219-220. MAJOR AMERICAN WRITERS. *3 credits each semester.*
An intensified study of a selected group of authors.
- 7:231-232. SEMINAR. *Maximum: 2 credits each semester.*
Special studies; methods of literary research.
- 7:401. RESEARCH. *1 to 3 credits.*
Writing of a thesis for the Master of Arts degree.

JOURNALISM

- 1:2. WRITTEN ENGLISH is a prerequisite for all Journalism courses.

GENERAL COLLEGE

- 7:31. NEWS WRITING. *First semester. 2 credits.*
A beginning course in the writing of news stories, applying textbook theory through class discussions, illustrative material, and actual writing for publication.
- 7:32. NEWS WRITING. *Second semester. 2 credits.*
Similar to 31, but with more advanced and specialized work for students in the second semester.
- 7:59. FEATURE WRITING. *Either semester. 2 credits.*
Short newspaper and magazine articles. Members of the class will submit articles for publication. Recognition of human interest situations and practice in portraying them. Extensive writing, with class discussions.
- 7:82. CONTEMPORARY NEWSPAPERS. *Either semester. 2 credits.*
A study of today's leading newspapers and newspapermen.

UPPER COLLEGE

7:133. EDITING. *First semester. 2 credits.*

Copyreading, headline writing, proofreading, makeup, etc. through extensive exercises. A study of type and typography, printing machines and processes, and newspaper methods and systems. Prerequisite, 31 or 32 or the equivalent.

7:134. EDITING. *Second semester. 2 credits.*

Similar to 133, but with more advanced work in editing processes for those who have taken 133. Prerequisite, 31 or 32 or the equivalent.

7:157. EDITORIAL WRITING. *Either semester. 2 credits.*

Editorials are considered as a special type of essay. Considerable writing is required, and logical reasoning is stressed. Some attention to column writing and to the preparation of interpretative articles.

HISTORY

Associate Professor Roe, Professor Gardner, Mr. Knepper, Mr. Riede

To be recommended for a degree, a student majoring in history should have a minimum of twenty-four hours credit in the department, including Historiography and courses in both United States and European history. At the discretion of the Department, the Graduate Record Examination or a general final examination may be required.

GENERAL COLLEGE

12:41. THE UNITED STATES TO 1865. *First semester. 3 credits.*

A general course in American history beginning with the period of Exploration and Discovery and continuing through the Civil War.

12:42. THE UNITED STATES SINCE 1865. *Second semester. 3 credits.*

A continuation of 41. The Reconstruction period following the Civil War to the present.

12:43. ORIENTAL AND GREEK CIVILIZATIONS. *First semester. 3 credits.*

A study of the development of Oriental and Greek civilizations, and especially of the significant developments of Greek political and historical thought, art and ideals.

12:44. ROMAN CIVILIZATION. *Second semester. 3 credits.*

A study of Roman experience, historical, political, and cultural, from the rise of Rome to early Christian times.

12:45-46. MODERN EUROPE. *3 credits each semester.*

Europe from the Protestant Reformation to the present. The course is divided at 1815. An introductory course.

12:49. MEDIEVAL EUROPE. *3 credits.*

The age of the beginning of West-European history. Some consideration is given to the inheritance from Judaeo-Christian and Classical civilizations.

UPPER COLLEGE

12:118. THE RENAISSANCE. *3 credits.*

The cultural and institutional history of Europe from 1300 to 1648. The birth of the lay spirit. The rise of plural sovereignties.

12:151. ENGLAND TO 1689. *First semester. 3 credits.*

Emphasis on the development of the parliamentary constitution and the common law.

12:152. ENGLAND AND THE EMPIRE. *Second semester. 3 credits.*

Emphasis on imperial expansion, imperial policies, the growth of the Dominions, relations with India, and the Commonwealth since 1689.

12:161. THE WESTERN HEMISPHERE. *3 credits.*

Latin America, Canada, and other European possessions in the New World from the era of discoveries to the present. The history of these countries will be correlated with that of the United States, and an attempt will be made to show the essential unity of the Americas.

12:171. THE BYZANTINE EMPIRE AND THE MOHAMMEDAN WORLD.
3 credits.

The Byzantine Empire from Justinian: its rise and fall. The origin and spread of Islamic civilization; the rise of the Ottoman Empire; the economic and political factors explaining the growth and persistence of Mohammedanism.

12:219. THE OLD REGIME, 1648-1789. *First semester. 3 credits.*

Europe from the Treaties of Westphalia to the calling of the French Estates General. Special attention will be paid to German affairs in the period of the Enlightened Despots.

12:222. THE AMERICAN REVOLUTION AND THE CONSTITUTION.
First semester. 3 credits.

This course covers in considerable detail the formative period in American history, 1763-1790.

12:223. THE CIVIL WAR. *First semester. 3 credits.*

A study of the slavery controversy, the Civil War, and Reconstruction.

12:224. THE UNITED STATES AS A WORLD POWER. *Second semester. 3 credits.*

Beginning with the Spanish-American War, the development of the nation will be followed to the present, with primary emphasis on its rise to a dominant position in the world of nations.

12:225. THE OLD NORTHWEST. *3 credits.*

The French and British occupation of the Ohio Valley and the Great Lakes region; the Northwest Territory and the states made from it, with emphasis on the history of Ohio and the Western Reserve to 1860. Prerequisite, 41 and 42.

12:241. THE REVOLUTIONARY PERIOD IN EUROPE. *First semester. 3 credits.*

Background, causes, and results of the French Revolution and subsequent wars for European independence; the development of nationalism, 1789-1848; the congress of Vienna, and the legacy of Bonaparte.

12:242. HISTORIOGRAPHY AND HISTORICAL METHODOLOGY. *3 credits.*

This course aims to provide the student with a knowledge of the history of historical writing, especially in Western Europe and in the 19th and 20th centuries, and to give some practical experience in the use of the various arts and auxiliary sciences used by historians. Prerequisite, 12 credits in history.

12:245. NATIONALISM AND DEMOCRACY IN EUROPE. *First semester. 3 credits.*

The ascendancy of Prussia after 1848; the unification of Germany and Italy; Bismarck's domestic policy; the growth of German militarism and Pan-Germanism.

12:246. THE AGE OF CONFLICT, 1900-1950. *Second semester. 3 credits.*

The causes, grand strategy, and results of two world wars; experiments in revolution, recovery, and international organization.

12:251. THE DEVELOPMENT OF MODERN RUSSIA. *3 credits.*

Factors shaping present society in the Soviet Union. Political, economic, and social changes, particularly since the Revolution, contrasted with developments in other countries. The emergence of a new civilization and a world power.

12:261. CHINA AND THE FAR EAST. 3 credits.

After sketching the history of Classical China, this course surveys the history of China from the acceptance of Buddhism to the present. Manchu and Japanese imperialism, as well as China's relations with the western world, will receive special attention.

12:412. INDIVIDUAL READING AND RESEARCH.

Open only to those who have completed an undergraduate major, or at least 24 credits in history, and have received permission from the head of the department. Not more than 3 credits will be given in any one semester.

HOME ECONOMICS

*Professor Bear, Assistant Professors Wilson, Wood and Laubacher,
Mrs. Welzer*

Home Economics offers a program of education for personal and family life as a part of general education for non-majors. For the major student with professional interests, courses offered are based on fundamental training in the physical, biological and social sciences.

Three majors in Home Economics are offered.

FOODS AND NUTRITION MAJOR, planned for those students whose professional interest may point to such work as that of food analyst, nutritionist, dietitian, institutional manager, or food demonstrator.

CLOTHING AND TEXTILES MAJOR, for students preparing for some line of clothing work in the commercial field.

GENERAL HOME ECONOMICS MAJOR, a non-professional major planned for students who wish a broad cultural background with emphasis on effective living.

In addition, a B.S. degree in Education with a major in Home Economics may be obtained. See College of Education section for requirements.

For subjects that Home Economics majors are required to take in the General College, see General College section.

Students planning to major in any one of the professional fields should consult the head of the department early in the first year.

FOODS AND NUTRITION*Third Year*

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
13:212 Institutional Management	3	13:216 Quantity Cookery	3
13:115 Experimental Foods	3	13:65 Child Development	3
3:107 Bacteriology	4	13:118 Meal Service and Demonstration Foods	3

Fourth Year

13:119 Nutrition in Health	3	13:120 Nutrition in Disease	3
27:151 Education	3	13:121 Field Work	3
13:122 Home Management Residence	3	13:122 Home Management Residence	3

TEXTILES AND CLOTHING*Third Year*

13:105 Tailoring	3	13:106 Advanced Clothing	3
13:62 Home Management	3		

Fourth Year

13:107 Advanced Textiles	3	13:58 Selection of House Furnishings	3
13:117 Historic Costume	3	13:65 Child Development	3
13:122 Home Management Residence	3	13:122 Home Management Residence	3

GENERAL COURSE*Third Year*

13:119 Nutrition	3	13:65 Child Development	3
13:62 Home Management	3	13:118 Meal Service and Demonstration Foods	3

Fourth Year

13:215 Household Equipment	3	13:58 Selection of House Furnishings	3
13:105 Tailoring	3	13:106 Advanced Clothing	3
13:122 Home Management Residence	3	13:122 Home Management Residence	3

GENERAL COLLEGE

13:21. TEXTILES. *First semester. 3 credits.*

Natural and synthetic fibers, their color, design, finishes and wearing quality with reference to selection, use and care. Regulations governing the standardization and labeling of textiles and clothing. Class limited to 20.

13:22. BEGINNING CLOTHING CONSTRUCTION. *First semester. 3 credits.*

Fundamental problems in sewing. Includes the study of commercial patterns. A dress of cotton, linen, or rayon and one other garment will be made. One hour lecture and four hours laboratory. Class limited to 20.

13:23. CLOTHING CONSTRUCTION AND SELECTION. *Second semester. 3 credits.*

Prerequisite, 22 or equivalent. Construction of garments requiring the more difficult techniques. A study of line, design, color and type of fabrics suitable to various types of individuals and occasions. Includes wardrobe planning, care and repair of clothing. One hour lecture and four hours laboratory. Class limited to 20.

13:41. FOOD FOR THE FAMILY. *Non-majors. 3 credits.*

A basic course in foods for non-majors who want an understanding of the preparation of foods for family use. One hour lecture, four hours laboratory.

13:42. FOOD FOR THE FAMILY. *3 credits.*

For non-majors. Application of nutrition to meal planning. Emphasis is on problems in selection of and marketing for food on a limited food budget. Table etiquette, meal service and simple entertaining are included. One hour lecture, four hours laboratory.

13:43. FOODS AND NUTRITION. *3 credits.*

For student nurses. A practical course in the basic principles of nutrition and cookery; selection and care of food, study of dietary requirements on various age levels, analysis of student's own diet, racial differences in dietary habits. Special emphasis on cookery for the invalid and on tray service. Two hours lecture, two hours laboratory.

13:44. DIET THERAPY. *3 credits.*

This continues the study of nutrition with emphasis on diet as a means of therapy.

13:45. GENERAL FOODS. *3 credits.*

Study of the composition of foods and the principles involved in selection, purchase and preparation. Primarily for majors in home economics. One hour lecture, four hours laboratory.

13:46. GENERAL FOODS. *3 credits.*

A continuation of 45. Emphasis on meats and other protein foods and pastries. One hour lecture, four hours laboratory.

13:53. HOME ECONOMICS ORIENTATION. *First semester. 1 credit.*

History and development of home economics in the field of women's education; study of the different fields of home economics.

13:58. SELECTION OF HOUSE FURNISHINGS. *Second semester. 3 credits.*

The fundamental principles which contribute to a satisfactory selection and arrangement of home furnishings. Selection of floor coverings, wall and window treatments, lighting, furniture, household textiles, china, glassware, silver and accessories for the home in relation to styles of decoration, color, design and cost.

13:62. HOME MANAGEMENT. *Second semester. 3 credits.*

The home and its operation, functions and resources. Use of both human and material resources in the promotion of healthy family living. Consideration of time, energy and money management, purchase and use of household supplies and arrangement of supplies and equipment for efficient use.

13:65 CHILD DEVELOPMENT. *First semester 3 credits.*

A study of the physical, social, mental and emotional development of the child from infancy through 5 years of age. Two hours lecture, two hours laboratory.

UPPER COLLEGE

13:105. TAILORING. *First semester. 3 credits.*

Prerequisite, 23. This course develops the professional skill that goes into making a custom-made garment, through the construction of a wool suit, coat or ensemble with lining. The remodeling of one wool garment may be included as an extra problem. One hour lecture, four hours laboratory. Class limited to 12.

13:106. ADVANCED CLOTHING. *Second semester. 3 credits.*

Prerequisite, 23. Advanced problems in clothing design and construction. Creating new designs by use of basic patterns or draping on a dress form. Using paper and muslin for experimental work. The application of one new design in the construction of a spring dress is required. One hour lecture, four hours laboratory. Class limited to 12.

13:107. ADVANCED TEXTILES. *First semester. 3 credits.*

Prerequisite, 21. Primarily for students majoring in Clothing and Textiles or in Merchandising. A study in the economic, social, and health aspects of buying and caring for the family wardrobe, with emphasis on selecting ready-to-wear garments.

13:108. ADVANCED TEXTILES. *3 credits.*

A study of the construction, color and design of such materials as furs, laces, Oriental rugs, tapestries, brocades, India prints, etc.

13:115. EXPERIMENTAL COOKERY. *First semester. 3 credits.*

Introduction to techniques and methods used in experimental study of cooking. Group and individual experiments are used. One hour lecture, four hours laboratory.

13:117. HISTORIC COSTUME. *First semester. 3 credits.*

Prerequisite, Art 21. A study of costume from ancient times to the present day with emphasis on the influence of our present day styles, and the use of this information as a source of inspiration for creative designers today.

13:118. MEAL SERVICE AND DEMONSTRATION FOODS. *3 credits.*

Prerequisite, 46. Problems in time, labor, money and equipment in relation to planning, marketing, care of food, preparation and service of meals for the family group; appropriate forms of service for various types of meals; table etiquette. Experience in planning and giving short demonstrations. One hour lecture, four hours laboratory.

13:119. NUTRITION IN HEALTH. *First semester. 3 credits.*

Prerequisite, 45-56 and Chemistry 55. Composition, metabolism and physiological functions of the food stuffs. Nutritive requirements for individuals in different stages of development, and on various economic levels, social backgrounds and occupations, and results of dietary deficiencies are studied. Two hours lecture, two hours laboratory.

13:120. NUTRITION IN DISEASE. *Second semester. 3 credits.*

Prerequisite, 119. A study of the application of principles of normal nutrition to diet in disease. Practice is given in construction of diets for specific disease conditions. Two hours lecture, two hours laboratory.

13:121. FIELD WORK IN HOME ECONOMICS. *3 credits.*

A course providing for additional laboratory or apprentice experience in a specialized field of home economics. Open to seniors in home economics. One hour conference, six hours practice.

13:122. HOME MANAGEMENT RESIDENCE. 3 credits.

Six weeks residence in the home management house. Practical problems in management of time, energy, and money; experience in group living. Group limited to four each six weeks. Open to all upper college women, regardless of major field. Board and room minimum. Lab. fee.

13:212. INSTITUTIONAL MANAGEMENT. Second semester. 3 credits.

A discussion course in standards for good food service and the facts to be considered in food service; food purchasing, time, labor, material, cost, equipment, and goodwill.

13:215. HOUSEHOLD EQUIPMENT. First semester. 3 credits.

The selection, use and care of modern household equipment.

13:216. QUANTITY COOKERY. Second semester. 3 credits.

A laboratory course in preparation of all types of food, care of equipment and utensils, layout of different types of food preparation and service centers. Six hours laboratory and conference.

LATIN AND GREEK

Professor Duke

Although language and literature are by no means neglected, there is a constant archaeological emphasis in most of these courses. Considerable use is made of slides, photographs, maps and other illustrative material to demonstrate the many aspects of ancient life and thought. Concentration in the department may lead to teaching or to certain other professions such as archaeology or the ministry. Students from allied departments may add much to their preparation. In any case, some knowledge of the Classical world is indispensable for an adequate view of Western civilization.

Required courses for majors: Latin 43-44, Comparative Literature 61-62, and Archaeology 113-114.

Major: Twenty-four hours.

GREEK**11:21-22. ELEMENTARY GREEK. 4 credits each semester.**

No prerequisite. Grammar and reading.

Note: Second Year Greek, given on demand, may be taken as Individual Reading or Research 131-132.

11:61. COMPARATIVE LITERATURE. 3 credits.

No prerequisite. Study of the major Greek writers in translation, together with a consideration of their influence on later European literature.

11:99. CLASSICAL MYTHOLOGY. Second semester. 3 credits.

No prerequisite. The legends and folklore of Greece and Rome; their rebirth in later literature and art.

UPPER COLLEGE**11:113. GREEK ARCHAEOLOGY. 3 credits.**

No prerequisite. Daily life of the Greeks; their achievements in the arts and sciences. Archaeological aims and methods.

11:131-132. INDIVIDUAL READING OR RESEARCH. 1 to 3 credits each semester.

Prerequisites depend upon subject, which may be either in the languages or in archaeology.

LATIN

GENERAL COLLEGE

16:21-22. **ELEMENTARY LATIN. 4 credits each semester.**
No prerequisite. Grammar and reading.

16:43-44. **SECOND YEAR LATIN. 3 credits each semester.**
Prerequisite, 21-22, or two years of high school Latin. Inscriptions, Letters of Pliny, Selections from Vergil, or other material suited to needs or interests of students.

Note: In allowing credit to students who have had high school Latin, the practice of the Modern Language Department will be followed.

16:62. **COMPARATIVE LITERATURE. 3 credits each semester.**
No prerequisite. Study of the major Roman writers in translation, together with a consideration of their influence on later European literature.

UPPER COLLEGE

Note: Some of the following courses will be given each year, according to demand. Courses 103-111 require Latin 43-44 or equivalent as prerequisite.

16:103. **ROMAN SATIRISTS. 3 credits.**
Selections from Horace, Persius, Juvenal and Martial; lectures on the history of satire, both ancient and modern.

16:104. **ROMAN DRAMATISTS. 3 credits.**
Selected plays of Plautus, Terence and Seneca; lectures on the history of comedy and tragedy, with especial attention to stage antiquities.

16:105. **ROMAN HISTORIANS. 3 credits.**
Selections from Sallust, Livy and Tacitus; lectures on historiography and the philosophy of history.

16:106. **ROMAN PHILOSOPHICAL AND RELIGIOUS WRITERS. 3 credits.**
Selections from Lucretius, Cicero, Seneca and Boethius; lectures on the pagan syncretism and mystery religions.

16:107. **MEDIAEVAL LATIN WRITERS. 3 credits.**
Selections from St. Augustine or the other Fathers; the Goliards or other secular literature. Special attention to Church Latin. Letters of famous Humanists may be included.

16:108. **ROMAN LYRIC AND ELEGIAC POETS. 3 credits.**
Selections from Catullus, Horace, Ovid, Propertius and Tibullus.

16:111. **ROMAN NOVELISTS. 3 credits.**
Selections from Petronius and Apuleius; lectures on the Milesian tale and Alexandrian romance.

16:114. **ROMAN ARCHAEOLOGY. 3 credits.**
No prerequisite. The daily life of the Romans; their achievements in the arts and sciences. Archaeological aims and methods.

16:131-132. **INDIVIDUAL READING OR RESEARCH. 1 to 3 credits each semester.**
Prerequisites depend upon subject, which may be either in the languages or in archaeology.

MATHEMATICS

Professors Selby and Cherrington, Associate Professors Lipscombe and Mauch, Assistant Professors Tabler, Ross and Davis, Miss Orlinoff, Mr. Sweet

All students whose concentration is in the Division of Natural Science, except those in the Biological Sciences, must have taken in the General College, Mathematics 24 (or equivalent), 43, 45-46. Pre-medical students, however, must take 24 (or equivalent).

Students preparing to teach Mathematics, or who expect to take some engineering courses, must take Physics. French or German is advised as the foreign language.

Students majoring in Mathematics must take at least 24 hours of Mathematics. Included in these hours must be course 204, and at least two other 3-hour upper college courses. Algebra 18 and Numbers Communication 11 cannot be counted toward the major.

***17:18. INTERMEDIATE ALGEBRA. 3 credits.**

Prerequisite, one year high school algebra. Stresses basic fundamentals, factoring, radicals, exponents, equations, graphing, etc.

***17:24. COLLEGE ALGEBRA-TRIGONOMETRY. 4 credits.**

An integrated course of algebra through quadratics; progressions; variation; binomial theorem; theory of equations; determinants; logarithms, function concept; trigonometric functions of any angle; solution of triangle problems by right triangle, sine law, cosine law methods; radian measure; introduction to identities and formulas.

17:27. SPHERICAL TRIGONOMETRY. 2 credits.

Prerequisite, 24 (or equivalent). Study of right and oblique spherical triangles, and numerous applications to aviation and astronomy.

17:43. ANALYTIC GEOMETRY. 4 credits.

Prerequisite, 24 (or equivalent). This course shows how geometrical properties of curves and surfaces may be studied by the aid of algebra and various coordinate systems.

17:45. DIFFERENTIAL CALCULUS. 4 credits.

Prerequisite, 43. Theory of limits; development and use of differentiation formulas; use of derivative and differential in maxima and minima, time rates, curvature, motion, approximate error; expansion of functions in series; partial differentiation.

17:46. INTEGRAL CALCULUS. 4 credits.

Prerequisite, 45. Formal integration; definite integral application to areas, volumes, moments of inertia, centroids; approximation methods; multiple integral.

17:66. ASTRONOMY. 3 credits.

A study of the earth as a body in space, the other planets, the moon and other satellites, comets, meteorites, the solar system and its motions, the analysis of light, the sun and other stars, star clusters, nebulae, the Milky Way, external galaxies, the structure of the universe.

17:57. SOCIAL STATISTICS. 3 credits.

A review of basic mathematics coordinated with the fundamentals of statistics, including averages, measures of dispersion, normal curve, index numbers simple correlation and time series. Planned for students in the Social Science Division. Credit not given for both this course and for Statistics 148.

* Those planning to take either 18 or 24 must make a satisfactory score on a screening test which will be administered during orientation week in order to continue in course selected.

17:60. MATHEMATICS OF FINANCE. 3 credits.

Prerequisite, 18. Interest procedures, annuities, amortization, sinking funds, bonds, stocks, depreciation.

UPPER COLLEGE

17:104. HISTORY OF MATHEMATICS. 3 credits.

Prerequisite, 24 (or equivalent). The origin and development of the elementary mathematical ideas and processes.

17:121. MATHEMATICS OF INSURANCE. 2 credits.

Prerequisite, 60. Stresses formulas for finding life insurance premiums, valuation procedures, construction of mortality tables.

17:130. EMPIRICAL EQUATIONS AND NOMOGRAPHY. 3 credits.

Prerequisite, 43. Correlation of data involving either two or three variables by empirical methods. Nomographic methods for evaluation of empirical formulas.

17:201. ADVANCED CALCULUS. 3 credits.

Prerequisite, 46. Rigorous treatment of material covered in 45, 46; infinite series; infinite, multiple, line and surface integrals; maxima and minima of functions of several variables; partial differentiation, etc.

17:204. DIFFERENTIAL EQUATIONS. 3 credits.

Prerequisite, 46. Methods of forming and solving some important types of ordinary and partial differential equations, and their numerous applications in science.

17:205. THEORY OF EQUATIONS. 3 credits.

Prerequisite, 45. The study of complex numbers, cubic and quartic equations, numerical approximation to the roots, theorems of Sturm, Budan, and Descartes, determinants and matrices, simultaneous linear equations, symmetric functions, resultants, discriminants.

17:206. HIGHER GEOMETRY. 3 credits.

Prerequisite, 45. A continuation of 43; analytic geometry of space; topics in metric differential geometry will be introduced.

17:207. HIGHER ALGEBRA. 3 credits.

Prerequisite, 45. Mathematical induction, partial fractions, complex number system, binomial theorem, multinomial theorem, summation of series, limits, infinitesimals, convergency and divergency of series, power series, inequalities, continued fractions and applications to indeterminate equations, theory of numbers, probability, method of least squares.

17:208. VECTOR ANALYSIS. 3 credits.

Prerequisite, 46. Vector algebra, differential vector calculus integration with simple applications to problems in elementary geometry of two and three dimensions, differential geometry, mechanics, hydrodynamics and electrodynamics.

17:209. PROJECTIVE GEOMETRY. 2 credits.

Prerequisite, 206. Point sets on line, line pencils, line co-ordinates, homogeneous co-ordinates, transformations of planes, projective theory of conics, etc.

17:210. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. 3 credits.

Prerequisite, 201. Complex numbers, analytic functions, elementary functions of a complex variable, mapping and the geometry of elementary functions, theory of integrals, power series, residues and poles, conformal mapping.

17:211. PARTIAL DIFFERENTIAL EQUATIONS. 2 credits.

Prerequisite, 204. Partial differentiation and integration, Lagrange equations, linear partial differential equations, solution in series with emphasis on Bessel, Legendre and Fourier Series. Special emphasis will be made on the Laplace transform and its application to the solution of differential equations.

MODERN LANGUAGES

Professor Ittner, Associate Professors Internoscia and Glennen, Assistant Professors Chalfant and Leuca, Miss Hoffmaster

Major: At least 24 hours in one language.

Credit for college work in Modern Languages is indicated by the following table:

<i>High School Credits</i>	<i>Courses Entered in College</i>	<i>Credit Given</i>
1 unit	First year	Full credit
	Second year	Full credit
2 units	Second year	Full credit
	First year	Half credit
	Third year	Full credit
3 units	Second year	Half credit
	First year	No credit
4 units	Third year	Full credit
	Second year	No credit

GENERAL COLLEGE

8:21-22. **FIRST YEAR FRENCH. 4 credits each semester.**

Reading, speaking, writing and understanding French, with intensive drill in pronunciation. Short stories and simple plays are read. Outside reading.

8:43-44. **SECOND YEAR FRENCH. 3 credits each semester.**

Prerequisite, 21-22. Grammar review. Practice in reading, writing, and speaking French. Short stories, plays, novels on intermediate level. Outside readings.

10:21-22. **FIRST YEAR GERMAN. 4 credits each semester.**

Reading, speaking, and writing German.

10:43-44. **SECOND YEAR GERMAN. 3 credits each semester.**

Prerequisite, 21-22. Review of grammar; practice in reading, speaking, and writing German.

23:21-22. **FIRST YEAR SPANISH. 4 credits each semester.**

Pronunciation, dictation, elements of grammar, translation into English and into Spanish, and simple conversation. In the second semester comprehension and conversation are intensified and outside reading is begun.

23:43-44. **SECOND YEAR SPANISH. 3 credits each semester.**

Prerequisite, 21-22. Review of grammar, gradually intensified reading, translation and conversation. Independent reading of one novel each semester. In the second semester fluency in conversation is stressed.

UPPER COLLEGE

8:101-102. **THIRD YEAR FRENCH: THE FRENCH NOVEL. 2 credits each semester.**

Prerequisite, 44. A study of the French novel of the 19th Century with reading and class discussion in French of representative works.

8:103-104. **FRENCH COMPOSITION AND CONVERSATION. 2 credits each semester.**

Prerequisite, 44. Advanced composition using French models, special attention to words and idioms. Development of oral expression and conversational ability.

8:105. **FRENCH PHONETICS. First semester. 1 credit.**

Prerequisite, 44. Intensive drill in pronunciation with correction and improvement of student's accent. Emphasis on articulation and intonation by use of phonograph records and individual recordings made by student.

8:209 to 216. ADVANCED FRENCH. *3 credits each semester.*

Prerequisite, 102 or 104.

One of the following French courses is given each year :

8:209-210. NINETEENTH CENTURY DRAMA.

A study of the development and tendencies of the French drama during the 19th century and contemporary period.

8:211-212. SURVEY OF FRENCH LITERATURE.

A survey of French literature from the Middle Ages through the contemporary period. Reading and discussion of the most important works of major writers.

8:213-214. FRENCH LITERATURE OF THE EIGHTEENTH CENTURY.

A study of the literature of the 18th century with reading and discussion of the works of major writers.

8:215-216. HISTORY OF THE FRENCH NOVEL TO THE NINETEENTH CENTURY.

A study of the development and tendencies of the French novel during the 17th and 18th centuries.

10:101-102. GERMAN DAILY LIFE AND COMPOSITION. *3 credits each semester.*

Prerequisite, 44.

10:207 to 218. ADVANCED GERMAN. *3 credits each semester.*

Prerequisite, 44.

One of the following German courses is offered each year :

10:207-208. SCHILLER.

10:209-210. GOETHE.

10:211-212. SURVEY OF GERMAN LITERATURE.

10:213-214. MODERN GERMAN DRAMA.

10:215-216. FAUST.

10:217-218. SHORT STORY.

One of the following Spanish courses is offered each year :

23:103-104. APPLIED SPANISH. *3 credits each semester.*

Prerequisite, 44. Intensive reading of Spanish and Spanish-American stories, with class discussion in Spanish. Independent reading of several Spanish-American novels.

23:106. COMMERCIAL CORRESPONDENCE. *3 credits.*

Prerequisite, 44. Translation of business letters from Spanish into English and from English into Spanish, with attention to advertising, and the rubber industry.

23:207-208. MODERN SPANISH LITERATURE. *3 credits each semester.*

Prerequisite, 44.

23:209-210. SPANISH LITERATURE OF THE GOLDEN AGE AND EIGHTEENTH CENTURY (1550-1800). *3 credits each semester.*

Prerequisite, 44.

23:211-212. SURVEY OF SPANISH LITERATURE. *3 credits each semester.*

Prerequisite, 44. Study of representative Spanish authors and their contributions to literature. Much class discussion in Spanish.

231-232. INDIVIDUAL READING IN FRENCH, GERMAN, OR SPANISH.

1 to 3 credits each semester.

Prerequisite, permission.

MUSIC

*Professor Parman, Associate Professors Ende and Henry Smith,
Assistant Professor Witters, Mr. Stein, Mr. Lightfritz,
Miss Whittaker, Mrs. Mitchell, Mr. Heylman,
Mr. Broomall, Mr. Scarpitti, Mr. Paolucci*

Departmental requirements for the B.A. degree with a major in music:

The plan below shows the recommended sequence of required music courses. Other courses must include University requirements.

<i>First Year</i>		<i>Second Year</i>	
	Cr. Hrs.		Cr. Hrs.
Fundamentals of Music	2	Theory 41-42	10
Art of Music	2	String Class 55-56	2
Applied Music	2	Applied Music	2
Music Organization	2	Music Organization	2
<i>Third Year</i>		<i>Fourth Year</i>	
	Cr. Hrs.		Cr. Hrs.
Woodwind Class 57	1	Music Composition 111	2
Brass Class 58	1	Orchestration 114	2
History of Music 101-102	4	Music Criticism 201	2
Theory 103-104	6	Music Research 202	2
Music Organization	(2)	Applied Music	2
Conducting 110	2	Music Organization	(2)

Additional Requirements for Majors in Music: (1) All music majors are required to pass a general final examination in the Theory and History of Music in the second semester of the senior year, (2) Presentation of both Junior and Senior recitals is recommended.

Music Organizations: Enrollment in University Chorus, University Band, and University Symphony Orchestra is open to all students of the University. Membership in the University Singers is by audition and appointment. Not more than 4 credits for music organizations can apply toward graduation.

Applied Music: Not more than 8 credits in individual instruction may apply toward graduation for Liberal Arts students. Registration in individual instruction requires additional fees.

Day students who enroll for private lessons must carry at least 9 credits of academic work including private lessons; evening students must carry not less than a 3-credit load including private lessons.

ORGANIZATIONS

UNIVERSITY CHORUS. *2 hours a week. 1 credit per semester.*

A mixed chorus open to all students of the University. No auditions required.

UNIVERSITY SINGERS. *3 hours a week. 1 credit per semester.*

A mixed chorus, membership by appointment through audition. Numerous public performances are made throughout the year at various civic organizations, churches, broadcasting stations, and social groups, as well as public concerts.

UNIVERSITY SYMPHONY ORCHESTRA. *2 hours a week. 1 credit per semester.*

An organization devoted to the advanced study of orchestral literature. This organization gives a fall and spring concert and performs at special programs such as Christmas, Easter, and Commencement.

UNIVERSITY BAND. *1 credit per semester.*

The University Football Band is organized in the first semester and plays for all games. Rehearsals are on Monday, Wednesday, and Friday, from 4 to 6 p. m. at Buchtel Field. The University Concert Band functions only in the second semester. Study and performance of advanced literature for the band. Membership in the concert band only by permission of the band director.

THEORETICAL MUSIC

*GENERAL COLLEGE

- 18:22. **THE ART OF MUSIC. 2 credits.**
An introduction to the literature of music using recordings as illustrative material.
- 18:23. **FUNDAMENTALS OF MUSIC. 2 credits.**
A functional introduction to music, embracing notation, terminology, scale construction, simple melodic dictation and sightsinging, familiarity with the piano keyboard, and experience in singing part songs.
- 18:41. **THEORY I. 5 credits.**
Prerequisite, 23. A detailed study of scales, intervals, triads and chord formations through ear, eye, and keyboard. Advanced melodic dictation.
- 18:42. **THEORY II. 5 credits.**
Prerequisite, 41. A continuation of Theory I. Harmonic dictation.
- 18:55-56. **STRING CLASS. 1 credit each semester.**
Prerequisite, 23. Actual playing of string instruments with emphasis on the violin. Study of material and teaching techniques.
- 18:57. **WOODWIND CLASS. 1 credit.**
Prerequisite, 23. Actual playing of woodwind instruments with emphasis on the clarinet. Study of material and teaching techniques.
- 18:58. **BRASS CLASS. 1 credit.**
Prerequisite, 23. Actual playing of brass instruments with emphasis on the cornet. Material and teaching techniques; also rudimentary drumming.

*UPPER COLLEGE

- 18:101-102. **HISTORY OF MUSIC. 2 credits each semester.**
Prerequisite, 22. An historical resumé of the development of music from ancient to modern times, using recordings as illustrative material.
- 18:103. **THEORY III. 3 credits.**
Prerequisite, 42. Simple, two- and three-part modal and tonal counterpoint in the five species.
- 18:104. **THEORY IV. 3 credits.**
Prerequisite, 103. An analytical study of the forms employed in music, covering both the homophonic and polyphonic devices.
- 18:110. **CONDUCTING. 2 credits.**
Prerequisite, 23. The fundamentals of conducting technique and individual practice in conducting.
- 18:111. **COMPOSITION. 2 credits.**
Prerequisite, 104. Creative work based on the simple homophonic and polyphonic forms. Invention of melodies, their transformation and development with suitable accompaniment.
- 18:114. **ORCHESTRATION. 2 credits.**
Prerequisites, 55, 56, 57, 58, 103. A study of the theory of instrumentation for various ensembles from the small ensemble to the full band and orchestra arrangements. Reduction of an orchestra score to piano.
- 18:116. **ADVANCED CONDUCTING. 2 credits.**
Prerequisites, 110, 114. Baton technique; practice in reading and interpretation of scores. Organization of the orchestra and band. Problems in programming. Actual practice conducting university ensembles.

*Other Music courses are listed in the College of Education section.

18:201. MUSIC CRITICISM. *2 credits.*

Prerequisites, 101-102 and Philosophy 111. An introduction to musicology, stressing a study of comparative values. To be taken in senior year.

18:202. RESEARCH. *2 credits.*

Prerequisite, 201. A study of special problems in the theory and history of music; open only to advanced undergraduates.

PHILOSOPHY

Associate Professor Lafleur

Students majoring in Philosophy are required to take Philosophy 103, 104 and enough other work in Philosophy to total at least 24 hours.

GENERAL COLLEGE

19:55. INTRODUCTION TO PHILOSOPHY. *Either semester. 3 credits.*

A survey of the fields of philosophy—logic, metaphysics and ethics—and of their relations to problems in science, religion and every day life.

19:56. INTRODUCTION TO LOGIC. *Second semester. 3 credits.*

A systematic study of the rules of correct reasoning and of their applications to scientific inquiry and to problems of everyday life. Includes investigation of deductive and inductive inference, problems of meaning, definition and fallacies.

19:57. ETHICS. *First semester. 3 credits.*

Examination of the problems of moral conduct beginning with an historical survey of theories of value and moral obligation and ending with a systematic inquiry into the contemporary ethical crisis and its relation to a democratic way of life.

19:58. PHILOSOPHY OF RELIGION. *3 credits.*

A critical analysis of the basic problems of theology and religion. Prerequisite, 55 or permission.

19:59. COMPARATIVE RELIGION. *3 credits.*

An examination of the basic beliefs and practices of primitive religions and the religions of the East. Not open to students who have had History of Religion 61 in 1952 or earlier.

19:61. HISTORY OF WESTERN RELIGION. *First semester. 3 credits.*

An examination of the development of religious ideas in the Judaeo-Christian tradition. Not open to students who have had Comparative Religion 59 in 1951 or earlier.

UPPER COLLEGE

19:103-104. HISTORY OF PHILOSOPHY. *3 credits each semester.*

The history of western thought including its connections with scientific, religious, social and political circumstances from ancient Greece to contemporary times. First semester: Pre-Platonic philosophers, Plato, Aristotle, Epicureans, Stoics and the Scholastics. Second semester: Descartes, Spinoza, Leibniz, the English empiricists, Kant and his successors. Open to sophomores with approval of adviser.

19:111. AESTHETICS. *3 credits.*

A study of the nature of art, beauty, and the aesthetic experience.

19:112. PHILOSOPHY OF ART. *3 credits.*

An examination into the divisions and classifications of art, and the application of the principles of aesthetics to the several arts. Prerequisite, 111 or permission.

19:129. SYMBOLIC LOGIC. 3 credits.

An introduction to mathematical logic. Study of propositional and class logic and also of elementary logico-mathematical problems. Prerequisite, 56 or permission.

19:158. ADVANCED ETHICS. 3 credits.

A continuation of the examination of ethical principles. Prerequisite, 57 or permission.

19:221-222. PROBLEMS OF PHILOSOPHY. 3 credits each semester.**19:224. CONTEMPORARY PHILOSOPHY. 3 credits.**

Survey of nineteenth and twentieth century philosophy. Prerequisites, 103-104 or permission.

19:229. THEORY OF KNOWLEDGE. 3 credits.

An examination of the nature of knowledge and of the nature and criteria of truth. Prerequisite, 103-104 or permission.

19:241. PHILOSOPHY OF SCIENCE. 3 credits.

An examination of the origin, development and influence of the principles and presuppositions of science. Prerequisite, approval by the instructor, based on a background in both philosophy and science.

19:242. PROBLEMS OF SCIENCE. 3 credits.

An examination of the implications of contemporary science for philosophy, and the implications of contemporary philosophy for science. Prerequisite, 241.

PHYSICS

*Professor Thackeray, Associate Professor Fouts,
Assistant Professor Johnson*

Work in the Physics department gives students who wish to major in Physics a general knowledge of the fundamentals in Physics 51, 52, 53 with a series of advanced courses to follow, such as 201, 202, 204, 205, 209-210. Courses 51, 52, 53 will supply the information needed for a minor for students in Chemistry, Mathematics and Education; these courses require no mathematics beyond the Freshman year. Courses 31, 32 are for Engineering students or others who are interested primarily in the applications of Physics.

The major requirements are a minimum of 28 credits in Physics, Mathematics through calculus and at least three semesters of Chemistry, in addition to the general requirements of all students who plan to take the Bachelor's degree. Those students who do not plan to go beyond the Bachelor's degree but are preparing for laboratory work in industry may, on consultation with the Dean and the Head of the Department, substitute Engineering courses for the foreign language. All majors will be required to elect one course in Organic Chemistry, if the schedule permits.

GENERAL COLLEGE

20:31. MECHANICS, HEAT AND SOUND. 5 credits.*

This is the first course in physics for engineering students. The course covers the fundamental principles of mechanics, heat and sound from an engineering point of view. Engineering units will be emphasized and the problems will deal with engineering applications. Calculus 45 must be taken concurrently. Four recitation and one laboratory period each week.

*The laboratory work in these courses is integrated with classroom work. No separate credit is given for the class work or the laboratory work.

20:32. ELECTRICITY, MAGNETISM, LIGHT AND MODERN PHYSICS.

*5 credits.**

This is the second course in physics for engineering students. It covers the fundamental principles of electricity, magnetism, light and modern physics from an engineering point of view. Physics 31 is a prerequisite and Calculus 46 is to be taken concurrently. Four recitation and one laboratory period each week.

20:51-52. GENERAL PHYSICS. *4 credits each semester.**

A general survey of mechanics, heat, electricity and magnetism. No mathematics beyond that taken in the high school is required. It is a prerequisite for all later courses in physics. Three lectures and one laboratory period per week.

20:53. SOUND AND LIGHT. *4 credits.**

The properties of a wave motion will be briefly studied. This leads directly to the field of sound. The course will deal in an elementary way with geometric and physical optics. Students need Sophomore mathematics and Physics 52. Three lectures and one laboratory period per week.

UPPER COLLEGE :

20:150. MODERN PHYSICS. *2 credits recitation.*

The developments in physics since 1890 with special reference to the atom and its nucleus. The course will emphasize the nucleus as a source of energy. This course is not open to physics majors. Prerequisites: Physics 32 or 53 and Math 46.

20:201. ELECTRICITY AND MAGNETISM. *4 credits.*

Magnetostatics, electrostatics, dielectrics, electrical images, atmospheric electricity, the electric circuit, the effects, measurement and production of the steady unidirectional electric currents, and the measurement of electrical quantities. Laboratory work is primarily concerned with the theory and use of electrical measuring instruments. Three recitations and one laboratory period per week. Prerequisite, 53 and calculus.

20:202. ELECTRICITY AND MAGNETISM. *4 credits.*

Continuation of 201, beginning with currents in inductive circuits. Inductance and capacitance and their effect on alternating and intermittent currents, transmission of power, generators, transformers, motors form the principle part of the work. Electromagnetic waves and thermoelectric phenomena complete the course. Prerequisite, Physics 201. Three recitations and one laboratory period per week.

20:204. INTRODUCTION TO ATOMIC PHYSICS. *3 credits.*

A review of the revolutionary discoveries in physics made since 1890. Prerequisites, calculus and optics.

20:205. MECHANICS AND SOUND. *3 credits.*

An intermediate course in mechanics and sound. Prerequisites, calculus and Physics 52.

20:209-210. PHYSICS MEASUREMENTS. *2 credits each semester.*

A laboratory course in advanced physics measurements involving advanced laboratory technics. A thesis course.

20:221-222. COLLOQUIUM. *1 credit each semester.*

*The laboratory work in these courses is integrated with classroom work. No separate credit is given for the class work or the laboratory work.

GRADUATE COURSES

- 20:301. SELECTED TOPICS IN THEORETICAL PHYSICS. *3 credits.*
Prerequisites, Physics 201, 204, and Calculus 46, and Differential equations.
- 20:304. ELECTRIC CURRENTS THROUGH GASES. *3 credits.*
Electric currents in gases and vacuum tubes. The relation of current intensity to gaseous pressure and the characteristics of the more important vacuum tube circuits. A foundation course for future work in electronics.
- 20:304L. LABORATORY. *1 credit.*
A series of experiments involving the use of electron tubes and electric circuits to accompany or follow 304.
- 20:306. PHYSICAL OPTICS. *3 credits.*
An advanced course in the physical theory of light including the development of the wave theory and the wave mechanics. Interference, diffraction, and polarization are emphasized.
- 20:306L. LABORATORY. *1 credit.*
Laboratory exercises in interference, diffraction, and polarization to accompany or follow 306.
- 20:307. ELECTRODYNAMICS. *3 credits.*
The mathematical theory of the electric field based on Maxwell's equations. Application and more recent findings of the wave mechanics, to electric communication problems will form the nucleus of the course.
- 20:308. NUCLEAR PHYSICS. *3 credits.*
A study of the structure of the nucleus and modern methods of transmutation, with their application to biophysics and chemical physics.
- 20:309-310. ADVANCED PHYSICAL MEASUREMENTS.
A graduate thesis course. Credit according to work done. Usually about 2 credits per semester.
- 20:311-312. THERMODYNAMICS. *3 credits each semester.*
A mathematical course covering the principles of thermodynamics and their physical applications.
- 20:314. X-RAYS. *3 credits.*
A course in the theory and applications of X-rays to physical and chemical problems. Use of X-ray camera and interpretation of X-ray photographs.
- 20:314L. LABORATORY. *1 credit.*
Laboratory practice in X-ray work to accompany or follow 314.
- 20:351. ATOMIC SPECTRA. *3 credits.*
Atomic spectra and their relation to the structure of matter. A study of simple line spectra and the development of theory, followed by complex spectra dealing with the fine structure of lines. Prerequisites, Physics 53 and 204.
- 20:352. MOLECULAR SPECTRA. *3 credits.*
Deals with the experimental evidence from molecular bands and the development of theory based on this evidence. It will examine rotational, vibrational and electronic bands. The Raman effect, the Isotopic effect and the question of intensity will be discussed. Methods of determining the molecular constants from wave number measurements will be studied. Prerequisite, Physics 251.

POLITICAL SCIENCE

*Professor Sherman, Associate Professor King,
Mr. Hardenbergh*

Students majoring in political science should have at least 24 hours in the field of political science. Students preparing to teach will find that the State Department of Education considers political science and history as one subject major or minor.

Prerequisites: At least three hours of political science in the General College are required.

GENERAL COLLEGE

21:41. AMERICAN NATIONAL GOVERNMENT. *Either semester. 3 credits.*

The Constitution, its distribution of powers, the President, the Congress, the courts and the great administrative organization in its contacts with the citizen.

21:42. AMERICAN STATE AND LOCAL GOVERNMENT. *Either semester. 3 credits.*

A study of the forty-eight states and many county governments, with particular emphasis on Ohio government.

21:43. COMPARATIVE GOVERNMENT. *Either semester. 3 credits.*

Emphasis is placed on the government of England. Other governmental systems are compared with England and with each other.

21:44. AMERICAN DIPLOMACY. *Either semester. 3 credits.*

Analyzes machinery by which the United States conducts its foreign relations and the varying policies adopted toward different major areas of the world.

UPPER COLLEGE

21:101. MUNICIPAL GOVERNMENT. *First semester. 3 credits.*

The development, composition, and governmental organization of American city life.

21:102. MUNICIPAL ADMINISTRATION. *Second semester. 3 credits.*

The organization of city government for performing services to the public, such as police protection, supervised playgrounds, parks, etc.

21:103. POLITICAL PARTIES. *First semester. 3 credits.*

Their development, organization, functions, and machinery in U.S.A.

21:108. PARLIAMENTARY LAW AND LEGISLATIVE PROCEDURE.

Second semester. 3 credits.

A drill course in parliamentary procedure, and a study of modern legislative procedure.

21:109. GOVERNMENT AND SOCIAL WELFARE. *First semester. 3 credits.*

A study of the part government has come to play in the social welfare field.

21:110. GOVERNMENT AND BUSINESS. *Second semester. 3 credits.*

The relationships of government with business.

21:111. INTERNATIONAL ORGANIZATION. *3 credits.*

A study of the United Nations, including previous institutions in world government.

21:117-118. POLITICAL THEORY. *3 credits each semester.*

Political thinking from Plato to the seventeenth century; the second semester continues to the present day with emphasis on American political thought.

- 21 :205. CONSTITUTIONAL LAW. *First semester. 3 credits.*
The Constitution and the American government in terms of Supreme Court decisions.
- 21 :206. MUNICIPAL CORPORATIONS. *Second semester. 3 credits.*
The American city from the legal point of view.
- 21 :207. MUNICIPAL FINANCE. *Second semester. 2 credits.*
Municipal budgets, purchasing of materials, sources of municipal revenue, and problems of real estate tax.
- 21 :211. INTERNATIONAL RELATIONS. *First semester. 3 credits.*
Nation-wide relationships; power politics; the balancing of power; specific foreign policies; economics, cultural, and geographical factors which exert influence.
- 21 :212. INTERNATIONAL LAW. *Second semester. 3 credits.*
The established rules, practices, and conventions governing the relations of the several national states and their citizens in their relationship with one another.
- 21 :213-214. PUBLIC ADMINISTRATION. *3 credits each semester.*
The principles of administrative organization; personnel recruitment; sound budget organization and procedure; public reporting and public relations.
- 21 :216. WORLD POLITICS. *Second semester. 3 credits.*
Politics among nations, analyzing its elements and nature, and appraising the struggle of sovereign states for power and peace in our time.
- 21 :217-218. FIELD WORK IN PUBLIC ADMINISTRATION. *3 credits each semester.*
Open only to senior majors with six hours of public administration.
- 21 :220. ADMINISTRATIVE LAW. *Second semester. 3 credits.*
The rights of a citizen before government agencies and the rights and duties of the public official; the customary procedures of government agencies and the legal recourse of both agency and citizen in accomplishing their objective.
- 21 :298. SEMINAR IN POLITICAL SCIENCE. *Second semester. 2 credits.*
Required for senior majors planning Graduate Work.
- 21 :301. READINGS IN WORLD AFFAIRS. *1 to 3 credits.*
- 21 :302. READINGS IN PUBLIC ADMINISTRATION. *1 to 3 credits.*
- 21 :303. READINGS IN POLITICS AND PUBLIC AFFAIRS. *1 to 3 credits.*
Not more than 6 credits may be earned in reading courses.
- 21 :401. RESEARCH AND THESIS IN POLITICAL SCIENCE. *1 to 3 credits.*

PSYCHOLOGY

Professor Twining, Associate Professors Alven and Hampton, Assistant Professor Hoover, Mr. Tougas, Mr. Woodward, Mr. Becker, Mr. Cacioppo, Mr. Ireland. Mrs. Nye, Mr. Werner

The courses are described under Psychology in the College of Education section of the catalog. Students majoring in Psychology are expected to take at least 24 credits in Psychology. Psychology 41 is required in the General College. Psychology 47 is required of Majors and should be taken shortly after 41, and before the required course in Social Statistics 57. Senior Majors must take Psychology 216. Recommended courses in the General College are Psychology 43, Social Science, Biology, Business Organization and Management 61, Philosophy, English and Speech.

All Liberal Arts College requirements for graduation apply to students who major in Psychology, including the requirements of the second year of a foreign language on the college level.

SOCIOLOGY

Professor Rogler, Associate Professor Newman, Assistant Professor Bjork, Mr. DeGraff, Professor Emeritus

Sociology 41 is prerequisite to all Upper College courses in the department, but in exceptional cases this requirement may be waived by the department head.

A course in statistics is required of all majors (Mathematics 57 meets this requirement).

Majors are required to take 24 hours in Sociology, which must include 41 and 42 in the General College, and the following Upper College courses: 109-110, 206, 215, 216. Additional courses for the requirement are selected with special reference to the needs of the individual student.

Students emphasizing social welfare work as their field of concentration are required to take 111-112 and other courses to be selected in consultation with the department head.

GENERAL COLLEGE

22:23. INTRODUCTION TO SOCIOLOGY (For Nurses). *3 credits.*

This course treats of personal adjustment of nurse to patient, patient to nurse, and the nurse's relationship to the community.

22:41. GENERAL SOCIOLOGY. *3 credits.*

A study of the origin, development, structure, and function of social groups.

22:42. SOCIAL ATTITUDES. *3 credits.*

Prerequisite, 41. The development of a person and personality, emphasizing the processes by which such are developed as a function of the social group.

22:43. MODERN SOCIAL PROBLEMS. *3 credits.*

A presentation of social problems from the sociological point of view.

22:45. SOCIAL ANTHROPOLOGY. *3 credits.*

An elementary course dealing with the fundamental concepts of our cultural heritage.

UPPER COLLEGE

22:104. LEADERSHIP. *2 credits.*

An interpretation of leaders and leadership with emphasis upon problems, techniques, and processes of the same.

22:109-110. SEMINAR AND THESIS. *2 credits each semester.*

For seniors only. Required of majors. A study of research techniques and preparation of a research paper.

22:111-112. FIELD WORK. *3 credits for 150 hours of work at a recognized agency or institution.*

Intended primarily for students interested in welfare or group work. Seniors only. Two semesters recommended.

22:113. URBAN-RURAL SOCIOLOGY. *2 credits.*

A comparison and analysis of urban and rural life.

22:114. CRIMINOLOGY. *3 credits.*

A general background course for delinquency and penology. Cause, treatment, and prevention of crime.

22:117. CHILD WELFARE. *3 credits.*

A study of the relation and responsibility of the state and community to the child.

22:202. COLLECTIVE BEHAVIOR. *3 credits.*

A study of group behavior in the early stages of social movements, including such topics as crowds, mobs, crazes, booms, panics, revolutions, etc.

22:204. THE FAMILY. 3 credits.

A presentation of the family as a group of interacting personalities.

22:206. COMMUNITY ORGANIZATION. 3 credits.

A practical study of the social, religious, educational, relief, and character building agencies of a community. Required of majors.

22:210. POPULATION MOVEMENTS. 3 credits.

Present movements of population as in-migration, refugee, urban and rural, with their sociological implications.

22:213. THE JUVENILE DELINQUENT. 3 credits.

A study of the delinquent as a person. Emphasis upon causes, treatment and prevention.

22:215. SOCIAL THEORY. 3 credits.

Analysis of theoretical basis of modern thoughts, institutions, and organizations. Required of majors. Seniors and graduates.

22:216. SOCIAL INSTITUTIONS. 3 credits.

Analysis of the origin of social institutions, organizations, and systems of social thought. Required of majors. Seniors and graduates.

22:217. RACE RELATIONS. 3 credits.

A study of minority groups with emphasis upon the sociological interpretation of relationships between dominant and minority groups.

22:219-220. COMMUNITY SOCIAL STUDIES. 3 credits each semester.

Analysis of community problems based upon research with reference to Census Tract Maps.

22:221. SOCIAL CONTROL. 3 credits.

A consideration of the foundations, means and techniques for controlling social behavior.

SPEECH

*Professor Sandefur, Associate Professor Varian, Assistant Professors
Hittle, Dunlap and Alusow, Mr. Balanoff, Mrs. Gemberling,
Mr. Jones, Mrs. Hartenstein*

The courses in the Department of Speech provide education in the fundamentals of speech, including social adaptation and control, public address, and personal proficiency. Students are trained in one or more of the following fields: public speaking, argumentation and debate, acting and dramatic production, interpretation, radio and television speaking, and speech correction. Since Upper College work in speech embraces these fields, the student should elect a program in General College that will apply directly to the specific interests in the field of speech which he proposes to follow in Upper College.

Major: A minimum of 24 hours in speech. The following courses are required: 41, 51, 271, 272, 290, 293, and either 291 or 292. Students are expected to take at least one course in each area of the speech field.

Suggested Electives: Any General College speech courses, the basic courses in the social sciences and psychology, Shakespeare 41, Appreciation of Drama 50, Design 21, Art Appreciation 29-30, History of Music 101-102.

The University Theatre: The University Theatre provides excellent facilities for training students in acting and dramatic production. Five full length plays are staged each year.

Forensic Activities: The Department of Speech sponsors a University Debate Team and supervises a program of intramural and intercollegiate debates.

The Speech and Hearing Clinic: The clinic, which is available to all citizens of Akron, provides guidance and assistance in the diagnosis and treatment of all kinds of voice and speech disorders. Remedial treatment is offered to a limited number. Advanced students assist with the work of the clinic.

Radio Broadcasting Studio: Training is provided in announcing, writing, and performing for the radio and television. Practical training is offered through the facilities of local radio and television stations.

Speakers' Bureau: The Speech Department supervises a Speakers' Bureau for the convenience of the residents of Akron and for training of its students. Speakers, debaters, readers, and discussion panels are available to local groups. Occasionally a one-act play can be provided.

Ashton Public Speaking Contests: Several prizes are available each year to the winners of the public speaking contests and the interpretation contest. The contests are open to all students in the University.

GENERAL COLLEGE

24:41. PUBLIC SPEAKING. *Either semester. 3 credits.*

A beginning course designed to provide instruction in the essentials of effective general speech, and to improve oral communication.

24:42. ADVANCED PUBLIC SPEAKING. *Either semester. 3 credits.*

Prerequisite, 41. An advanced course for those who wish to develop skill in direct public address.

24:45-46. ORAL ARGUMENT. *2 credits each semester.*

A study of the theory of argument. Analysis of the logical processes in the speech situation. Practice in argument and discussion.

24:47. BUSINESS AND PROFESSIONAL SPEAKING. *Either semester. 2 credits.*

An adaptation of the speech skills to business and professional life. Practice in conference, discussion, and types of speeches.

24:48. ADVANCED BUSINESS AND PROFESSIONAL SPEAKING. *Either semester. 2 credits.*

Prerequisite, 47.

24:51. READING ALOUD. *Either semester. 3 credits.*

A basic course to provide experience in the oral interpretation of the printed page.

24:52. ADVANCED INTERPRETATION. *3 credits.*

Prerequisite, 51. Further practice in reading aloud. Program building in reference to specific audiences and specific types of literature.

24:53. INTRODUCTION TO THE THEATRE. *3 credits.*

A beginning course in theatre arts designed to acquaint the student with a background for the study of modern theatre practice.

24:54. VOICE AND ARTICULATION. *2 credits.*

A basic course in voice training designed to provide practice in the correct production of speech sounds.

24:56. PUBLIC DISCUSSION AND GROUP PROCEDURE. *Second semester. 3 credits.*

Prerequisite, permission. The technique of discussion in terms of the skills of the effective discussion leader and effective discussion-participant. Practice in various types of discussion.

24:57-58. INTERCOLLEGIATE DEBATE. *1 or 2 credits each semester.*

The nature of argument in its application to a particular question debated among universities and colleges each year. A group is selected to comprise the University Debate Team which fulfills intercollegiate engagements.

24:76. FUNDAMENTALS OF SPEECH. *Either semester. 3 credits.*

For students in the College of Education. Effective speaking for the classroom teacher with emphasis upon organization, delivery, voice, and articulation. Introduction to the problems of the speech handicapped school child.

24:81. RADIO SPEAKING. *3 credits.*

Prerequisite, 51. A beginning course in radio speaking to provide instruction in microphone technique and announcing.

UPPER COLLEGE

24:114. TEACHING OF SPEECH. *Second semester. 2 credits.*

A course in teaching methods to improve the speech of the elementary and secondary school child.

24:161. PLAY PRODUCTION. *First semester. 3 credits.*

An introduction to play direction and stage design. Scenery construction, stage lighting, make-up, and theatre management.

24:162. ADVANCED PLAY PRODUCTION. *Second semester. 3 credits.*

Prerequisite, 161.

24:163-164. ACTING. *3 credits each semester.*

Prerequisite, 51. A detailed study of the actor's resources, stage practice, gesture, movement, timing and pointing of lines, sustaining emotional scenes, effective characterization, and styles in acting.

24:167. HISTORY OF THE THEATRE. *First semester. 3 credits.*

An historical survey of modes and manners in the theatre from ancient times to the present day. Styles in acting, scene design, stage construction, stage lighting, and drama.

24:181. RADIO PRODUCTION. *3 credits.*

Prerequisite, 51, 81. A study of the technique and the performance of radio broadcasting. Practice in dramatic production for the radio.

24:204. SPEECH PHONETICS. *Second semester. 2 credits.*

24:271-272. SPEECH CORRECTION. *3 credits each semester.*

First semester: etiology of speech disorders; second semester: principles of speech therapy.

24:273-274. CLINICAL PRACTICE IN SPEECH CORRECTION. *1 credit each semester.*

This course provides the student with practice in clinical therapy and should be taken concurrently with Speech Correction 271-272.

24:287. ADVANCED RADIO WRITING AND PRODUCTION. *3 credits.*

Practical experience in writing and adapting for radio. Opportunity is provided for performance from the University studio over one of the local stations.

24:290. DEVELOPMENT OF RHETORICAL THEORY. *2 credits.*

A study of the principles of speech making from the time of Plato and Aristotle to the present.

24:291-292. SPEECH CRITICISM. *2 credits each semester.*

In the first semester, a rhetorical criticism of speeches by Fox, Pitt, Burke, and contemporary British speakers; second semester, a rhetorical criticism of speeches by Webster, Clay, Calhoun, and contemporary American speakers.

24:293. SPEECH SEMINAR. *Second semester. 2 credits.*

24:393. RESEARCH. *Either semester. 1 to 3 credits.*

THE COLLEGE OF ENGINEERING

R. D. LANDON, C.E., M.S., Dean
E. K. HAMLEN, M.E., Coordinator

The College of Engineering was established in 1914. Because of the magnitude and diversity of industrial development in the Akron area, the advantages of the cooperative plan were apparent. Accordingly, a five-year course, similar to that originated at the University of Cincinnati by the late Dean Herman Schneider, was developed by Dr. Fred E. Ayer, first dean of the College and a pioneer in cooperative engineering education.

All graduating classes followed the cooperative plan until in 1942 the accelerated curriculum was adopted as a temporary expedient to aid the war effort. Instruction on the cooperative plan was resumed in September, 1947.

ADVISORY COMMITTEE

Mr. Russell DeYoung, Vice President in Charge of Production, Goodyear Tire and Rubber Company.

Mr. J. Earl Gulick, Vice President of Manufacturing, Tire and Equipment Division, The B. F. Goodrich Company.

Mr. Wendell R. LaDue, Chief Engineer and Superintendent, Water Department, City of Akron.

Mr. Vern Oldham, Patent Lawyer, Oldham and Oldham.

Mr. Francis W. Stafford, Consulting Engineer.

Mr. Ernest S. Theiss, Chief Engineer, Davey Compressor Company, Kent, Ohio.

Mr. H. H. Waters, Director of Engineering, Firestone Tire and Rubber Company.

THE COOPERATIVE PLAN

The cooperative plan provides for a coordinated sequence of alternate periods of classroom instruction and industrial employment. During the cooperative phase of the five-year course, the student body is divided into two equal groups, Sections A and B. While those in Section A attend classes for the first period, the students in Section B are employed in industry. During the second period those in Section A report for industrial employment and the students in Section B attend classes. This schedule of alternation continues throughout the calendar year. By pairing a student in Section A with an alternate in Section B and by deducting vacations from school periods, employers are assured that one of each pair will be on duty in industry every working day of the year.

The cooperative plan provides simultaneously for the development of fundamental principles in the classroom and for their application in industrial practice. The cooperative student has the opportunity to find the type of work and industrial organization in which he can best apply his individual ability. He gains an appreciation of the problems of labor

and management by first-hand experience. He develops mature judgment by coping with the everyday problems of the industrial world. The employer of cooperative students has the opportunity to select and train students whose abilities and aptitudes can be adapted to the needs of his technical staff requirements.

At The University of Akron, engineering students attend classes full time for two semesters during the first year and for two and one-half semesters during the second year. At the beginning of the third year, students alternate classroom instruction with industrial employment in periods of one-half semester. The cooperative phase extends through the third, fourth and first half of the fifth years. At that time, all students return to classes for a final semester before graduation.

While students are at work, they are required to obey all rules and regulations prescribed by the employer. In addition, they are subject to all current labor laws and conditions.

The University does not guarantee employment, but makes every effort to place students to the best financial advantage that is consistent with the acquisition of sound sub-professional experience.

THE ENGINEERING SCHEDULE

FRESHMAN YEAR

(Full Time)

First Semester	Second Semester
(Fall)	(Spring)

SOPHOMORE YEAR

(Full Time)

First Semester	Second Semester	Third Term*
(Fall)	(Spring)	(Summer)

PRE-JUNIOR YEAR

(Cooperative)

	First Semester	Second Semester	Third Term
	(Fall)	(Spring)	(Summer)
Section A	School (1)* Work (1)	School (2) Work (2)	School (3)
Section B	Work (1)* School (1)	Work (2) School (2)	Work (3)

JUNIOR YEAR

(Cooperative)

	First Semester	Second Semester	Third Term
	(Fall)	(Spring)	(Summer)
Section A	Work (3) School (4)	Work (4) School (5)	Work (5)
Section B	School (3) Work (4)	School (4) Work (5)	School (5)

SENIOR YEAR

(Cooperative)

(Full Time)

	First Semester	Second Semester
	(Fall)	(Spring)
Section A	School (6) Work (6)	
Section B	Work (6) School (6)	

*All third terms and all cooperative school and work periods are of one-half semester duration.

CURRICULA AND DEGREES

The College of Engineering offers curricula on the cooperative plan in Civil, Electrical, and Mechanical Engineering with an Industrial Option in Mechanical Engineering. The degrees conferred are Bachelor of Civil Engineering, Bachelor of Electrical Engineering and Bachelor of Mechanical Engineering.

It is the aim of this College to provide basic training for effective living in a modern society as well as to provide the fundamentals necessary for a career in engineering. Since the fundamentals in all branches of engineering are identical, the program for the first two years is the same for all students. Upon satisfactory completion of this phase of the curricula, students select their field of specialization and are promoted to the Upper College department of their choice.

Since the cooperative phase of the curricula begins in the third year, it is necessary that all students complete the work of the first two years before they are eligible for placement on cooperative work assignments. Students who are unable to carry the courses as scheduled should allow extra time, probably one year, for completion of the requirements for graduation.

PRE-ENGINEERING CURRICULA

The College of Engineering offers two-year pre-engineering curricula in the fields of Aeronautical, Chemical, and Metallurgical Engineering. Individual programs will be developed in order to prepare the student to enter the degree granting college of his choice.

ADMISSION REQUIREMENTS

The admission of any student to The University of Akron will depend upon the evidences of his preparation and ability to do college work in a satisfactory manner. The evidences are: (1) graduation from an accredited four-year secondary school or its equivalent; (2) quality of work done in the secondary school; (3) ranking in certain tests given by the University to determine preparation, ability and aptitudes; (4) attitude toward college work.

Any student applying for admission is expected to have an adequate background in both oral and written English. In addition to the general requirements for admission to the University, any student applying for admission in Engineering is required to present the following secondary school credits:

Algebra 1½ units	Plane Geometry 1 unit
Solid Geometry or Trigonometry ½ unit	
Chemistry or Physics 1 unit	

It is strongly recommended that any applicant in Engineering present additional credits in mathematics and physical science.

Since the Engineering curricula have been designed to operate on an annual rather than on a semester basis, beginning students are regularly admitted only in September. In special cases, admission may be granted in February.

All beginning students will register in the General College. Those admitted in Engineering will be eligible for transfer to the College of Engineering after satisfactory completion of the first semester Engineering schedule.

ADMISSION FROM OTHER COLLEGES

Applicants with college credits earned at other accredited colleges may be eligible for admission to the College of Engineering provided the quality of work completed meets the scholastic requirements of the University and such applicants are eligible to re-enter the institution of last attendance.

Because of the nature of the cooperative course, applicants from other colleges should plan to enter the College of Engineering not later than the beginning of the sophomore year.

REQUIREMENTS FOR GRADUATION

A candidate for the Bachelor's degree must fulfill the following requirements: (1) earn credit in all of the required courses listed in the schedule, (2) accumulate at least 159 credits, (3) earn a quality point ratio of at least 2 in his departmental courses as well as in total credits and (4) complete six cooperative work periods satisfactorily.

FEES AND OTHER EXPENSES

Information on all expenses is listed in the General Information section of the catalog.

SCHEDULE OF REQUIRED COURSES*

FRESHMAN YEAR

(Full Time)

FIRST SEMESTER (Fall)				SECOND SEMESTER (Spring)			
	Rec.	Lab.	Cr.		Rec.	Lab.	Cr.
17:24 Algebra-Trig.	4	0	4	17:43 Anal. Geometry	4	0	4
5:27 Chemistry	3	3	4	5:28 Chemistry	3	3	4
33:25 Engr. Drawing	1	6	3	33:43 Desc. Geometry	1	5	3
33:23 Survey of Engr.	1	0	0	1:2 Written English	3	0	3
1:19 Personal Development ..	2	0	2	1:6 Effective Spkg.	2	0	2
1:1 Written English	3	0	3	ROTC	2	1	1½
ROTC	2	1	1½	1:22 Phys. Ed.	0	2	½
1:21 Phys. Ed.	0	2	½				
	16	12	18		15	11	18

SOPHOMORE YEAR

(Full Time)

FIRST SEMESTER (Fall)				SECOND SEMESTER (Spring)			
	Rec.	Lab.	Cr.		Rec.	Lab.	Cr.
17:45 Diff. Calculus	4	0	4	17:46 Int. Calculus	4	0	4
20:31 Physics	4	2	5	20:32 Physics	4	2	5
33:36 Engr. Matls.	3	0	3	33:48 Mechanics	3	0	3
1:15 Instit. in the U. S.	3	0	3	6:45 Economics	3	0	3
1:17 Western Cult.	3	1	3	1:18 Western Cult.	3	1	3
ROTC	2	1	1½	ROTC	2	1	1½
	19	4	19½		19	4	19½

*Students enrolled prior to June, 1953 will follow schedule in previous catalog.

THIRD TERM (Half Semester)
(Summer)

Subject	Rec.	Lab.	Cr.
Applied Mechanics 49	6	0	3
Elementary Surveying CE 47	2	6	2
(1) D. C. and A. C. Principles EE 30	3	3	2
(2) E.E. Fundamentals EE 31	4	0	2
(3) Heat Power Principles ME 41	5	3	3
(4) Production Management 62	6	0	3
For C.E. Students	16	12	10
For E.E. Students	17	9	10
For M.E. Students	17	9	10

- (1) For C.E. and M.E. students.
(2) For E.E. students.
(3) For C.E. and E.E. students.
(4) For M.E. students.

BASIC ENGINEERING COURSES

GENERAL COLLEGE

- 33:20. DRAWING INTERPRETATION AND SKETCHING. *1 credit (0-1)**
(For Industrial Management students.) Principles of projections. Free-hand and scaled sketches. Dimensioning, cross sections, notes and shop terms. Reading exercises on prints of machines, structures and industrial layouts.
- 33:23. SURVEY OF ENGINEERING. *0 credit (1-0)*
Engineering as a profession, including personal aptitudes, educational requirements, scope of the various branches, professional duties, responsibilities and ethics. Lectures by staff members and practicing engineers.
- 33:25. ENGINEERING DRAWING. *3 credits (1-2)*
Lettering and proper use of drawing instruments. Geometric drawing. Orthographic projection. Freehand sketching. Pictorial drawing. Cross sections. Threads and threaded fasteners. Dimensioning. Working drawings. Charts and graphs.
- 33:26. MACHINE DRAWING. *2 credits (0-2)*
Prerequisite, Engineering Drawing 25. Detail and assembly drawings of machines and equipment. Technical sketching. Notes and specifications. Shop terms and methods.
- 33:36. ENGINEERING MATERIALS. *3 credits (3-0)*
Prerequisite, Chemistry 28. Manufacture, physical properties and uses of ferrous and non-ferrous metals, wood, clay products, concrete and plastics. Alloys and the equilibrium diagram. Heat treatment.
- 33:43. DESCRIPTIVE GEOMETRY. *3 credits (1-2)*
Prerequisite, Engineering Drawing 25. Graphical methods of solving three dimensional problems involving points, lines, planes and solids. Intersection and development of surfaces. Application of graphical methods to solution of engineering problems.
- 33:48. APPLIED MECHANICS (STATICS). *3 credits (3-0)*
Prerequisite, Physics 31. Prerequisite or corequisite, Math. 46. Forces. Resultants. Couples. Equilibrium of force systems. Friction. First moments and centroids. Second moments of areas. Moments of inertia of bodies.
- 33:49. APPLIED MECHANICS (DYNAMICS). *3 credits (3-0)*
Prerequisite, Applied Mechanics 48. Motion of particles and of rigid bodies. Force, mass and acceleration. Translation, rotation and plane motion. Work. Potential and kinetic energy. Efficiency. Impulse, momentum and impact.

*Rec.-Lab. credit.

UPPER COLLEGE

33:111. SHOP PRACTICE. 2 credits ($\frac{1}{2}$ -1 $\frac{1}{2}$)

Prerequisite, Upper College standing. Foundry methods. Selection and performance of machine tools. Inspection methods. Types of welding. Shop safety. Assigned projects requiring use of hand and machine tools. Emphasis on accuracy and safety.

17:112. ENGINEERING MATHEMATICS. 3 credits (3-0)

Prerequisite, Math. 46 and Junior standing. Complex numbers. Introduction to linear differential equations, power series, solution of cubic and higher degree equations, method of least squares and empirical graphing. Applications of mathematics to solution of engineering problems in student's major field.

33:113. TECHNICAL DISCOURSE. 1 credit (1-0)

33:114. TECHNICAL DISCOURSE. 1 credit (1-0)

33:115. TECHNICAL DISCOURSE. 1 credit (1-0)

33:116. TECHNICAL DISCOURSE. 1 credit (1-0)

33:117. TECHNICAL DISCOURSE. 1 credit (1-0)

Prerequisites, Upper College standing and credit in all previous courses of this sequence. Development of oral and written expression with emphasis on correct and effective use of words and graphic aids. Preparation of technical reports and papers for oral presentation or publication.

33:128. ENGINEERING ECONOMY. 2 $\frac{1}{2}$ credits (2 $\frac{1}{2}$ -0)

Prerequisite, Pre-Junior standing. Principles of engineering economy including equivalence, alternatives, costs, depreciation, valuation and selected project studies.

33:133. NON-FERROUS METALLURGY. 3 credits (3-0). Evening session

Prerequisite, Chemistry 22 or 28 or permission of instructor. Physical properties of non-ferrous metals. Principles of alloying. Phase diagrams. White metals, light alloys, copper alloys. Die castings.

33:134. FERROUS METALLURGY. 3 credits (3-0). Evening session

Prerequisite, 133. Properties of pure iron and carbon steel. Effects of alloying elements and impurities. Heat treatment. Surface treatment. Cast steel. Welding. Cast iron. High alloy steels. Tool steels.

33:135. PHYSICAL METALLURGY. 2 $\frac{1}{2}$ credits (2- $\frac{1}{2}$)

Prerequisites, Chemistry 28, Engineering Materials 36. Principles of alloying. Alloy phase diagrams. Effects of alloying on physical properties. Crystal mechanism of metal processing. Powder metallurgy. Verification of principles by laboratory experiment.

33:137. ENGINEERING MATERIALS LABORATORY. $\frac{1}{2}$ credit (0- $\frac{1}{2}$)

Prerequisite, Engineering Materials 36. Testing machines and techniques. Verification of physical properties as determined by tests of materials in tension, compression, bending and torsion.

33:138. ENGINEERING MATERIALS LABORATORY. $\frac{1}{2}$ credit (0- $\frac{1}{2}$)

Prerequisite, Engineering Materials Laboratory 137. Continuation of 137.

CIVIL ENGINEERING

Professor Keller, Dean Landon, Assistant Professors Li and Richards

The field of civil engineering may be divided into four branches covering structures, transportation, hydraulics and sanitation.

The structural engineer designs and supervises the construction of such facilities as bridges, buildings, dams and tunnels. He must consider not only utility and safety but also economy and appearance. Often the unseen part of structures, the foundation, presents problems most difficult of solution.

In the field of transportation, the civil engineer applies his design and construction ability to railroads, highways, airports and water transportation, including harbor facilities and waterways.

The hydraulic engineer is concerned with the control and conservation of water for such projects as water supply, irrigation, drainage, flood control, navigation and water power. In this field, determination of economic feasibility is of utmost importance.

The sanitary engineer devotes his efforts to improving the cleanliness and healthfulness of both industrial and residential areas. Safe water supplies and adequate facilities for the removal of wastes are unquestioned necessities in modern communities.

Many civil engineers are employed by departments of federal, state and local governments. Others are employed by construction companies or by firms of consulting engineers.

SCHEDULE OF REQUIRED COURSES

PRE-JUNIOR YEAR

(Cooperative)

FIRST SEMESTER

(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
Engineering Materials Laboratory 137	0	3	0.5
A. C. Machines EE 131	4	6	3
Graphic Statics CE 103	0	6	1
Technical Discourse 113	2	0	1
	<u>12</u>	<u>15</u>	<u>8.5</u>

SECOND SEMESTER

(Spring)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 102	3	0	1.5
Mechanics of Materials Laboratory CE 104	0	3	0.5
Engineering Economy 128	5	0	2.5
Engineering Materials Laboratory 138	0	3	0.5
Route Surveying CE 108	2	12	3
Technical Discourse 114	2	0	1
	<u>12</u>	<u>18</u>	<u>9</u>

THIRD TERM (Half Semester)

(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109	2	12	3
Fluid Mechanics ME 171	6	0	3
Technical Discourse 115	2	0	1
	<u>16</u>	<u>12</u>	<u>10</u>

*Section A attends classes for first half of semester.

Section B attends classes for second half of semester.

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109 ..	2	12	3
Fluid Mechanics ME 171	6	0	3
Technical Discourse 115	2	0	1
	<u>16</u>	<u>12</u>	<u>10</u>

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Statically Indeterminate Structures CE 106	6	0	3
Highway Design and Construction CE 110	4	6	3
Hydrology CE 107	4	0	2
Concrete Laboratory CE 112..	0	6	1
Technical Discourse 116	2	0	1
	<u>16</u>	<u>12</u>	<u>10</u>

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Statically Indeterminate Structures CE 106	6	0	3
Highway Design and Construction CE 110	4	6	3
Hydrology CE 107	4	0	2
Concrete Laboratory CE 112..	0	6	1
Technical Discourse 116	2	0	1
	<u>16</u>	<u>12</u>	<u>10</u>

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 114	6	0	3
Engineering Mathematics 112.	6	0	3
Water Supply CE 121	5	0	2.5
Sanitary Laboratory CE 123..	0	6	1
Technical Discourse 117	2	0	1
	<u>19</u>	<u>6</u>	<u>10.5</u>

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 114	6	0	3
Engineering Mathematics 112.	6	0	3
Water Supply CE 121	5	0	2.5
Sanitary Laboratory CE 123..	0	6	1
Technical Discourse 117	2	0	1
	<u>19</u>	<u>6</u>	<u>10.5</u>

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 115	2	12	3
Reinforced Concrete Design CE 117	6	0	3
Sewerage CE 122	5	0	2.5
Fluid Mechanics Laboratory ME 174	0	6	1
C.E. Problems CE 127	2	0	1
	<u>15</u>	<u>18</u>	<u>10.5</u>

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Reinforced Concrete Design CE 118	1	6	3
Soil Mechanics and Foundations CE 120	2	3	3
Sanitary Design CE 124	0	3	1
Community Planning CE 126..	3	0	3
C.E. Problems CE 130	0	6	2
Modern Physics 150	2	0	2
Non-Technical Elective**	3	0	3
	<u>11</u>	<u>18</u>	<u>17</u>

*Section A attends classes for first half of semester.

Section B attends classes for second half of semester.

**In Field of Social Sciences or Humanities.

DESCRIPTION OF CIVIL ENGINEERING COURSES

GENERAL COLLEGE

34:47. ELEMENTARY SURVEYING. 2 credits (1-1)†

Prerequisite, Math. 24. Principles of plane surveying. Use of tape, level and transit. Computation of areas. Field problems involving measurement of horizontal and vertical distances and angles.

UPPER COLLEGE

34:101. MECHANICS OF MATERIALS. 3 credits (3-0)

Prerequisite, Applied Mechanics 48. Stress and strain caused by tension, compression, torsion and flexure. Riveted and welded joints. Shear and moment diagrams. Beams of two materials. Deflection of beams by integration. Combined direct and flexural stresses. Axially loaded columns.

34:102. MECHANICS OF MATERIALS. 1½ credits (1½-0)

Prerequisite, 101. Deflection of beams by moment-area. Elastic energy. Impact. Combined stresses. Mohr's circle. Eccentrically loaded columns.

34:103. GRAPHIC STATICS. 1 credit (0-1)

Prerequisite, Applied Mechanics 48. Corequisite, 101. Graphical solution of problems involving forces, bending moments or second moments of areas. Graphical determination of forces and deflections in truss members.

34:104. MECHANICS OF MATERIALS LABORATORY. ½ credit (0-½)

Prerequisite, 101. Experimental verification of stress and deformation in beams, columns and shafts.

34:105. STRESS ANALYSIS. 3 credits (3-0)

Prerequisite, 101. Types of loads. Reactions, shears and moments due to fixed and moving loads. Stresses in trusses due to fixed and moving loads. Influence lines.

34:106. STATICALLY INDETERMINATE STRUCTURES. 3 credits (3-0)

Prerequisite, 105. Shear, moment and deflection in beams. Single-span frames. Complex frames. Slope deflection. Moment distribution. Truss deflection. Secondary stresses.

34:107. HYDROLOGY. 2 credits (2-0)

Prerequisite, Fluid Mechanics ME 171. Factors affecting ground water and stream flow. Application of principles to problems of water supply and flood routing.

34:108. ROUTE SURVEYING. 3 credits (1-2)

Prerequisite, 47. Simple, compound and reverse curves. Spirals. Vertical curves. Earthwork computations. Mass diagrams applied to highway and railway locations. Field work on curves and earthwork. Highway and railway location including determination of final grades.

34:109. ADVANCED SURVEYING. 3 credits (1-2)

Prerequisite, 47. Adjustment of instruments. Precise leveling and triangulation. Topographic survey by plane table-stadia, including map drafting. Subdivision and platting. Astronomical observations to determine azimuth, latitude, longitude and time.

34:110. HIGHWAY DESIGN AND CONSTRUCTION. 3 credits (2-1)

Prerequisites, 101, 108. Administration, planning, economics and finance. Geometric design. Selection of soils. Stabilization. Drainage. Structural design of rigid and flexible pavements. Surfaces. Design project. Selected soil and asphalt tests.

34:112. CONCRETE LABORATORY. 1 credit (0-1)

Prerequisite, Junior standing. Tests of cement, aggregates and concrete in accordance with A.S.T.M. Standards. Design of concrete mixes.

†Rec.-Lab. credit.

- 34:114. STRUCTURAL STEEL DESIGN. *3 credits (3-0)*
Prerequisites, 102, 105. Riveted, welded and pinned connections. Tension members. Compression members. Floor systems. Combined direct stress and flexure.
- 34:115. STRUCTURAL STEEL DESIGN. *3 credits (1-2)*
Prerequisite, 114. Detailed design of plate girders, roof truss and highway bridge.
- 34:117. REINFORCED CONCRETE DESIGN. *3 credits (3-0)*
Prerequisites, 102, 106, 112. Beams. Shear, bond, diagonal tension, anchorage. Columns. Footings. Floor systems.
- 34:118. REINFORCED CONCRETE DESIGN. *3 credits (1-2)*
Prerequisite, 117. Floor systems continued. Detailed design of multi-story building. Prestressed concrete.
- 34:120. SOIL MECHANICS AND FOUNDATIONS. *3 credits (2-1)*
Prerequisites, 102, Fluid Mechanics ME 171. Soil structure, properties, classification and behavior. Methods of treatment in design of foundations, embankments and earth fill dams. Selected laboratory tests for determining properties and predicting behavior in structural units.
- 34:121. WATER SUPPLY. *2½ credits (2½-0)*
Prerequisite, 107. Quality and quantity requirements. Development of surface and ground water supplies. Treatment of domestic and industrial supplies. Distribution systems, including reservoirs and pumping stations. Principles of water works finance.
- 34:122. SEWERAGE. *2½ credits (2½-0)*
Prerequisite, 121. Hydraulics of sewers. Quantity of domestic sewage and storm water. Collection by separate and combined systems. Treatment of domestic sewage.
- 34:123. SANITARY LABORATORY. *1 credit (0-1)*
Corequisite, 121. Selected physical, chemical and bacteriological tests on raw and treated water and sewage.
- 34:124. SANITARY DESIGN. *1 credit (0-1)*
Prerequisite or corequisite, 122. Analysis of water distribution system. Water works finance, including least capitalized cost. Design of sanitary and storm water drains. Dimensional design of water and sewage treatment units.
- 34:126. COMMUNITY PLANNING. *3 credits (3-0)*
Prerequisite, Senior standing. History of community planning. Provisions for orderly and balanced development. Zoning. Benefits of planning as reflected in physical and mental health of residents. Requirements for streets, playgrounds parks, transportation facilities. Development of residential, commercial, industrial and civic areas. Detailed study of a selected modern city plan.
- 34:127. CIVIL ENGINEERING PROBLEMS. *1 credit (1-0)*
Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group.
- 34:130. CIVIL ENGINEERING PROBLEMS. *2 credits (0-2)*
Prerequisite, 127. Completion of project including a detailed formal report.
- 34:201. AIRCRAFT STRUCTURAL ANALYSIS. *3 credits (3-0)*
Prerequisites, 106, 114. Shear center. Unsymmetrical bending. Buckling of thin plates. Semi-monocoque structures. Shear webs. General theory of indeterminate structures applied to rings and complex structures. Beam columns. Successive approximation applied to multi-cell structures.
- 34:301. VIBRATION ANALYSIS. *3 credits (3-0)*
Prerequisites, Applied Mechanics 49, Differential Equations 204 or Engineering Mathematics 112. Principles of dynamics. Simple harmonic motions. Systems with one degree of freedom. Systems with many degrees of freedom. Flutter. Impact. Engine and propeller vibrations. Experimental vibration studies.

ELECTRICAL ENGINEERING

*Professor Sibila, Associate Professors P. C. Smith and Huss,
Assistant Professor Kult*

The many branches of electrical engineering include production and distribution of electrical energy; development and manufacture of electrical equipment and products ranging in size from huge generators to miniature electric bulbs; design, installation and operation of communication systems including telephone, telegraph, radio and television; adaptation of electronic principles to industrial needs such as indicating and control mechanisms; design of modern lighting, both indoors and out; design of electrical systems for vehicles, ships and aircraft and cooperation in such fields as electro-chemistry, metallurgy and medicine.

The growth of the electrical industry has been steady and rapid. In the two decades from 1918 to 1938, the total use of electrical energy in the United States increased threefold. Electrical manufacturing is one of the leading American industries and includes organizations of all sizes from the privately owned shop employing a few workers to the huge corporation manufacturing hundreds of items and employing thousands of men and women.

The large majority of electrical engineers are employed by utility companies and manufacturers of electrical equipment. Other employment opportunities may be found with large industrial firms and with electrical contractors and consultants.

SCHEDULE OF REQUIRED COURSES

PRE-JUNIOR YEAR

(Cooperative)

FIRST SEMESTER

(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
Engineering Materials Laboratory 137	0	3	0.5
A. C. Circuits EE 133	5	0	2.5
D. C. Machines EE 141	3	3	2
Technical Discourse 113	2	0	1
	<u>16</u>	<u>6</u>	<u>9</u>

SECOND SEMESTER

(Spring)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials Laboratory CE 104	0	3	0.5
A. C. Circuits EE 134	5	0	2.5
Electrical Measurements EE 136	4	3	2.5
Shop Practice 111	1	9	2
Technical Discourse 114	2	0	1
Engineering Materials Laboratory 138	0	3	0.5
	<u>12</u>	<u>18</u>	<u>9</u>

THIRD TERM (Half Semester)

(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Electrical Measurements EE 137	3	6	2.5
Electronics EE 161	3	3	2
A. C. Machines EE 143	3	3	2
Technical Discourse 115	2	0	1
Fluid Mechanics ME 171	6	0	3
	<u>17</u>	<u>12</u>	<u>10.5</u>

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Electrical Measurements EE 137	3	6	2.5
Electronics EE 161	3	3	2
A. C. Machines EE 143	3	3	2
Technical Discourse 115	2	0	1
Fluid Mechanics ME 171	6	0	3
	17	12	10.5

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 144	4	6	3
Electronics EE 162	4	3	2.5
Electrical Measurements EE 138	2	3	1.5
Technical Discourse 116	2	0	1
Illumination EE 135	4	3	2.5
	16	15	10.5

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 144	4	6	3
Electronics EE 162	4	3	2.5
Electrical Measurements EE 138	2	3	1.5
Technical Discourse 116	2	0	1
Illumination EE 135	4	3	2.5
	16	15	10.5

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
A. C. Machines EE 146	4	6	3
Electronics EE 164	3	6	2.5
Technical Discourse 117	2	0	1
	15	12	9.5

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
A. C. Machines EE 146	4	6	3
Electronics EE 164	3	6	2.5
Technical Discourse 117	2	0	1
	15	12	9.5

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 147	3	3	2
Industrial Instrumentation EE 149	4	3	2.5
Electrical Transients EE 140	4	0	2
Industrial Electronics EE 152	4	0	2
Electrical Controls EE 139	2	0	1
Senior Thesis EE 165	0	3	0.5
	17	9	10

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
E. E. Problems EE 167	0	3	1
Ultra High Frequencies EE 168	3	3	4
Communication Networks EE 158	3	0	3
Senior Thesis EE 166	0	3	1
Modern Physics 150	2	0	2
Computers and Servo-Mechanisms EE 160	3	0	3
Electrical Controls Laboratory EE 156	0	3	1
Non-Technical Elective**	3	0	3
	14	12	18

DESCRIPTION OF ELECTRICAL ENGINEERING COURSES

GENERAL COLLEGE

35:30. DIRECT CURRENT AND ALTERNATING CURRENT PRINCIPLES.

2 credits (1½-1½)†

Prerequisite, Physics 32. (For C.E. and M.E. students) Principles of direct current circuits, generators and motors. Principles of alternating current circuits and instruments.

35:31. ELECTRICAL ENGINEERING FUNDAMENTALS. 2 credits (2-0)

Prerequisite, Physics 32. Fundamental units of electricity. Ohm's Law. Kirchhoff's Laws. Power. Analysis of series and parallel circuits. Magnetic properties and circuits. Induced and generated electromotive forces. Inductance. Force on a conductor. Electrostatics. Direct current instruments.

*Section A attends classes for first half of semester.

Section B attends classes for second half of semester.

**In field of Social Sciences or Humanities.

†Rec.-Lab. credit.

UPPER COLLEGE

- 35:131. ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 30. (For C.E. and M.E. students) Three-phase power measurements. Principles, characteristics and applications of alternators, motors and transformers. Introduction to electronics.
- 35:133. ALTERNATING CURRENT CIRCUITS. *2½ credits (2½-0)*
Prerequisite, 31. Vector analysis of alternating current, voltage and power. Complex operator. Real and apparent power. Series and parallel circuits. Network theorems. Coupled circuits.
- 35:134. ALTERNATING CURRENT CIRCUITS. *2½ credits (2½-0)*
Prerequisite, 133. Balanced and unbalanced polyphase circuits. Metering polyphase power. Non-sinusoidal waves.
- 35:135. ILLUMINATION. *2½ credits (2-½)*
Prerequisite, Physics 32. Fundamentals of illumination and principles underlying specifications and designs for adequate electrical lighting.
- 35:136. ELECTRICAL MEASUREMENTS. *2½ credits (2-½)*
Prerequisite, 31. Measurement of high and low resistance. Galvanometer fundamentals. Magnetic tests. D. C. meters. Potentiometers.
- 35:137. ELECTRICAL MEASUREMENTS. *2½ credits (1½-1)*
Prerequisites, 134, 136. Alternating current bridges. Reliability and probability error in measurements.
- 35:138. ELECTRICAL MEASUREMENTS. *1½ credits (1-½)*
Prerequisite, 137. Alternating current instruments and instrument transformers. Watthour meters.
- 35:139. ELECTRICAL CONTROLS. *1 credit (1-0)*
Prerequisite, 146. Principles and applications of important types of electromagnetic controls.
- 35:140. ELECTRICAL TRANSIENTS. *2 credits (2-0)*
Prerequisite, 133. Solution of the general impedance function equation to establish steady state and transient responses of complex circuits. Use of operational methods.
- 35:141. DIRECT CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 31. Armature windings and reaction. Commutation. Analysis of generators and motors, their characteristics and design features.
- 35:143. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisites, 133, 141. Principles and operating characteristics of alternators and transformers.
- 35:144. ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 143. Principles and operating characteristics of polyphase induction motors.
- 35:146. ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 144. Principles and operating characteristics of polyphase synchronous motors. Special types of synchronous and asynchronous machines.
- 35:147. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 146. Principles and applications of power and fractional horsepower single-phase motors.

- 35:149. INDUSTRIAL INSTRUMENTATION. $2\frac{1}{2}$ credits (2- $\frac{1}{2}$)
Prerequisite, 131 or 143. Principles of electric indicating, recording and control instruments as applied to temperature, pressure and fluid flow. Detailed analysis of measuring characteristics of such instruments.
- 35:152. INDUSTRIAL ELECTRONICS. 2 credits (2-0)
Prerequisites, 141, 164. Analysis and application of electronics to industrial control circuits. Design of elementary electronic control circuits.
- 35:154. ELECTRONIC FUNDAMENTALS. $2\frac{1}{2}$ credits (2- $\frac{1}{2}$)
Prerequisite, 131. (For M.E. students.) Characteristics of vacuum and gas tubes. Amplifiers, power supplies, oscillators, polyphase rectifiers. Industrial electronic control circuits.
- 35:156. ELECTRICAL CONTROLS LABORATORY. 1 credit (0-1)
Prerequisites, 139, 152. Corequisite, 160. Experiments covering motor controls, industrial electronics, computers and servo-mechanisms.
- 35:158. COMMUNICATION NETWORKS. 3 credits (3-0)
Prerequisite, 164. Advanced treatment of transmission lines and filters. General communication problems. Ultra high frequency designs.
- 35:160. COMPUTERS AND SERVO-MECHANISMS. 3 credits (3-0)
Prerequisites, 140, 152. Fundamentals underlying the use, construction and operation of computers. Feedback circuits as applied to electrical and mechanical systems.
- 35:161. ELECTRONICS. 2 credits (1 $\frac{1}{2}$ - $\frac{1}{2}$)
Prerequisite, 134. Characteristics of vacuum and gas tubes and photocells. Rectifiers and power supplies.
- 35:162. ELECTRONICS. $2\frac{1}{2}$ credits (2- $\frac{1}{2}$)
Prerequisite, 161. Amplifiers, including audio, radio frequency and band pass.
- 35:164. ELECTRONICS. $2\frac{1}{2}$ credits (1 $\frac{1}{2}$ -1)
Prerequisite, 162. Oscillators. Modulation. Demodulation. Transistors.
- 35:165. SENIOR THESIS. $\frac{1}{2}$ credit (0- $\frac{1}{2}$)
Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group.
- 35:166. SENIOR THESIS. 1 credit (0-1)
Prerequisite, 165. Completion of project including a detailed formal report.
- 35:167. ELECTRICAL ENGINEERING PROBLEMS. 1 credit (0-1)
Prerequisite, Senior standing. Selected comprehensive problems. Supervised discussion and computation periods.
- 35:168. ULTRA HIGH FREQUENCIES. 4 credits (3-1)
Prerequisite, 164. Study of high frequency applications. Ultra high frequency oscillators using klystrons, magnetrons and cavity resonators. Coaxial cables. Wave guides.
- 35:301. SERVO-MECHANISMS. 3 credits (3-0)
Prerequisites, Physics 32, Applied Mechanics 49, Differential Equations 204 or Engineering Mathematics 112. Formulation of integro-differential equations of linear electrical and mechanical systems, the LaPlace transform, dynamics of closed loop systems, the K, G locus, representation of the G function, the stability problem and Nyquist criterion.

MECHANICAL ENGINEERING

*Professor Petry, Associate Professors Wilson and Bezbatchenko,
Assistant Professor Shearer*

The more important branches of mechanical engineering include machine design, manufacturing and production methods and the heat-power field.

The importance of machine design in this age is self evident. The mechanical engineer designs and supervises the manufacture of not only the machines used in everyday life but also the machine tools which make these machines. The design of special equipment required in industries as unrelated as textile and toy manufacturing challenges the ingenuity of the mechanical engineer.

In the field of heat-power, the mechanical engineer designs, builds and operates boilers, turbines and engines which convert the heat content of fuels into useful energy for immediate application or for conversion into electrical energy which can be distributed over wide areas. Motive power for automobiles, railroads, ships and aircraft is being constantly improved with respect to both thermal efficiency and dependability.

The design and installation of complete air conditioning equipment for the control of both temperature and humidity is a relatively recent but major development in the heat-power field.

All the way from the mine to the final delivery of finished products, the knowledge and skill of the mechanical engineer have aided the development of modern industry to the point at which more people can purchase more goods for less cost.

The great majority of mechanical engineers are employed in a wide variety of capacities in industry but a limited number act as independent consultants.

SCHEDULE OF REQUIRED COURSES

PRE-JUNIOR YEAR

(Cooperative)

FIRST SEMESTER

(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
A. C. Machines EE 131	4	6	3
Engineering Materials Laboratory 137	0	3	0.5
Physical Metallurgy 135	4	3	2.5
Technical Discourse 113	2	0	1
	16	12	10

SECOND SEMESTER

(Spring)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 102	3	0	1.5
Mechanics of Materials Laboratory CE 104	0	3	0.5
Electronic Fundamentals EE 154	4	3	2.5
Shop Practice 111	1	9	2
Engineering Materials Laboratory 138	0	3	0.5
Engineering Economy 128	5	0	2.5
Technical Discourse 114	2	0	1
	15	18	10.5

THIRD TERM (Half Semester)

(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Mechanisms ME 173	4	9	3.5
Fluid Mechanics ME 171	6	0	3
Thermodynamics ME 177	4	3	2.5
Technical Discourse 115	2	0	1
	16	12	10

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Mechanisms ME 173	4	9	3.5
Fluid Mechanics ME 171	6	0	3
Thermodynamics ME 177	4	3	2.5
Technical Discourse 115	2	0	1
	<u>16</u>	<u>12</u>	<u>10</u>

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Administration			
ME 169	6	0	3
Machine Design ME 182	4	6	3
Thermodynamics ME 181	4	3	2.5
Technical Discourse 116	2	0	1
	<u>16</u>	<u>9</u>	<u>9.5</u>

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Engineering Administration			
ME 169	6	0	3
Machine Design ME 182	4	6	3
Thermodynamics ME 181 ...	4	3	2.5
Technical Discourse 116	2	0	1
	<u>16</u>	<u>9</u>	<u>9.5</u>

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112.	6	0	3
Machine Design ME 183	2	9	2.5
Heat Transfer ME 184	4	3	2.5
Engineering Administration			
ME 170	3	0	1.5
Technical Discourse 117	2	0	1
	<u>17</u>	<u>12</u>	<u>10.5</u>

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112.	6	0	3
Machine Design ME 183	2	9	2.5
Heat Transfer ME 184	4	3	2.5
Engineering Administration			
ME 170	3	0	1.5
Technical Discourse 117	2	0	1
	<u>17</u>	<u>12</u>	<u>10.5</u>

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Industrial Instrumentation			
EE 149	4	3	2.5
Machine Design ME 198	3	3	2
Thermodynamics ME 191	3	3	2
Fluid Mechanics Laboratory			
ME 174	0	6	1
M. E. Problems ME 195	1	3	1
	<u>11</u>	<u>18</u>	<u>8.5</u>

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Inspection Trips ME 196	0	3	1
Machine Design Problems			
ME 199	0	3	1
Heating and Air Conditioning			
ME 187	3	0	3
Heat Machines ME 192	3	0	3
Heat Machines Laboratory			
ME 193	0	6	2
M. E. Problems ME 197	0	6	2
Modern Physics 150	2	0	2
Non-Technical Elective**	3	0	3
	<u>11</u>	<u>18</u>	<u>17</u>

*Section A attends classes for first half of semester.

Section B attends classes for second half of semester.

**In Field of Social Sciences or Humanities.

INDUSTRIAL OPTION

Mechanical Engineering students may elect an Industrial Option by substituting specifically approved courses in the field of Industrial Management for certain Mechanical Engineering courses.

DESCRIPTION OF MECHANICAL ENGINEERING COURSES

GENERAL COLLEGE

36:41. HEAT POWER PRINCIPLES. *3 credits (2½-½)**

Prerequisites, Physics 31, Calculus 46. (For C.E. and E.E. students.) Thermodynamic principles including the first and second laws. Study of cycles involving gases, vapors and mixtures. Applications in I. C. engines, compressors, steam plants, refrigeration and air conditioning.

UPPER COLLEGE

36:169. ENGINEERING ADMINISTRATION. *3 credits (3-0)*

Prerequisite, Production Management 62. Organization and coordinated administration of functional engineering groups required in research, development, production and distribution.

36:170. ENGINEERING ADMINISTRATION. *1½ credits (1½-0)*

Prerequisite, 169. Legal phases of engineering, including contracts, specifications, patents and copyrights. Professional ethics.

36:171. FLUID MECHANICS. *3 credits (3-0)*

Prerequisite, Applied Mechanics 49. Properties and behavior of gases and liquids at rest and in motion. The energy equation. Flow in conduits. Forces on body submerged in moving fluid. Characteristics of turbines, pumps and fluid couplings.

36:173. MECHANISMS. *3½ credits (2-1½)*

Prerequisite, Applied Mechanics 49. Displacement, velocity and acceleration of machine parts and devices for producing desired motions. Development of gear elements. Action of gear trains. Concurrent use of analytical and graphical methods.

36:174. FLUID MECHANICS LABORATORY. *1 credit (0-1)*

Prerequisite, 171. Verification of fluid flow through orifices and conduits and around submerged bodies. Metering devices. Performance tests of fluid machinery.

36:177. THERMODYNAMICS. *2½ credits (2-½)*

Prerequisites, Physics 31, Calculus 46. Fundamental concepts, including the first and second laws, fluid properties and gas characteristics. Instrumentation.

36:180. LIGHTER-THAN-AIR THEORY. *2 credits (2-0)*

Prerequisites, Calculus 46, C.E. 101. Basic aerodynamic and stress analysis theories involved in airship component development such as fabric design, control system analysis, performance calculations and valve limitation studies.

36:181. THERMODYNAMICS. *2½ credits (2-½)*

Prerequisite, 177. Study of real gases, mixtures and combustion, including flow of fluids.

*Rec. Lab. credit.

36:182. MACHINE DESIGN. 3 credits (2-1)

Prerequisites, 173, Engineering Materials Laboratory 138, C.E. 102. Functions of machine elements. Selection of materials. Design of parts for strength with consideration of fatigue and stress concentration. Fits and tolerances.

36:183. MACHINE DESIGN. 2½ credits (1-1½)

Prerequisite, 182. Dynamic and combined stresses in machine elements.

36:184. HEAT TRANSFER. 2½ credits (2-½)

Prerequisite, 181. Fundamentals of heat transfer by conduction, convection and radiation. Properties of fluids and solids affecting heat transfer in engineering structures.

36:186. JET PROPULSION PRINCIPLES. 3 credits (3-0)

Prerequisites, 171 and 191. Fundamentals of propulsion systems. Analysis of ramjet, turbojet, rockets, and thrust augmentation.

36:187. HEATING AND AIR CONDITIONING. 3 credits (3-0)

Prerequisite, 191. Heat transfer, heat losses in buildings. Types of heating equipment and methods used to calculate required capacities. Properties of air, cooling, the cooling load, humidifying, dehumidifying and air circulation. Methods used to design and select equipment to satisfy given requirements.

36:191. THERMODYNAMICS. 2 credits (1½-½)

Prerequisite, 181. Study of thermodynamic cycles.

36:192. HEAT MACHINES. 3 credits (3-0)

Prerequisite, 191. Study of actual heat cycles and machines. Performance characteristics of pumps, fans and conduits.

36:193. HEAT MACHINES LABORATORY. 2 credits (0-2)

Corequisites, 187, 192. Experimental verification of principles and performance of heat engines and heating and air conditioning components.

36:195. MECHANICAL ENGINEERING PROBLEMS. 1 credit (½-½)

Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group.

36:196. INSPECTION TRIPS. 1 credit (0-1)

Prerequisite, Senior standing. Trips through power stations and industrial plants in northern Ohio. Written reports required.

36:197. MECHANICAL ENGINEERING PROBLEMS. 2 credits (0-2)

Prerequisite, 195. Completion of project including detailed formal report.

36:198. MACHINE DESIGN. 2 credits (1½-½)

Prerequisite, 183. Vibrations. Preliminary design of an assigned project.

36:199. MACHINE DESIGN PROBLEMS. 1 credit (0-1)

Prerequisite, 198. Final design of an assigned project.

THE COLLEGE OF EDUCATION

HOWARD R. EVANS, PH.D., Dean

GENERAL INFORMATION

The College of Education, formerly known as the Teachers College, was established in 1921 in cooperation with the Akron Board of Education, replacing the former Perkins Normal School of Akron. It draws upon the teaching staff of both the Public Schools and the University for its faculty. In September, 1935, the name was changed to the College of Education.

Students in any college of The University of Akron may take courses in other colleges. This enables the College of Education to use the facilities of the whole University in preparing teachers. The Akron Public Schools cooperate with the University in a number of ways, chiefly by providing the Spicer Elementary School for observation and laboratory experiences. University students receive actual school experience chiefly in classes in the public schools of Akron, Barberton and Summit County. Emphasis is placed upon preparing teachers for Akron. Two-thirds of Akron public school teachers are former students of The University of Akron.

The College of Education offers complete professional preparation programs for teachers, and pre-clinical and professional nurses training programs.

Attention is given to the development of additional qualities such as a broad and liberal education, strong and pleasing personality, and desirable character.

A related function in preparing teachers is improvement of teachers in service. To satisfy this need, evening and summer session courses are offered. These courses strengthen academic preparation, improve professional mastery, and lead teachers to a clearer concept of their responsibilities and privileges.

A third purpose is to bring teacher training into closer contact with the instructional, supervisory, and administrative forces of the city. In this way, progressive phases of school work in the city are reflected in the training courses. The study of these problems by the College of Education brings suggestions for new forms of training and for modification of school work.

COURSES OF STUDY AND DEGREES

The College of Education offers curricula in the following fields: high school teaching in academic subjects, the special fields such as physical education, music, art, secretarial science, commerce, speech, and home economics; nursery school, kindergarten primary, all grades of the elementary school; nursing and nursing education.

The Department of Psychology is open to the students in the Liberal Arts College or the College of Education who wish to major in psychology.

The State of Ohio will grant a Cadet provisional elementary school certificate upon completion of a two-year program. Such a program is provided by the College of Education.

Any student in the University who is not enrolled in the College of Education and who wishes to teach should register with the Dean of the College of Education at least two years prior to the time he expects to be eligible to teach.

Students who complete a prescribed four-year curriculum of 128 semester hours and have the required quality of work receive the B.A. in Education or the B.S. in Education degree.

Graduate courses are open to any student who holds a Bachelor's degree from an accredited institution, a valid teaching certificate, and who has the necessary background and ability for advanced study. The Master's degree is granted upon the completion of 30 semester hours of study.

REQUIREMENTS FOR ADMISSION

1. Each student must have an average quality point ratio of 2 in all work carried.
2. Each student is required to meet a satisfactory standard with respect to personality. This rating is made by instructors conducting the courses in Education in the General College, by the office of the Dean of Students, by means of a standardized rating, or a combination of all.
3. Each student planning to major in a special field must take an examination by the special department.
4. Each prospective high school teacher must be prepared for certification in two subjects, one major and a minor. Three teaching fields are recommended. The teaching majors and minors are defined on page 107.
5. Each prospective high school teacher must be prepared to enter upper college courses in two teaching fields.

BASIC REQUIREMENTS FOR ALL DEGREES

1. *General Education requirements:*

	Cr. Hrs.
1:1-2 Written English	6
1:3-4 Written English	4
1:6-7 Effective Speaking	4
1:11 Numbers Communication	2
1:13-14 Reasoning and Understanding in Science	6
1:15-16 Institutions in the United States	6
1:17-18 Western Cultural Traditions	6
1:19 Personal Development	2
1:21-22 Physical Education	1
30:41 General Psychology	3
24:76 Fundamentals of Speech	3
Military Science and Tactics (Men)	6
1:101 Integration for Seniors	2

2. *Pre-professional requirements:*

30:52 Educational Psychology	3
27:55 Introduction to Education	3

3. *Professional courses:*

27:105 Tests and Measurements	2
27:115 School Management	2
27:124 Student Teaching	6
Methods	Varies with the teaching field
27:201 Principles of Education	3

4. *Major field plus one minor, depending upon field*

Each student preparing for secondary school teaching must have at least two academic teaching fields, one of which shall be at least 6 hours more than the minimum required by the State Department of Education, except where the teaching field is 30 hours or more. A student who has a major in either of the special fields Music or Art is not required to have a second teaching field. In all of the curricula leading to preparation for elementary school teaching, additional teaching fields or minors are not required.

Students are required at all times to maintain a 2.5 scholastic average in the major field, 2. in the minor field (or fields) and in their over-all total average.

A physical examination is required each year of all students who are preparing for certification as teachers.

REQUIREMENTS FOR THE B.A. IN EDUCATION

The B.A. degree in Education is granted to those whose major is in one of the academic fields such as English, History, Mathematics, Science, etc., (Majors in special fields, including elementary, receive the B.S. degree in Education).

STATEMENT OF NUMBER OF HOURS REQUIRED FOR
CERTIFICATION IN VARIOUS TEACHING FIELDS

AS SPECIFIED BY THE STATE DEPARTMENT OF EDUCATION

In High School and Special Areas

Field	Number of Hours	
	High School Tchg. Fields*	Special Tchg. Field†
Art	24	50
Business Education	45	
Bookkeeping	9	
‡Bookkeeping—Basic Business	20	
Salesmanship—Merchandising	15	
‡Stenography—Typing	20	
Typing	5	
English	24	
Health Education	24	
Health Education and Physical Education	24	40
History and Government	27	
Home Economics	30	
Latin	15	
Library Science	16	
§Modern Languages	20	
Mathematics	18	
Music	24	50
Science		
Biological Science	15	
Earth Science	15	
General Science	21	
Physical Science	21	
Science Comprehensive	45	
Social Studies Comprehensive	45	
Speech	18	40

Each student preparing for secondary school teaching must have at least two academic teaching fields, one of which shall be at least 6 hours more than the minimum required by the State Department of Education, except where the teaching field is 30 hours or more.

*High School teaching fields entitle the holder of the certificate to teach the subjects in all grades 7-12 in a secondary school and in grades 7 and 8 of an elementary school if the work is departmentalized.

†A special teaching field entitles the holder of the certificate to teach that subject in any grade of the public schools.

‡If used as major 30 hours will be required.

§The two units of high school which are required as prerequisites to college study in a language may be satisfied by taking the eight-hour beginning course. This means that, in order to place a language on a certificate as a teaching field, 28 hours would be required if the study of the language is begun in college. If a second language is chosen, only 20 hours will be required.

For selection of required courses for a teaching field, consult the appropriate adviser.

Each student is required to complete 128 semester hours of work with a minimum of a 2 point average. At the time of entering upon student teaching, this must be 2.5 in the major field and 2 in the minors.

B.S. IN EDUCATION DEGREE PROGRAMS AND OTHER PROGRAMS

The distribution of subjects required for degrees in certain fields has been set forth below to help students see more clearly the entire course requirements for the degrees. These outlines should, however, not be considered rigid. They are for guidance purposes and should be modified, if necessary, in consultation with the adviser.

DUAL CERTIFICATION PROGRAM ELEMENTARY AND SECONDARY

This curriculum prepares teachers for the elementary and secondary schools. Students completing this curriculum will receive the four-year provisional certificate to teach at least two fields in the secondary school and a certificate which will qualify them to teach in grades 1 through 8 of the elementary school.

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Written English	3	1:2 Written English	3
1:19 Personal Development	2	1:6 Effective Speaking	2
1:21 Physical Education	½	1:22 Physical Education	½
1:13 Reasoning and Understanding in Science	3	1:14 Reasoning and Understanding in Science	3
ROTC	1½	ROTC	1½
27:55 Introduction to Education	3	30:41 General Psychology	3
Electives	4	Elective (teaching fields)	4-5

Second Year

1:11 Number Communications	2	or	1:11 Number Communications	
1:15 Institutions in the U. S.	3		1:16 Institutions in the U. S.	3
1:3 Written English	2		1:4 Written English	2
1:7 Effective Speaking	2		ROTC	1½
ROTC	1½	28:71 Principles of Geography	3	
30:52 Educational Psychology	3	27:86 Children's Literature	3	
27:41 Handicrafts	2	12:41 American History or		
		21:41 American Government	3	
		Elective	2	

Third Year

1:17 Western Cultural Traditions...	3	1:18 Western Cultural Traditions ..	3
Geography	3	27:138 Teaching of Soc. Studies.....	2
27:135 Teaching of Reading	3	27:133 Science for Elem. Grades	3
30:107 Child & Adol. Psychology.....	3	27:136 Arithmetic for El. Gr.	3
27:105 Tests and Measurements	2	24:76 Fundamentals of Speech	3
18:121 Primary Elem. Music Education	2	27:113 High School Methods.....	3

Fourth Year

1:101 Integration for Seniors	2	or	1:101 Integration for Seniors	
27:124 Student Teaching	4		29:138 Health and Phys. Educ.	
27:115 School Management	2		Activities	3
27:201 Principles of Education	3	27:124 Student Teaching	4	
Electives	5	Electives	9	
		Total to make 128		

TWO YEAR ELEMENTARY PROGRAM

Acute shortage of teachers in the elementary school has resulted in the establishment of a two-year program. Students who complete this program may obtain a cadet provisional certificate which is valid for four years. Before the expiration of this period, students will be expected to continue work toward a degree, in order to keep their certificates in force.

TWO-YEAR ELEMENTARY PROGRAM
leading to a cadet certificate

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Written English	3	1:2 Written English	3
1:13 Reasoning and Understanding in Science	3	1:14 Reasoning and Understanding in Science	3
1:19 Personal Development	2	1:6 Effective Speaking	2
1:21 Physical Education	½	1:22 Physical Education	½
30:41 General Psychology	3	30:52 Educational Psychology	3
2:21 Design	2	27:41 Handicrafts	2
18:23 Fund. of Music	2	27:62 Elementary School Music Liter. & Apprec.	2
ROTC	1½	ROTC	1½

Summer Session

27:135 Teaching of Reading	3
27:86 Children's Literature	3

Second Year

1:11 Numbers Communication	2	27:115 School Management	2
27:136 Arithmetic in Elementary Grades	3	27:124 Student Teaching	6
27:137 Teaching of Language Arts...	3	27:201 Principles of Education	3
27:138 Teaching of Soc. Stud.	2	ROTC	1½
29:138 Health & P.E. Act.	3	Total to make at least 64 (Women)	
21:41 American Government	3	(For men, including ROTC, 70)	
ROTC	1½		

ELEMENTARY EDUCATION

The kindergarten-primary program is for students preparing to teach in the kindergarten through the third grade. The elementary program is for those preparing to teach in grades four to eight inclusive.

KINDERGARTEN-PRIMARY AND ELEMENTARY

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Written English	3	1:2 Written English	3
1:19 Personal Development	2	1:6 Effective Speaking	2
1:21 Physical Education	½	1:22 Physical Education	½
1:13 Reasoning and Understanding in Science	3	1:14 Reasoning and Understanding in Science	3
ROTC	1½	ROTC	1½
27:55 Introduction to Educ.	3	30:41 General Psychology	3
2:21 Design 21	2	27:62 Elem. School Music Liter. and Apprec.	2
18:23 Fundamentals of Music	2	Elective	2-3

Second Year

1:11 Numbers Communication	2	or	1:11 Numbers Communication	
1:15 Institutions in the U. S.	3		1:16 Institutions in the U. S.	3
1:3 Written English	2		1:4 Written English	2
1:7 Effective Speaking	2		ROTC	1½
ROTC	1½		24:76 Fundamentals of Speech	3
30:52 Educational Psychology	3		28:71 Principles of Geography	3
Elective	3		27:86 Children's Literature	3
			Elective	2

Third Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:17 Western Cultural Trad.	3	1:18 Western Cultural Trad.	3
27:135 Geography	3	27:138 Tchg. of Soc. Stud. (Elem.)... 2	
27:137 Tchg. of Reading	3	or	
27:137 Tchg. Language Arts (Elem.).. 3		27:132 Early Elem. Educ. (Kind-Pr.) 3	
or		27:133 Science for Elem. Grades 3	
27:131 Early Elem. Educ. (Kind-Pr.) . 3		27:105 Tests & Measurements	2
30:107 Child & Adol. Psych.	3	27:136 Arith. in Elem. Grades	3
27:41 Handicrafts	2	27:121 Art for the Grades	2
		18:121 Primary Elem. Music Ed.....	2

Fourth Year

1:101 Integration for Seniors	2	or	1:101 Integration for Seniors	
27:124 Student Teaching	6	29:138 Health & Phys. Education		
27:115 School Management	2	Activities	3	
27:201 Principles of Education	3	Social Science	3	
21:41 American Government or		Electives	5-10	
12:41 or 42 American History	3	Total to make 128		

Students who wish to obtain both Kindergarten-Primary and Elementary certificates will be required to do student teaching on both Kindergarten-primary and Intermediate grade levels in addition to completing course requirements for each.

By taking the following particular courses, students in the Kindergarten-Primary program may also receive University recommendation as Director or Teacher in Nursery Schools :

	Cr. Hrs.		Cr. Hrs.
22:41 General Sociology	3	13:65 Child Development	3
22:117 Child Welfare	3	29:111 Red Cross First Aid	1
13:45-46 General Foods	6		
27:124 Student Teaching (in nursery school) (after 4 sem. hrs. in kindergarten-primary program)	4		

CONVERSION FROM SECONDARY TO
ELEMENTARY CERTIFICATE

The holder of a Provisional, Professional, or Permanent High School or Special Certificate may obtain a certificate valid for elementary teaching upon submitting evidence of the satisfactory completion of the following 12 semester hours of credit :

	Cr. Hrs.
27:251 Elementary Education	3
27:135 Teaching of Reading	3
27:136 Arithmetic in the Elementary Grades	3
30:107 Child and Adolescent Psychology	3

Such certificate shall be designated as a "Retraining" certificate and may be renewed only upon evidence of the completion of 12 semester hours of additional credit applicable to a degree in elementary education.

CERTIFICATION OF
NON-PROFESSIONAL DEGREE HOLDERS FOR
ELEMENTARY SCHOOL TEACHING IN OHIO

The State Department of Education will, upon the request of the employing city, county or exempted village superintendent, and the recommendation of the institution in which the credit is completed, grant a temporary elementary certificate to the holder of an appropriate bachelor's degree, who submits evidence of the completion of the above 12 semester hours of additional preparation.

ART

First Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:1	Written English	3	1:2	Written English	3
1:19	Personal Development	2	1:6	Effective Speaking	2
1:21	Physical Education	½	1:22	Physical Education	½
1:13	Reasoning and Understanding in Science	3	1:14	Reasoning and Understanding in Science	3
	ROTC	1½		ROTC	1½
27:55	Intro. to Education	3	30:41	General Psychology	3
2:21	Design	2	2:22	Design	2
2:29	Art Appreciation	2	2:30	Art Appreciation	2

Second Year

1:17	Western Cultural Traditions	3	1:11	Numbers Communication	2
1:3	Written English	2	1:18	Western Cultural Traditions	3
1:7	Effective Speaking	2	1:4	Written English	2
	ROTC	1½		ROTC	1½
30:52	Educ. Psychology	3	2:43	Industrial Design	2
33:25	Engineering Drawing	3	2:46	Drawing & Rendering	2
2:45	Drawing & Rendering	2	2:60	Ceramics	2
2:59	Ceramics	2	2:70	Crafts	2
			24:76	Fundamentals of Speech	3

Third and Fourth Years

1:15	Institutions in the U. S.	3	1:16	Institutions in the U. S.	3
1:101	Integration for Seniors	2	27:121	Art for the Grades	2
2:115	Still Life Painting	2	2:116	Still Life Painting	2
2:179	Illustration	2	2:105	Graphic Arts	2
2:175	Figure Drawing	2	2:176	Figure Drawing	2
2:151	Costume or		2:152	Costume or	
2:171	Interior Decoration	3	2:172	Interior Decoration	3
2:200	History of Art	3	2:201	History of Art	3
27:105	Tests and Measurements	2	2:102	Crafts	2
27:124	Student Teaching	6	27:191	Methods of Teaching Art	3
27:115	School Management	2	2:106	Weaving	2
	Electives: Women	6	27:201	Principles of Education	3
	Men	3		Electives: Women	6
				Men	3

Total to make 128

Since many courses are given in alternate years, the exact order of courses in the last two years would vary.

Suggested courses for minor in Art. Minimum requirements in teaching of Art for the Provisional High School Certificate.

	Cr. Hrs.
2:21-22 Design	4
2:45-46 Drawing and Rendering	4
2:59 Ceramics	2
2:115-116 Painting	4
2:175 Figure Drawing	2
2:200-201 History of Art	6
2:191 Methods of Teaching Art	3

BUSINESS EDUCATION

First Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:1	Written English	3	1:2	Written English	3
1:19	Personal Development	2	1:6	Effective Speaking	2
1:21	Physical Education	½	1:22	Physical Education	½
1:13	Reasoning and Understanding in Science	3	1:14	Reasoning and Understanding in Science	3
	ROTC	1½		ROTC	1½
39:21	Accounting	3	39:22	Accounting	3
27:55	Introduction to Education	3	30:41	General Psychology	3
43:51	Typing	2	43:52	Typing	2

Second Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:11	Numbers Communication		1:11	Numbers Communication	2
1:15	Institutions in the U. S.	3	1:16	Institutions in the U. S.	3
1:3	Written English	2	1:4	Written English	2
1:7	Effective Speaking	3		ROTC	1½
	ROTC	1½	43:62	Shorthand	4
43:61	Shorthand	3		6:82 Consumer Economics or	3
30:52	Educational Psychology	3	40:81	Selling	2
40:61	Bus. Org. & Mgt.	3		Elective in major	3 or 4

Third Year

1:17	Western Cultural Trad.	3	1:18	Western Cultural Trad.	3
27:113	High School Methods	3	27:173-4-5	Special Methods	3
6:45	Economics	3	28:54	Economic Geography	3
43:63	Adv. Shorthand & Trans.	4	43:93	Business Letters	3
43:23	Secretarial Procedure	2	43:74	Secretarial Training	2
24:76	Fundamentals of Speech	3	40:141	Business Law	3

Fourth Year

1:101	Integration for Seniors	2	or	1:101	Integration for Seniors	2
27:105	Tests & Measurements	2	27:201	Principles of Educ.	3	
27:124	Student Teaching	6		Electives	11	
27:115	School Management	2		Total to make 128		
	Electives	5-6				

HEALTH AND PHYSICAL EDUCATION

MEN

First Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:1	Written English	3	1:2	Written English	3
1:19	Personal Development	2	1:6	Effective Speaking	2
1:13	Reasoning and Understanding in Science	3	1:14	Reasoning and Understanding in Science	3
	ROTC	1½		ROTC	1½
27:55	Intro. to Education	3	30:41	General Psychology	3
29:45	Physical Education**	2	29:46	Physical Education**	2
	Electives	2-3		Electives	2-3

Second Year

1:11	Numbers Communication	2	or	1:11	Numbers Communication	2
1:3	Written English	2	1:4	Written English	2	
1:15	Institutions in the U. S.	3	1:16	Institutions in the U. S.	3	
1:7	Effective Speaking	2		ROTC	1½	
	ROTC	1½	29:94	Theory & Practice	2	
29:93	Theory & Practice	2	29:98	Physiology**	3	
30:52	Educational Psychology	3	29:70	Org. & Adm. of Com. Rec.	2	
29:97	Anatomy**	3	24:76	Fundamentals of Speech	3	
				Electives (teaching field)	1-2	

Third Year

1:17	Western Cultural Traditions	3	1:18	Western Cultural Traditions	3
29:105	Theory and Practice**	2	29:106	Theory and Practice**	2
27:113	High School Methods*	3	29:114	Theory & Pract. of Swimming	2
29:121	Org. & Adm. of Phys. Ed.**	2	27:105	Tests & Meas.	2
29:111	First Aid	1	29:122	Org. & Adm. of Phys. Ed.**	2
29:112	Massage	1	27:133	Meth. & Materials in Teaching Health Educ.**	3
29:115	Normal Diagnosis & Corrective Exercise	2	29:134	Games & Rhythms for Elemen- tary Grades**	2
29:125	Org. & Adm. of School Health**	3			

Fourth Year

1:101	Integration for Seniors	2	1:101	Integration for Seniors	2
30:107	Child & Adol. Psych.	3	27:201	Principles of Education	3
27:124	Student Teaching	6	29:119	Community Hygiene*	3
27:115	School Management	2	29:120	Camping and Outdoor Education	2
	Electives	4		Electives	6
				Total to make 128	

*Required if student wishes to teach the academic minor as well as in the major field.

**Required Physical Education courses for 24 hour teaching field.

HEALTH AND PHYSICAL EDUCATION

WOMEN

First Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:1	Written English	3	1:2	Written English	3
1:19	Personal Development	2	1:6	Effective Speaking	2
1:13	Reasoning & Understanding in Science	3	1:14	Reasoning & Understanding in Science	3
29:45	Physical Education*	2	29:46	Physical Education*	2
27:55	Introduction to Education	3	30:41	General Psychology	3
	Electives	3-4		Electives	3-4

Second Year

1:11	Numbers Communication	2	or	1:11	Numbers Communication
1:15	Institutions in the U. S.	3		1:16	Institutions in the U. S.
1:3	Written English	2		1:4	Written English
1:7	Effective Speaking	2		29:98	Physiology*
29:97	Anatomy*	2		29:96	Theory & Practice (Ind. Spts.)*
29:95	Theory & Practice (Team spts.)*	2		29:70	Org. & Adm. of Comm. Rec.
30:52	Educational Psychology	3		24:76	Fundamentals of Speech
	Electives	2-3			Electives

Third Year

1:17	Western Cultural Trad.	3	1:18	Western Cultural Trad.	3
29:115	Normal Diagnosis and Corrective Exercise	2	27:105	Tests & Measurements	2
29:111	Red Cross First Aid	1	29:122	Org. & Adm. of Phys. Educ.*	2
27:113	High School Methods**	3	29:134	Games & Rhythms for Elementary Grades*	2
29:121	Org. & Adm. of Phys. Educ.*	2	29:103	Theory & Practice	2
29:125	Org. & Adm. School Health**	2	29:133	Meth. & Materials in Tchg. Health Educ.*	3
29:108	Theory & Practice of Dance	2		Electives	3-4
	Electives	3-4			

Fourth Year

1:101	Integration for Seniors	2	or	1:101	Integration for Seniors
29:114	Theory & Practice of Swim.	2		27:124	Student Teaching
30:107	Child & Adol. Psych.	3		27:115	School Management
	Electives	7-8		27:201	Principles of Education
				29:119	Community Hygiene*
				29:120	Camping and Outdoor Education
					Total to make 128

*Required Physical Education courses for 24 hour teaching field.

**Required if student wishes to teach the academic minor as well as in the major field.

HOME ECONOMICS

First Year

First Semester		Cr. Hrs.	Second Semester		Cr. Hrs.
1:1	Written English	3	1:2	Written English	3
1:19	Personal Development	2	1:6	Effective Speaking	2
1:21	Physical Education	½	1:22	Physical Education	½
1:13	Reasoning and Understanding in Science	3	1:14	Reasoning and Understanding in Science	3
1:55	Introduction to Education	3	30:41	General Psychology	3
13:21	Textiles	3	13:22 or 23	Clothing	3
13:53	Home Econ. Orientation	1			

Second Year

1:11	Numbers Communication	2	or	1:11	Number Communications
1:15	Institutions in the U. S.	3		1:16	Institutions in the U. S.
1:3	Written English	2		1:4	Written English
1:7	Effective Speaking	2		13:46	General Foods
13:45	General Foods	3		30:52	Educational Psychology
	Elective	3		13:58	Household Furnishings
24:76	Fundamentals of Speech	3			

Third Year

1:17	Western Cultural Traditions	3	1:18	Western Cultural Traditions	3
13:105	Tailoring	3	13:106	Advanced Clothing	3
13:62	Home Management	3	13:65	Child Development	3
27:105	Tests & Measurements	2	27:151	Home Economics Education	3
13:115	Experimental Foods	3	27:113	High School Methods*	3
	Elective	3		Elective	3

Fourth Year

1:101	Integration for Seniors	2	or	1:101	Integration for Seniors
13:119	Nutrition	3		27:124	Student Teaching
	Electives	8		27:115	School Management
				27:201	Principles of Education
					Total to make 128

*Required if student wishes to teach the academic minor as well as the major field.

BASIC NURSING PROGRAM LEADING TO A DIPLOMA IN NURSING

The University offers a pre-clinical program for students in the School of Nursing at Akron City, Akron General and St. Thomas hospitals in Akron and Massillon City Hospital in Massillon.

Student nurses are regularly enrolled in the University, with college credit for these two semesters.

Applications for this program are handled through the hospital Schools of Nursing.

The following courses constitute two semesters' work on campus:

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
3:47 Anatomy & Physiology	3	3:48 Anatomy & Physiology	3
5:25 Chemistry	3	30:21 Psychology or 22:23 Sociology	3
30:21 Psychology or 22:23 Sociology	3	13:43 Foods or 3:33 Microbiology	3
13:43 Foods or 3:33 Microbiology	3	31:58 Intro. to Medical Sci.	2
31:59 History of Nursing	2		
	14		11

LEADING TO B.S. DEGREE IN NURSING

This five-year basic program permits candidates to be admitted directly to the University. The first two years and second semester of the fifth year are spent on the campus. The remaining time is spent in hospitals and allied health centers. This program includes general cultural courses and courses directly related to nursing. Clinical experience in medical, surgical, pediatric, communicable disease, tuberculosis, psychiatric and public health nursing is provided through affiliations at various hospitals and health centers.

FIVE-YEAR BASIC NURSING PROGRAM

<i>First Year</i>			
First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Written English	3	1:2 Written English	3
1:13 Reasoning and Understanding in Science	3	1:6 Effective Speaking	2
1:19 Personal Development	2	1:14 Reasoning and Understanding in Science	3
1:21 Physical Education	1/2	1:22 Physical Education	1/2
3:47 Anatomy & Physiology	3	3:48 Anatomy & Physiology	3
5:21 or 23 Chemistry	4-3	5:22 or 24 Chemistry	4-3
31:59 History of Nursing	2	30:21 or 41 Psychology	3
<i>Second Year</i>			
1:3 Written English	2	1:11 Numbers Communication	2
1:7 Effective Speaking	2	1:16 Institutions in the United States	3
1:15 Institutions in the United States	3	22:41 Sociology	3
1:17 Western Cultural Traditions	3	3:108 Bacteriology	4
3:107 Bacteriology	4	31:58 Intro. to Medical Science	2
13:43 Foods & Nutrition	3	31:52 Nursing Arts I	2
		31:54 Pharmacology I	2
<i>Fifth Year</i>			
<i>Second Semester</i>			
Third year both semesters } Clinical Experi- Fourth year both semesters } ence including Fifth year first semester } Pub. Health Nursing 112 & 113		1:4 Written English	2
		1:18 Western Cultural Traditions	3
		1:101 Integration for Seniors	2
		30:52 Educational Psychology	3
		Elective	0-2

ADVANCED PROFESSIONAL PROGRAM FOR GRADUATE NURSES

Advanced study programs are available for graduate nurses leading to the Degree of Bachelor of Science in Nursing Education. This is for graduates of accredited nursing schools who prepare for positions of ward management and teaching in hospitals. Special programs may be arranged for graduate nurses interested in public school teaching certificates.

Candidates must present evidence of graduation from an approved school of nursing. They are required to complete at least 128 semester hours which include 18 semester hours in professional nursing courses. Required courses include:

GENERAL COURSES

1:1 through 1:19 Courses	36
30:52 Educational Psychology	3
30:115 or 116 Psychology	3
27:105 Tests & Meas.	2
Chemistry, Physics, Bacteriology or Physiology	6-8

PROFESSIONAL COURSES

31:100 Nursing Trends	3
31:105 Prin. & Meth. of Teaching Nursing	3
31:106 Ward Mgt. & Tchg.	3
31:107 Curriculum Const.	3
31:112 Public Health Nursing	3
Practice 120, 121 or 122	3

Graduate nurses are allowed some credit for their professional education in nursing. This is dependent upon the quality and quantity of work completed in various subjects. The number of electives will depend on the credit allowed the individual student for her basic professional program.

SPEECH

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Written English	3	1:2 Written English	3
1:19 Personal Development	2	1:6 Effective Speaking*	2
1:21 Physical Education	½	1:22 Physical Education	½
1:13 Reasoning and Understanding in Science	3	1:14 Reasoning and Understanding in Science	3
ROTC	1½	30:41 General Psychology	3
27:55 Intro. to Education	3	ROTC	1½
Elective	5-6	Elective	5-6

Second Year

1:11 Numbers Communication	2	or 1:11 Numbers Communication	2
1:15 Institutions in the United States	3	1:16 Institutions in the United States	3
1:3 Written English	2	1:4 Written English	2
ROTC	1½	ROTC	1½
1:7 Effective Speaking*	2	24:76 Fundamentals of Speech*	3
27:52 Educ. Psychology	3	Elective (Speech)	8-9
24:51 Reading Aloud*	3		
Elective (Speech)	3		

Third Year

1:17 Western Cultural Traditions ..	3	1:18 Western Cultural Traditions ..	3
24:161 Play Production*	3	24:272 Speech Correction	3
24:271 Speech Correction*	3	24:274 Clinical Practice	1
24:273 Clinical Practice*	1	24:291 or 292 Speech Criticism	2
24:290 Dev. of Rhet. Theory	2	27:105 Tests & Measurements	2
27:113 H. S. Methods	3	Elective (teaching field)	5
Elective (teaching field)	2		

Fourth Year

1:101 Integration for Seniors	2	or 1:101 Integration for Seniors	3
27:124 Student Teaching	6	27:201 Princ. of Education	3
27:115 School Management	2	Speech	3
Speech	3	Elective (teaching field)	10
Elective (teaching field)	3		

*Speech may be used in the B.A. in Education program, either as a 19 hour teaching field or as a major of 24 hours for graduation purposes. The courses marked with a single asterisk are required for the 19 hour teaching field. Additional courses to make the 24 hour field may be selected upon consultation with the adviser.

STUDENT ADVISERS

Students should confer with the following persons, depending upon the fields in which they expect to teach. Students should also feel free to consult the Dean of the College of Education.

Art	MISS DAVIS
Commercial Subjects	MR. DOUTT, MR. LEIGH, MISS FLINT
Two-Year and Four-Year Elementary	MR. DISTAD
High School.....	MISS RIEDINGER, MR. CAMPBELL, MR. PAINTER
Home Economics	MISS BEAR
Kindergarten-Primary	MISS BECKER, MRS. PAINTER
Music	MR. PARMAN
Nursing, Nursing Education	MISS TOVEY
Physical Education..	MISS HILBISH, MR. COCHRANE, MR. MALUKE
Primary-Elementary	MISS BECKER, MRS. PAINTER
Speech	MR. SANDEFUR
Graduate	DEAN EVANS AND OTHERS

RECOMMENDATIONS FOR CERTIFICATION

Some students who receive degrees from the College of Liberal Arts may also wish to qualify for teaching. They will be recommended for certification after completing their major and minor requirements, and the courses listed under Sequence of Pre-Professional and Professional courses. Such students must be closely advised during the last two years.

Admission to student teaching will be based upon the same point average requirements as students in the College of Education. Satisfactory work must be done in teaching fields and in education, particularly student teaching, to warrant recommendation for teaching certificates.

Every teacher in Ohio public schools is required to have a certificate covering the fields in which he is teaching. This certificate is issued by the State Department of Education upon recommendation of the Dean of the College of Education. The student must make out an application form, which may be obtained in the office of the Dean. This form should be filled out about one month before the student plans to complete all of his requirements for teaching.

Students are expected to receive their recommendation for certification from the college which granted their degree. Students receiving degrees from other colleges who wish to qualify for certification at The University of Akron will be expected to meet all of the requirements of The University of Akron with an approximate total of one year's work at this institution.

STUDENT TEACHING

Student teaching is done in the public schools under the supervision of critic teachers and a representative of the College of Education faculty. Each student must teach for a semester under regular assignment. When arranging his University schedule for this semester, the student must leave either the morning or afternoon free for Student Teaching.

GRADUATE STUDY*

The College of Education offers graduate courses leading to the following degrees: Master of Arts in Education (to candidates holding the B.A. degree), Master of Science in Education (to candidates holding the B.S. degree, the B.S. in Education or the B.E. degree).

* See separate bulletin for more detail regarding graduate work in College of Education.

Requirements for the Master's degree are 30 semester hours of graduate work. Usually the student will do work in a major and a minor field. There is no definite division in the number of hours required for a major or minor. The student's program is planned to meet his need most effectively. Of the 30 hours required for graduation, four hours may be earned by credit for a thesis and the remaining 26 hours in course credit. The student may, however, choose to do two semester hours credit in an educational problem instead of writing a thesis. The difference between the thesis and the educational problem lies largely in the scope and originality of the research and the formality of the written account of the study.

If the student has completed his Bachelor's degree at The University of Akron, he may be permitted to complete from 6-8 semester hours of work at another approved university. If the student has not earned his Bachelor's degree at The University of Akron, the entire 30 hours of work for the Master's degree must be completed at The University of Akron.

The work of the research and investigation should be approved by November 1 prior to the June graduation at which the student expects to receive his degree. The Dean will assign the student an advisor and a committee at the time the project is approved. After approval of the project by the advisor and the committee, two copies of the written report must be deposited with the Dean of the College of Education before May 15 prior to the time of graduation.

Each student will be required to pass a comprehensive final examination. This examination is given in May, and may be written, or oral, or both.

There are several required courses for all students working on the programs listed below. They are:

1. Advanced Educational Psychology 303
or
Advanced Child and Adolescent Psychology 308
2. Statistics in Psychology and Education 311
3. Techniques of Research 425
4. Philosophy of Education 323-324
5. Research Problem 450

The following outlines serve as guides to graduate students in their areas of interest. Each program is subject to the approval of the Dean.

ELEMENTARY EDUCATION

	Cr. Hrs.
Statistics in Psychology and Education 311.....	2
Techniques of Research 425	2
Philosophy of Education 323-324	4
Elementary School Curriculum and Teaching 330	2
Advanced Child and Adolescent Psychology 308	2
Diagnostic Testing and Remedial Teaching 313	2
Techniques of Evaluation 312	2
Supervision of Instruction 322	2
Seminar in Elementary Education 436	2
Research Problem 450	2

A minor of twelve hours in an academic field or psychology or twelve hours elected from courses in education.

This is intended primarily for the student who expects to progress as a teacher in elementary schools. Students who wish to look forward to an elementary school principalship will qualify by electing courses in Administration.

SECONDARY EDUCATION

	Cr. Hrs.
Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Philosophy of Education 323-324	4
Secondary School Curriculum and Teaching 319	2
Advanced Child and Adolescent Psychology 308	2
Principles of Guidance 302	2
Techniques of Evaluation 312	2
Supervision of Instruction 322	2
Seminar in Secondary Education 437	2
Research Problems 450	2

A minor of twelve hours in an academic field is recommended for teachers of academic subjects.

ELEMENTARY SCHOOL PRINCIPAL

Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Philosophy of Education 323-324	4
Public School Administration 345-346	4
Elementary School Administration 331	2
Supervision of Instruction 322	2
Elementary School Curriculum and Teaching 330	2
Seminar in Elementary Education 436	2
Techniques of Evaluation 312	2
Diagnostic Testing and Remedial Teaching 313	2
Advanced Educational Psychology 303	2
Advanced Child and Adolescent Psychology 308	2
Principles of Psychotherapy 310	2
Principles and Techniques in Personnel Counseling 208	2
Psychological Testing in Personnel 207	3
Research Problem 450	2

SECONDARY SCHOOL PRINCIPAL

Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Philosophy of Education 323-324	4
Public School Administration 345-346	4
Secondary School Administration 320	2
Supervision of Instruction 322	2
Secondary School Curriculum and Teaching 319	2
Seminar in Secondary Education 437	2
Psychology of Learning 305	2
Principles of Guidance 302	2
Techniques of Evaluation 312	2
Principles and Techniques in Personnel Counseling 208	2
Advanced Child and Adolescent Psychology 308	2
Principles of Psychotherapy 310	2
Diagnostic Testing and Remedial Teaching 313	2
Research Problem 450	2

SCHOOL SUPERINTENDENT

Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Philosophy of Education 323-324	4
Public School Administration 345-346	4
Elementary School Administration 331	2
Secondary School Administration 320	2
Supervision of Instruction 322	2
Seminar: Individual Problems 438	2
Elementary School Curriculum and Teaching 330	2
Secondary School Curriculum and Teaching 319	2
Principles of Guidance 302	2
Advanced Child and Adolescent Psychology 308	2
Techniques of Evaluation 312	2
Principles and Techniques in Personnel Counseling 208	2
Principles of Psychotherapy 310	2
Research Problem 450	2

SUPERVISOR

Supervisory certificates are issued for the elementary and the secondary school levels. Details of the requirements may be obtained in consultation with an advisor. The School Superintendent certificate is valid for supervisory duties at either level.

GUIDANCE COUNSELOR

Cr. Hrs.

Required Prerequisites:

Normal and Abnormal Personality 206	3
Psychological Testing in Personnel 207	3
Principles and Techniques in Personnel Counseling 208	2

Courses Required of All College of Education Graduate Students:

Statistics in Psychology and Education 311	2
History of Educational Thought 323	2
Contemporary Philosophies of Education 324	2
Advanced Education Psychology 303	2
(or) Advanced Child and Adolescent Psychology 308	2
Techniques of Research 425	2
Research Problem 450	2 to 4

Courses Required for Guidance Certificate:

Secondary School Curriculum and Teaching 319	2
(or) Elementary School Curriculum and Teaching 330	2
Advanced Child and Adolescent Psychology 308	2
Diagnostic Testing and Remedial Teaching 313	2
Secondary School Administration 320	2
(or) Elementary School Administration 331	2
Principles of Guidance 302	2
Techniques of Guidance 304	2
Vocational Guidance and Occupational Information 309	2
Principles of Psychotherapy 310	2
Clinical Study of Exceptional Children 312	2
Practicum in Guidance Counseling 315	2

Seventy-five hours of supervised experience distributed as follows: 10 to 15 hours in selecting, evaluating, administering, scoring, and interpreting tests. 20 hours in counseling with children and young adults in such areas of concern as personal and home problems, health, scholastic achievement, school adjustment. 20 hours in self-appraisal, educational guidance, time budgeting, choice of activities, vocational choice. 10 to 15 hours in counseling with parents and programs of in-service education of teachers. Remaining hours planned jointly by student and instructor.

SCHOOL PSYCHOLOGIST

Normal and Abnormal Personality 206	3
Psychological Testing 207	2
Marital and Home Adjustment 211 (Sex Education)	2
Advanced General Psychology 301	2
Advanced Social Psychology 302	2
Advanced Educational Psychology 303	2
Individual Psychological Testing 306	3
Advanced Child and Adolescent Psychology 308	2
Principles of Psychotherapy 310	2
Statistics in Psychology and Education 311	2
Diagnostic Testing and Remedial Teaching 313	2
Individual Practicums in Clinical Psychology:	
A. Diagnostic Techniques 320 (100 hours)	1
B. Remedial Techniques in subject disabilities (100 hours)	1
C. Treatment Procedures in Personal, Education and Vocational Guidance (100 hours)	1
Elementary School Curriculum and Teaching 330	2
Techniques of Research 425	2
Research Problems 450	2

RECOMMENDED:*Education and Psychology*

Principles and Techniques of Personnel Counseling 208	2
Guidance in the Secondary School 302	2

Sociology Department

Child Welfare 117	3
Community Organizations 206	3
The Juvenile Delinquent 213	3
Race Relations 217	3

Speech Department

Speech Correction 271 and Clinical Practice 273	3
Speech Correction 272 and Clinical Practice 274	3

Only students with an exceptionally good undergraduate background will be accepted into this program.

It is preferable that a student will have completed the courses at the 200 level as a part of his undergraduate background.

SUBJECTS OF INSTRUCTION

ART

Professor Davis, Mrs. Archer

27:121. ART FOR THE GRADES. *Either semester. 2 credits.*

Prerequisite, 21. A survey of art requirements in the elementary grades with laboratory work, to give teachers a knowledge of materials and mediums, and skill in handling them.

27:191. METHODS IN TEACHING ART. *First semester. 3 credits.*

Prerequisite, completion of the required course for art teachers and quality point ratio of 2 in the field. Study of trends and procedure in teaching and in supervision; relation of art to the home, school and community; observation in selected schools is required.

BUSINESS EDUCATION

Professor Doult, Associate Professor Flint

27:173. METHODS IN TYPEWRITING. *1 credit.*

Prerequisite, Secretarial Training and a quality point ratio of 2 in the field. Methods of presentation in typewriting will be studied. Demonstrations and observations will be required. A theory test in the field must be passed before credit will be given for the course.

27:174. METHODS IN SHORTHAND AND TRANSCRIPTION. *1 credit.*

Prerequisite, Secretarial Science 63 or 142 and a quality point ratio of 2 in the field. Methods of presentation in shorthand and transcription will be studied. Demonstrations and observations will be required. A theory test in the field must be passed before credit will be given for the course.

27:175. METHODS IN BOOKKEEPING. *1 credit.*

Prerequisite, Accounting 22 or 42 and a quality point ratio of 2 in the field. Methods of presentation in bookkeeping will be studied including the business cycle, practice sets, and lesson plans. A theory test in the field must be passed before credit will be given for the course.

EDUCATION

Dean Evans, Professors Distad and Riedinger; Associate Professors W. I. Painter and Becker; Assistant Professors H. W. Painter, Sanders and Guzzetta; Mr. Campbell, Miss Kraus

GENERAL COLLEGE

27:41. HANDICRAFTS IN ELEMENTARY SCHOOL. *2 credits.*

This course consists of a broad range of experiences through the manipulation of various craft mediums which will enrich the curriculum of the elementary school.

27:45. HISTORY OF EDUCATION. *3 credits.*

A study of the development of civilization with particular reference to the role of education.

27:55. INTRODUCTION TO EDUCATION. *Either semester. 3 credits.*

An orientation course giving an overall view of the characteristic features of the American educational system and some explanation of the forces that have affected its development.

27:65. EDUCATIONAL SOCIOLOGY. *Either semester. 3 credits.*

The purpose of this course is to study the political, social, and economic forces and problems in relation to educational problems such as delinquency population shifts, vital statistics, unemployment and technological advance.

27:86. CHILDREN'S LITERATURE. *3 credits.*

A survey of materials for children in prose, poetry, and illustrations from early historical periods to modern types; criteria of selection and methods of presentation are critically examined.

27:88. SPEECH FOR THE CLASSROOM TEACHER. *Either semester. 2 credits.*

The course will deal with choral speaking as a means to speech improvement, and the correction of simple speech deviation.

UPPER COLLEGE

27:101. ACTIVITY SCHOOL. *3 credits.*

A course offered in connection with the demonstration school in the summer. Designed to examine critically recent trends and newer practices in elementary education and to develop a forward-looking point of view.

27:105. EDUCATIONAL TESTS AND MEASUREMENTS. *Either semester. 2 credits.*

Prerequisite, 52. A study of the various methods and devices employed in comprehensive and continuous evaluation. Some attention given to the treatment and interpretation of scores.

27:113. HIGH SCHOOL METHODS. *Either semester. 3 credits.*

Prerequisite, 52. This course includes four units of study carried on concurrently: (1) the basic principles of teaching; (2) a working knowledge of methodology in a specific field; (3) observation and participation; (4) preparation of teaching materials.

27:115. SCHOOL MANAGEMENT AND ADMINISTRATION. *2 credits.*

Accompanies Student Teaching. A study of the administrative relations and responsibilities of the teacher. Group discussion of problems arising in student teaching.

27:124. STUDENT TEACHING. *Either semester. 6 credits.*

Prerequisite, Education 113 or equivalent. Student teaching under the guidance of a directing teacher and a university supervisor.

27:131. EARLY ELEMENTARY EDUCATION. *First semester. 3 credits.*

Prerequisite, Psychology 52. This course aims to develop a forward-looking view-point in the education of young children. Materials, techniques, and practices are examined which furnish opportunities for cooperative enterprise and serve as a background for democratic living.

27:132. EARLY ELEMENTARY EDUCATION. *Second semester. 3 credits.*

Prerequisite, Education 131. A continuation of course 131 with emphasis on the teaching of the language arts, science, and social studies at the primary level.

27:133. SCIENCE FOR THE ELEMENTARY GRADES. *3 credits.*

Prerequisite, Psychology 52. A course for the prospective teacher of science in the elementary school; the development of a point of view toward science teaching and a study of methods of presenting science material.

27:135. THE TEACHING OF READING. *First semester. 3 credits.*

Prerequisite, Psychology 52. A survey of the reading program for the elementary school, together with modern methods of teaching reading at the various levels.

27:136. ARITHMETIC IN THE ELEMENTARY GRADES. *3 credits.*

Prerequisite, Psychology 52. A study of trends in arithmetic instruction in the elementary school. Attention is given to procedures for the development of mathematical concepts and skills.

27:137. TEACHING THE LANGUAGE ARTS. *3 credits.*

Prerequisite, Psychology 52. This course deals with materials, grade allocations, and methods for teaching oral and written expression, spelling and handwriting in elementary grades, according to the best known practice.

27:138. THE TEACHING OF SOCIAL STUDIES. *2 credits.*

Prerequisite, Psychology 52. A study of social studies program in the elementary school and the varied means of implementing the program.

27:201. PRINCIPLES OF EDUCATION. *Either semester. 3 credits.*

Prerequisite, Senior status in Education. The purpose of this course is to assist the senior student in integrating his thinking regarding the purpose of an educational system in a democratic community.

27:204. PRACTICUM IN READING IMPROVEMENT. *2 credits.*

Prerequisite, Teaching of Reading 135. This course reviews and applies the principles of teaching of reading to individuals who need diagnostic and remedial programs.

27:211. ADULT EDUCATION. *2 credits.*

A survey course for public school teachers and administrators as well as for those engaged full time in Adult Education. An historical background including European influences and their relation to the rapid developments in the field during the last decade will be emphasized. A greater share of the course will be devoted to current programs throughout the United States.

27:234. AUDIO-VISUAL EDUCATION. *2 credits.*

The primary purpose of this course is to acquaint teachers of all levels with the wide variety of visual and auditory aids available and the techniques for their respective use. Learning to operate types of projectors and sound reproducers, to locate materials available, and to construct materials for one's own specific use.

27:235. WORKSHOP. (*Elementary School*). *2 or 3 credits.*

Opportunity for individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

27:251-252. ELEMENTARY EDUCATION. *Evening and summer sessions. 3 credits each semester.*

An evaluation of recent trends and practices in elementary education.

GRADUATE COURSES IN EDUCATION

Dean Evans, Professors Distad and Riedinger, Associate Professors
W. I. Painter and Becker, Assistant Professors H. W. Painter
and Sanders

Prerequisite to graduate courses in Education: At least 12 hours of undergraduate work in Education or the equivalent, and the Bachelor's degree or equivalent, and the provisional certificate for teaching.

27:302. PRINCIPLES OF GUIDANCE. *2 credits.*

A study of the principles and practices of pupil guidance and of establishing an effective guidance program in elementary and secondary schools.

27:304. TECHNIQUES OF GUIDANCE. *2 credits.*

A treatment of everyday counseling and interviewing as applied in school situations, techniques and uses of group guidance, initiating and using records and record systems, the school counseling use of tests and test results, and principles of administering a school's guidance program, including relationships with school administration, with classroom teaching, and with other school and community services.

27:309. VOCATIONAL GUIDANCE AND OCCUPATIONAL INFORMATION. *2 credits.*

A study of the sources, organization, and uses of occupational information; the principles, practices, and techniques of group instruction and individual guidance in studying, evaluating, and choosing an occupation.

*27:311. STATISTICS IN PSYCHOLOGY AND EDUCATION. *2 credits.*

A course in statistical methods and techniques used in the field of measurement and by research workers in education and psychology.

27:312. TECHNIQUES OF EVALUATION. *2 credits.*

A study of the techniques of measuring and evaluating pupil progress. Some attention will be given to the test construction.

*Required graduate course.

- 27:313. **DIAGNOSTIC TESTING AND REMEDIAL TEACHING.** *2 credits.*
A study of the factors contributing to educational disability. Techniques of diagnostic and remedial work will also be treated.
- 27:317. **SUPERVISION OF STUDENT TEACHING.** *2 credits.*
Primarily for directing teachers in the guidance of student teachers. Topics include: readiness for student teaching; student teacher, directing teacher, and college supervisor relationships; the use of the conference, demonstration, and observation; helping student teachers through evaluation.
- 27:319. **SECONDARY SCHOOL CURRICULUM AND TEACHING.** *2 credits.*
The application of the dominant theory of education as applied to curriculum building and procedures in teaching.
- 27:320. **SECONDARY SCHOOL ADMINISTRATION.** *2 credits.*
A treatment of the problems, procedures, and principles of organization and administration in secondary schools.
- 27:322. **SUPERVISION OF INSTRUCTION.** *2 credits.*
A study of the principles, organization, and techniques of supervision with a view to the improvement of instruction.
- *27:323. **HISTORY OF EDUCATIONAL THOUGHT.** *2 credits.*
An historical study of educational theory and its originators, necessary to an understanding of current theory and practice.
- *27:324. **CONTEMPORARY PHILOSOPHIES OF EDUCATION.** *2 credits.*
Prerequisite, 323. An appraisal of conflicting philosophies which are most important in present school practice.
- 27:330. **ELEMENTARY SCHOOL CURRICULUM AND TEACHING.** *2 credits.*
The application of the dominant theory of education as applied to curriculum building and procedures in teaching.
- 27:331. **ELEMENTARY SCHOOL ADMINISTRATION.** *2 credits.*
A study of the problems, procedures, and principles of organization, administration, and supervision in elementary schools.
- 27:335. **WORKSHOP. (Secondary School).** *2 credits.*
This course consists of lectures on workshop technique supplemented by the working out of individual problems under staff guidance.
- 27:341. **EVALUATION OF SECONDARY SCHOOLS.** *2 credits.*
This is a laboratory course in which the evaluation of a high school will be made by use of up-to-date techniques and criteria.
- 27:345-346. **PUBLIC SCHOOL ADMINISTRATION.** *Each semester. 2 credits.*
The theory and practices of educational administration in the state and county systems, cities, and rural districts. It includes school law, organization, administration, finance, pupil accounting, planning and completion of school buildings.
- *27:425. **TECHNIQUES OF RESEARCH.** *2 credits.*
A study of research methods and techniques commonly used in education and psychology; some emphasis given to the preparation of research reports.
- 27:427. **SEMINAR IN CURRICULUM.** *2 credits.*
A study of the principles underlying curriculum construction; review of important investigations; and practice in construction of curriculum units.
- 27:433-434. **COMPARATIVE EDUCATION.** *2 credits each semester.*
Educational philosophy and organization in foreign countries.
- 27:436. **SEMINAR IN ELEMENTARY EDUCATION.** *2 credits.*
- 27:437. **SEMINAR IN SECONDARY EDUCATION.** *2 credits.*
- *27:450. **RESEARCH PROBLEM.** *2 to 4 credits.*
This course is required of candidates for the Master's degree. Credit will vary from 2 to 4 hours depending upon whether the research is classified as a problem or as a thesis.

* Required graduate courses.

GEOGRAPHY

Associate Professor Jones

28:54. ECONOMIC GEOGRAPHY. 3 credits.

Climate, land forms, soils, mineral resources, and vegetation and their influence upon economic activity. Required of all commerce students.

28:71. PRINCIPLES OF GEOGRAPHY. 3 credits.

A study of those principles which are basic in gaining an understanding of the relationship of man's activities to his natural environment.

*28:72. GEOGRAPHY OF NORTH AMERICA. 3 credits.

A study of the natural regions, climate, natural resources, work patterns and industries of the continent.

*28:73. GEOGRAPHY OF SOUTH AMERICA. 3 credits.

This course will give each student a basic view of the entire South American continent, its climate, products, types of inhabitants, its various kinds of government and its relation to the North American neighbors.

*28:74. GEOGRAPHY OF EUROPE. 3 credits.

A study of the natural regions, the uneven distribution of resources among the several political units and an evaluation of some of the problems faced by the countries of the continent.

*28:75. WORLD GEOGRAPHY. 3 credits.

In this course a general study is made of the effects of geographical environment upon people living in Africa, Malaysian Lands, India, China, Japan, Russia, South America, Caribbean Lands, The United States, and Western Europe.

*28:77. GEOGRAPHY OF ASIA. *Either semester.* 3 credits.

This course is designed to help develop an understanding of the various countries of Asia, their economic-geography regions, their major commodities, and their industries and commerce. It will help to interpret adjustments to the environment through the study of space relationships, climate, relief, and natural resources as well as significant political, racial and social factors which have a bearing upon industrial and commercial activities.

HOME ECONOMICS

*Professor Bear*27:151. HOME ECONOMICS EDUCATION. *First semester.* 3 credits.

Organization of home economics in the secondary schools. Two hours observation, two hours lecture.

MUSIC EDUCATION

*Professor Parman, Associate Professors Ende and Henry Smith,**Assistant Professor Witters; Mr. Stein, Mr. Lightfrits,**Miss Whittaker*

18:23. FUNDAMENTALS OF MUSIC. 2 credits.

A functional introduction to music embracing notation, terminology, scale construction, simple melodic dictation and sight singing, familiarity with the piano keyboard, and experience in singing part songs. A prerequisite to any further study of music.

27:50. VOICE CLASS. 2 credits.

A study of the technique employed in choral conducting with emphasis on securing attacks, releases, dynamic and tempo changes; voice classification; and methods of securing correct intonation. Also an analysis of choral literature.

*Prerequisite, Geography 71.

18:55-56. STRING CLASS. *1 credit each semester.*

Actual playing of string instruments with special emphasis on the violin. Study of material and teaching techniques.

18:57. WOODWIND CLASS. *1 credit.*

Actual playing of woodwind instruments with special emphasis on clarinet. Study of the material and teaching techniques.

18:58. BRASS CLASS. *1 credit.*

Actual playing of brass instruments with emphasis on the cornet. Materials and teaching techniques; rudimentary drumming.

27:62. ELEMENTARY SCHOOL MUSIC LITERATURE AND APPRECIATION. *2 credits.*

Materials and methods for teaching music appreciation in the grades, beginning with rote and reading song correlation with children's activities and progressing to the enjoyment of familiar serious music through recordings and concerts.

18:110. CONDUCTING. *2 credits.*

The fundamentals of conducting technique, and individual practice in conducting.

27:121. PRIMARY-ELEMENTARY MUSIC EDUCATION. *2 credits.*

Theory and practice of presenting vocal and instrumental music in the grades. Rote, observation, sight reading, and part-songs, and discussion of objectives and methods for grades I to VI. Survey of available materials in these fields and instruction in Rhythm Band, Melody Band, and other pre-instrumental methods.

27:123. SECONDARY MUSIC EDUCATION. *2 credits.*

The procedures that should be employed to give the adolescent a well-balanced participation in applied and theoretical music.

Other music courses are described in the Music Department Section under Liberal Arts.

NURSING EDUCATION

Associate Professor Tovey, Mrs. Black, Miss Knapp

31:52. NURSING ARTS. *2 credits.*

Aids students in their orientation to nursing, in developing desirable ideals and attitudes, and in recognizing the principles of health conservation and promotion.

31:54. PHARMACOLOGY I. *2 credits.*

The systems and methods used in weighing and measuring drugs, making solutions, calculating dosage, and the nurse's responsibility in the administration of medicine.

31:56. PROFESSIONAL ADJUSTMENTS I. *1 credit.*

Consideration of the underlying principles of nursing ethics, and guidance in making personal and professional adjustments to nursing.

31:58. INTRODUCTION TO MEDICAL SCIENCE. *2 credits.*

The causes of disease, bases for treatment, methods of prevention and control, and the various professional groups with whom she associates in the care of the sick. The application of scientific principles and methods to the nursing care of patients.

31:59. HISTORY OF NURSING. *2 credits.*

A brief history of nursing from prehistoric times to present day. An effort is made to show not only the relationship of the methods in care of the sick to political and economic conditions, but also to show the professional heritage of the present day nurse and the ethical backgrounds of her profession.

31:63. FOOD ECONOMICS. 3 credits.

For student nurses. The relative, the nutritional, and material values of foods as used in the family dietaries and in planning and preparing meals. Two hours lecture, two hours laboratory.

31:71. HISTORY OF NURSING. 3 credits.

Open to graduate nurses or seniors in the five-year program. A study of the development of nursing from the pre-Christian period to the present time; its relation to religion, science, and social institutions; the influence of leaders and origin of organizations.

31:100. NURSING TRENDS. 3 credits.

Nursing trends with emphasis on current developments and problems in the various fields of nursing, and attention to developments in other fields affecting nursing.

31:105. PRINCIPLES AND METHODS OF TEACHING NURSING. 3 credits.

Open to graduate nurses or seniors in the five-year program. A study of the principles of learning and methods of teaching, through which the student may understand and apply these to instruction in the nursing field. Discussion of classroom and clinical instruction and the preparation of a plan for teaching an area of nursing according to major interest of the student.

31:106. WARD MANAGEMENT AND TEACHING. 3 credits.

Open to graduate nurses or seniors in the five-year program. An introductory course planned to guide thinking and preparation basic to the organization and management of a hospital division as a head nurse. Principles of administration, supervision and teaching will be explored, discussed and developed as they relate to nursing service and the guidance of all workers in the division as well as inter-departmental relations.

31:107. CURRICULUM CONSTRUCTION. 3 credits.

Principles and methods of curriculum making, aims, standards, sources, techniques and planning the program of study. Discussion of problems of installing the curriculum and modifications in collegiate schools. Prerequisite or concurrently, 105.

31:112. PUBLIC HEALTH NURSING. 3 credits.

Open to graduate nurses or seniors in the five-year program. The function and scope of public health services. Responsibilities, duties and techniques involved in public health nursing.

31:113. PUBLIC HEALTH NURSING PRACTICE. 6 credits.

Open to graduate nurses or seniors in the five-year program. Supervised visitation of homes in connection with the service rendered by the Visiting Nurse Service—the practice of public health nursing under supervision.

31:120. PRACTICE IN WARD MANAGEMENT. 3 to 6 credits.

Prerequisite, 106. Planned observation and supervised practice in one of the head nurse units of a local hospital. Emphasis is placed on those activities which constitute the duties and responsibilities of the hospital head nurse.

31:121. PRACTICE IN WARD CLINICAL TEACHING. 3 to 6 credits.

Prerequisite, 105, 106. Individual programs planned according to interest of student. Includes planning and executing a program of ward instruction for basic nurse students under close supervision.

31:122. PRACTICE TEACHING. 3 to 6 hours.

Prerequisite, 105. Planned observation and supervised practice of formal class-room teaching in local school of nursing.

PHYSICAL EDUCATION

Professor Cochrane, Associate Professor McMullen; Assistant Professors Beichly, Maluke and Evans; Miss Hilbish, Miss Perrie; Mr. Sefton, Professor Emeritus

GENERAL COLLEGE

1:21-22. PHYSICAL EDUCATION. $\frac{1}{2}$ credit each semester.

Required course in physical education activity planned for freshman year.

WOMEN

- I. Folk and Square Dancing (each semester) 1 credit.
- II. Team Sports (Speedball-Basketball) (first semester) 1 credit.
- III. Team Sports (Basketball-Softball) (second semester) 1 credit.
- IV. Individual Sports (Archery-Badminton) (each semester) 1 credit.
- V. Beginning Swimming (each semester) 1 credit.
Intermediate Swimming (each semester) 1 credit.
- VI. Advanced Swimming and Diving (each semester) 1 credit.
Advanced Swimming and Life Saving (second semester) 1 credit.
- VII. Modern Dance (each semester) 1 credit.

45-46. BASIC COURSE IN PHYSICAL EDUCATION PRACTICE. *Each semester. 2 credits.*

Men students majoring in Physical Education are required to take all laboratory sections provided for Physical Education 3-4. Women majors are required to take sections I-VII given above.

29:69. ORGANIZATION AND ADMINISTRATION OF INDUSTRIAL RECREATION. *2 credits.*

There is a lecture and discussion course of the following material: Health Education, Athletic Equipment, Noon-Hour Recreational Physical Activities, Programs of Activities, Programs of Games, Organization and Administration of Athletic Meets, and Industrial Athletic Organization.

29:70. ORGANIZATION AND ADMINISTRATION OF MUNICIPAL RECREATION. *2 credits.*

This course will deal with subjects of Administration, Budgets, Management of Individual Playgrounds, the Neighborhood Recreation Center and Community Activities.

29:93-94. THEORY AND PRACTICE OF PHYSICAL EDUCATION (*for men*). *Each semester. 2 credits.*

The purpose of this course is to develop personal technique and skill in presenting calisthenics, marching, gymnastic activities, and officiating in sports; history; general lesson plans suitable for elementary and secondary school programs.

29:95-96. THEORY AND PRACTICE OF ATHLETICS (*for women*). *2 credits.*

Interpretation of rules, techniques and practice in officiating in team and individual sports.

29:97. APPLIED ANATOMY. 3 credits.

This is a study of the structure of the architecture of the human body, specializing on the origin, insertion, action, innervation and blood supply of the important muscles of the body in relation to physical education and health.

29:98. APPLIED PHYSIOLOGY. 3 credits.

The purpose of this course is to study the general laws of life and the functional activity of tissues, organs and systems, learning what they can do and how they work in everyday life.

UPPER COLLEGE

29:103. THEORY AND PRACTICE OF PHYSICAL EDUCATION (for women).

Second semester. 2 credits.

Historical development, methods and practice in the teaching of apparatus, gymnastics, stunts and tumbling (first nine weeks). Tests and measurements in physical education (second nine weeks).

29:105-106. THEORY AND PRACTICE OF ATHLETICS (for men).

2 credits.

Interpretation of rules, techniques and practice in officiating in team and individual sports.

29:108. THEORY AND PRACTICE OF DANCING. Second semester.

2 credits.

History, theory and philosophy of dance as a creative art experience. Practice in rhythmical analysis and composition.

29:111. RED CROSS FIRST AID. 1 credit.

This is the standard American Red Cross course which gives instruction and practice in the immediate and temporary care of injuries and sudden illness.

29:112. ATHLETIC INJURIES AND MASSAGE (men). Second semester.

1 credit.

Theory and practice in the scientific manipulation of the muscles as related to therapeutic exercise.

29:114. THEORY AND PRACTICE OF SWIMMING. Second semester.

2 credits.

Analysis of strokes and dives; methods and practice in the teaching of swimming.

29:115. NORMAL DIAGNOSIS AND INDIVIDUAL CORRECTIVE GYMNASTICS AND CORRECTIVE EXERCISE. 2 credits.

Prerequisite 97 and 98. A study of current theories and practices relating to the needs of physically handicapped children; particular emphasis is given to underlying philosophy, purpose, and administration.

29:119. COMMUNITY HYGIENE. 3 credits.

Personal and community hygiene, nutrition, disease prevention and control, mental and emotional health, and problems of medical care.

29:120. CAMPING AND OUTDOOR EDUCATION. 2 credits.

Camping skills and counseling techniques will be discussed. Emphasis on camp administration in the various types of camps will be stressed.

29:121-122. ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. 2 credits each semester.

A comprehensive study of the various aspects of the organization and administration of physical educational programs.

29:125. ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH.

3 credits.

Deals with the organization of Health Education, with special reference to national, state, and local control. Considers staff, program, budget, health and safety, facilities and other phases of administration.

29:133. METHODS AND MATERIALS IN TEACHING HEALTH EDUCATION.

3 credits.

The course will include a study of current materials for the elementary and secondary school grades, the integration and correlation of Health Education in the education of school children, and a survey of community, state and federal agencies concerned with the health of school age children.

29:134. GAMES AND RHYTHMS FOR ELEMENTARY GRADES. *2 credits.*

Two lectures and two laboratory periods each week. The lectures concern theories of play, child development and the supervision responsibilities with classroom teachers in the program of physical education. The laboratories give an opportunity for analysis of games and rhythms for the first six months with emphasis on materials and methods for the various age groups. For majors in Physical Education.

29:138. HEALTH AND PHYSICAL EDUCATION ACTIVITIES FOR ELEMENTARY GRADES *3 credits (Previously Physical Education 131 and 132).*

Two lectures and two laboratory periods each week. A study of the philosophy, aims and objectives of health and physical education programs on the elementary level. Actual practice in teaching games and rhythms of low organization; planning health and physical education programs based upon needs, interests, and development of elementary children; common communicable and non-communicable disturbances; methods of organization; study of source materials available.

PSYCHOLOGY

*Professor Twining, Associate Professors Alven and Hampton,
Mr. Tougas, Mr. Woodward, Mr. Ireland, Mr. Voth*

30:21. ELEMENTARY PSYCHOLOGY.

An introduction to the field of psychology with emphasis on the basic facts and principles found in the behaviour of the typical human adult. This course is open only to people in the Pre-Clinical Nursing Program for whom it is a substitute for Psychology 41.

30:31. INTRODUCTORY PSYCHOLOGY FOR BUSINESS AND INDUSTRY.

3 credits.

A study of the basic facts and principles involved in human behavior with an emphasis on their application to problems in the business and industrial environment. Designed especially for College of Business Administration or College of Engineering students. No student can receive credit for both 41 and 31.

30:41. GENERAL PSYCHOLOGY. *3 credits.*

A study of the basic facts and principles involved in normal human behavior. Lectures, demonstrations, and discussions.

30:43. APPLIED PSYCHOLOGY. *3 credits.*

Prerequisite 41. Introductory survey of techniques used and results obtained by applied psychologists in their analysis of business, education, clinical problems, home, industry, law, and criminology, medicine, personnel relationships, social change, and vocation. Lectures, reports, and discussions.

30:47. INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY. 3 credits.

Prerequisite, 41. An introduction to laboratory procedures and quantitative methods in psychology. Lectures, reference reading, and experiments, including statistical treatment of data obtained. Two hours of lecture and two hours of laboratory work per week. Required of majors.

30:52. EDUCATIONAL PSYCHOLOGY. 3 credits.

Prerequisite 41. Designed to prepare the prospective teacher or supervisor to guide the all-around development of his students more efficiently. Concepts of growth, learning, adjustment, and individual differences are stressed. Observations of different classroom situations are included.

UPPER COLLEGE

30:107. PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE. 3 credits.

Prerequisite 41. A developmental study of the individual from birth through the adolescent period; emphasis on needs and problems of typical children and adolescents; preparation of case histories of individual children or adolescents.

30:110. EXPERIMENTAL PSYCHOLOGY. 3 credits.

Prerequisite 45. A study of the scientific methods and tools of modern experimental psychology; group and individual laboratory experiments in such topics as sensory processes, attention and perception, and learning; some attention to field studies in the measurement of public opinion. One lecture and two 2-hour laboratory periods a week.

30:115. SOCIAL PSYCHOLOGY. 3 credits.

Prerequisite 41. A study of the psychological responses of the individual in relation to the group situations and the social influences of modern life.

30:116. INDUSTRIAL PSYCHOLOGY. 3 credits.

A study of the socio-psychological principles of behavior operating in business and in industry. Topics include Group Dynamics, and the psychological aspects of Communication, Supervision, Training, Selection Procedures and Labor Relations.

30:117-118. INDIVIDUAL FIELD WORK. 1-2 credits each semester.

Prerequisite, Senior and permission. The individual student must gain permission and make arrangements with the Department Head and with the Institutional Head. Work is under the direct supervision of an institutional staff member and the indirect supervision of a psychology staff member. (At least 50 hours of work at the agency or institution is required for each hour of credit.)

30:204. PSYCHOLOGY OF EXCEPTIONAL CHILDREN AND ADOLESCENTS. 3 credits.

Prerequisite, 107. A study of a typical or exceptional conditions in the psychological development of children and adolescents; emphasis on diagnostic and treatment procedures in the clinical approach to helping these individuals in their adjustment.

30:206. NORMAL AND ABNORMAL PERSONALITY. 3 credits.

Prerequisite, 6 hours in psychology. Basic principles regarding the nature, development and organization of normal personality; a study of the range of adjustment mechanisms including the normal, the minor maladjustment area, the psychoneuroses, and the extreme psychoses. Lectures, recitations and visits to mental hospitals when possible.

30:207. PSYCHOLOGICAL TESTING IN PERSONNEL. 3 credits.

Prerequisite, 6 hours of psychology. A survey of psychological tests and their common uses in business, industry, government and education; some attention to theoretical bases of test construction; practice in administering and interpreting general ability, special aptitude, vocational interest and personality tests. Two lectures and two 1-hour laboratory periods a week.

30:208. PRINCIPLES AND TECHNIQUES IN PERSONNEL COUNSELING.

2 credits.

Prerequisite 207 or adult engaged in counseling. Instruction and practice in interviewing; survey of occupations and use of Dictionary of Occupational Titles; special problems of counselors in industrial, commercial and school situations. One lecture and two 1-hour laboratory periods per week.

30:211. PSYCHOLOGICAL FACTORS IN MARITAL AND HOME ADJUSTMENT. *2 credits.*

Prerequisite, a senior or adult with at least one course in psychology. A study of the psychology of sex adjustment in adolescence, adulthood, and marriage; attention to a psychological evolution of the factors which are important to successful marriage and parenthood. Lectures, readings, and discussions.

30:214. PHYSIOLOGICAL AND COMPARATIVE PSYCHOLOGY. *3 credits.*

Prerequisite, 9 credits in psychology. A comparative study of animal and human behavior by means of a critical survey of laboratory experiments. There is considerable emphasis on the physiological factors underlying such areas of response as sensation, emotion, and adaptive learning.

‡30:216. SEMINAR AND RESEARCH PROBLEM. *2 credits.*

Prerequisite, senior major or graduate. Reports by students on reading and experimental research; individual experimental problem done by some students; reviews and critical discussion of current literature in the journals.

GRADUATE COURSES

30:207, 208, 213, and 216 are recommended for graduate students. The prerequisite for graduate psychology courses is graduate standing with some background in psychology or seniors with 15 credit hours of psychology who may be admitted to courses at the 300 level.

30:301. ADVANCED GENERAL PSYCHOLOGY. *2 credits.*

Prerequisite, 9 credits in psychology. A critical survey of major findings in the study of the normal human adult. Emphasis is on physiological background and contemporary experimental results. Lectures, readings, and reports.

30:302. ADVANCED SOCIAL PSYCHOLOGY. *2 credits.*

Concepts and techniques involved in analyzing the behavior of individuals in such social phenomena as folkways, institutions, attitudes, propaganda, leadership, public opinion, and social morality.

*30:303. ADVANCED EDUCATIONAL PSYCHOLOGY. *2 credits.*

An analysis of development of skills and knowledge; interest and ideals; problem solving and creative activity; social growth and character formation. Designed for teacher or supervisor.

30:305. PSYCHOLOGY OF LEARNING. *2 credits.*

An analysis of experimental studies of learning and of the theories for organizing these facts. Attention is given to most efficient ways of guiding the learner in different areas of development.

30:306. INDIVIDUAL INTELLIGENCE TESTING I. *2 credits.*

Prerequisite: Psychology 207 and permission of the Psychology Staff. Offered only as an individual course. Instruction and intensive practice in the administration and interpretation of the Stanford-Binet test.

30:307. INDIVIDUAL INTELLIGENCE TESTING II. *2 credits.*

Prerequisite: Psychology 207 and permission of the Psychology Staff. Instruction and intensive practice in the administration and interpretation of the Wechsler-Bellevue test.

*Required graduate course.
†Required for senior majors.

- 30:308. **ADVANCED CHILD AND ADOLESCENT PSYCHOLOGY. 2 credits.**
Analysis and evaluation of methods and conclusion of current major researches in child and adolescent development.
- 30:309. **PERSONALITY DYNAMICS AND ORGANIZATION. 2 credits.**
Prerequisite: Graduate student or Senior Major with 15 hrs. of psychology. A study of the major personality theories and their respective contributions to the understanding of personality dynamics and organization.
- 30:310. **PRINCIPLES OF PSYCHOTHERAPY. 2 credits.**
A consideration of basic principles and techniques of psycho-therapeutic counseling. The major emphasis is placed on the client-centered approach and on psychoanalytic therapy as represented by the neo-Freudians. This course presupposes an understanding of the dynamics of adjustment as presented in psychology 206.
- 30:312. **CLINICAL STUDY OF EXCEPTIONAL INDIVIDUALS. 2 credits.**
Prerequisite, 15 hours of psychology or permission. This is a functional study of diagnostic and treatment problems in the clinical approach to helping typical individuals in their adjustment. Such areas as educational, social, and vocational adjustment are considered. Previous courses in psychology 206, 207, and 310 recommended.
- 30:314. **ADVANCED INDUSTRIAL PSYCHOLOGY. 3 credits.**
Prerequisite: Graduate student or senior with 15 hours of Psychology. Study of human factors influencing production, management and worker satisfactions, and group relations in industry. Emphasis on selection and training methods, conditions of work, performance rating, supervision, safety, attitude studies, motivation, personal adjustment, and labor-management relations.
- 30:317. **HISTORY AND SYSTEMS OF PSYCHOLOGY. 2 credits.**
A critical survey of the evolution of methods and concepts of psychology and of contemporary points of view.
- 30:320. **PRACTICUM IN CLINICAL PSYCHOLOGY. 1 to 3 credits.**
Prerequisite, permission. The practice is in the areas of diagnostic techniques, remedial methods and personal counseling. Includes the 300 hours of practice required by the State Department of Education for certification of the junior school psychologist. Also for those in other areas of clinical psychology. Institutions now cooperating are the Akron Detention Home, Akron School Child Study Department, Barberton School Psychologist Services, County School Psychological Services, Cuyahoga Falls Pupil Personnel Services, Summit County Receiving Hospital and University Psychological Services.
- 30:401. **PSYCHOLOGY READING AND RESEARCH. 1 to 4 credits.**
Prerequisite: 20 hours of graduate work. Designed to permit research by graduate student in fields not hitherto covered by him. Guidance by a staff member and approval of the Head of the Department are required.
- 30:402. **PSYCHOLOGY RESEARCH PROBLEM. 2 to 4 credits.**
This is the reading and experimental research course which fills the problem or thesis requirement for the Master's degree.

SPEECH

Professor Sandefur

- 24:76. **FUNDAMENTALS OF SPEECH. Either semester. 3 credits.**
A course designed especially for majors in the College of Education. Effective speaking for the classroom teacher with emphasis upon organization, delivery, voice, and articulation.

COLLEGE OF BUSINESS ADMINISTRATION

WARREN W. LEIGH, PH.D., *Dean*

The College of Business Administration was established at The University of Akron, February 18, 1953, effective September 1, 1953. It embodies curriculums previously taught in the Departments of Commerce (established in September, 1919), Industrial Management, and Secretarial Science of Buchtel College of Liberal Arts.

The College of Business Administration is for men and women who plan to enter the fields of business administration, accounting, marketing and advertising, industrial management, or secretarial science. In addition to the four-year curriculums, terminal and short-term educational programs are offered in the day and evening sessions.

ADVISORY COMMITTEE

The College maintains an Advisory Committee of prominent leaders from various fields of business and labor who periodically meet to counsel us relative to our objectives, programs and special community educational efforts. The members of this Committee are:

- Mr. L. S. Buckmaster, President, United Rubber, Cork, Linoleum & Plastics Workers of America.
- Mr. Fred W. Climer, Vice President, Personnel, Goodyear Tire & Rubber Company.
- Mr. George Daverio, C.P.A., Partner, Chilton, Stump & Daverio.
- Mr. J. Ward Keener, Vice President, Personnel, The B. F. Goodrich Co.
- Mr. M. S. Richardson, President, Bank of Akron.
- Mr. J. E. Trainer, Executive Vice President, Firestone Tire & Rubber Company.
- Mr. E. D. Warner, Managing Director, A. Polsky Company.

ADMISSION REQUIREMENTS

The College of Business Administration accepts students after they have completed two years of general college work. The admission of a student will depend upon his preparation, ability to do college work, his interests, moral character, and fitness for an effective business or professional career. The entrance requirements to the College are:

1. Completion of 64 semester hours with an average of "C" in all work taken, or permission of the Dean.
2. A general educational background as indicated by the satisfactory completion of the General College program as specified for the various areas of Business Administration.
3. Evidence of satisfactory competence in oral and written English, applied mathematics and typing.

The College reserves the right to require examinations of students transferring work to validate the credits, if necessary, or properly to place the student where the more advanced courses presume a certain background of knowledge, as in accounting.

OBJECTIVES AND POLICY

The management of business enterprise requires a broad social, economic, and political background; a trained mind; an inquiring attitude; a thorough knowledge of business fundamentals and skill in the uses of management tools and techniques. A program of business training directed toward the development of a high degree of intellectual and professional competence is therefore essential.

The primary aim of the College of Business Administration is to provide professional or technical education at the upper university level. The lectures, problems, and inspection trips integrate theory and practice, and assure thorough preparation. A capstone of business experience will provide professional background and bring out qualities of leadership. For those students who plan to teach or pursue advanced study, a solid educational foundation is provided.

The College maintains a sound balance between liberal education and professional courses. Students plan their programs so that approximately 50 per cent of their courses fall in the area of liberal education, 25-30 per cent in general business subjects, and not to exceed 25 per cent in the specialized field of interest. An outline of the overall educational plan, except for secretarial science, is presented herewith.

BASIC CURRICULUM PATTERN FOR BUSINESS ADMINISTRATION

PRE-BUSINESS PREPARATION 2 YEARS		BUSINESS ADMINISTRATION MAJOR	
<i>Liberal Education—to Provide:</i>	<i>Business Foundation Courses</i>	<i>Junior Year</i>	<i>Senior Year</i>
1. Facility in use of English — oral and written.	1. Business Organization	1. Principles of business operation: Production Marketing Finance Personnel Relations	Major of 15 hours—sufficient concentration for the student to appreciate and understand one given area of business.
2. Knowledge of basic mathematics — the quantitative measuring tool.	2. Economics	2. Measurement and control tools: Accounting Costs-budgets Statistics Operating standards	Electives in Liberal Arts in: a. Economics, social sciences, literature, etc. b. Bus. Adm. Courses (limited in quantity)
3. A basic understanding of the reasoning and analytical methods of science.	3. Accounting		Business Policy (3 hrs.) integrates, evaluates and applies the materials learned.
4. Knowledge of man's moral, social, cultural, and religious development.	4. Selling Typing		

DEPARTMENTS AND MAJORS

The College of Business Administration is divided into four departments:

General Business—offering majors in General Business; Advertising, Marketing and Merchandising; and Finance.

Accounting—offering majors in Public Accounting and Private Accounting.

Industrial Management—offering programs in Production Management and Industrial Relations.

Secretarial Science—offering a two-year certificate program and a four-year degree program with optional specialization in such fields as medical secretary, legal secretary, etc.

Majors or programs of concentration permit students to study intensively in the areas of their major interests. The student who does not have a definite specialized interest should take General Business. Before undertaking a major in any area, the student should discuss with the head of that department his capacity and prospects for success in that field.

To undertake a major leading to the Business Administration or the Industrial Management degree, the student must have a "C" average with not more than one "D" in the "pillar" courses.*

DEGREES

Degree programs, as well as short certificate plans, are provided by several of the departments in the evening as well as in the day sessions.

Degrees granted by the College of Business Administration are: Bachelor of Science in Business Administration, Bachelor of Science in Industrial Management, Bachelor of Science in Secretarial Science, Master of Science in Business Administration.

REQUIREMENTS FOR GRADUATION

1. A minimum of 128 semester hours, including the work in the General College. Not more than 2 semester hours of physical education activities, 8 semester hours of applied music, 4 semester hours of typing (except toward a secretarial science degree or program) may be included.

2. Other requirements, including the residence requirement, listed in the General Information section.

3. At least a "C" average in (a) the major—the pillar courses and all courses taken in the College—(b) all courses undertaken here and elsewhere.

4. The recommendation of the student's department head.

PLACEMENT OF GRADUATES

In the placement of its graduates, the College of Business Administration follows the policy of providing frank and full reports on its students to prospective employers. The College also advises students as frankly and fully as possible concerning alternative job opportunities. The aim of the placement program is to bring together the students and the business community in their employment relationships in such a way as to be of maximum service to all parties concerned.

In addition to the placement activities of the College itself, the University Placement Office is continually active in putting graduates of the college in touch with employment opportunities.

* These Business Administration "pillar" courses consist of Accounting 22, Economics 45-46, Production Management 62, Marketing 183, and Business Finance 171.

GENERAL BUSINESS

Professor Leigh, Assistant Professors M. Rogler, Bray, McKinnon, and Mr. Powers, Mr. Lantz, Mr. Anderson, Mr. Reynolds, Mr. Peebles, Mrs. Buehl, Mr. Morris, Mr. Conner, Mr. Goldman, Mr. Allan, Mr. Price, Mr. Field, Mr. McCollum

The General Business curriculums in Business Administration develop and apply those principles and techniques of economics, administration, and operation which are common to all business and industrial organizations.

This program is adapted to students preparing for careers in business operation, marketing and merchandising, advertising, sales, retailing, finance, transportation, or foreign trade.

The Department also provides business training for students majoring in Liberal Arts but seeking careers in business and for students majoring in textiles but seeking positions in merchandising.

The new Sales and Merchandising Laboratory makes it possible for the latest developments and practices in the marketing field to be brought into the retailing, advertising, accounting, and selling classrooms.

The degree of Bachelor of Science in Business Administration will be granted to those students who complete the prescribed work, including a problems course or seminar in the major area.

BASIC CURRICULUM IN GENERAL BUSINESS

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 English	3	1:2 English	3
1:11 Numbers Communication	2	40:61 Business Organization	3
43:25 Machine & Slide Rule	1	1:11 Numbers Communication..2	2
40:61 Business Organization	3	or	
1:19 Personal Development	2	43:25 Machine & Slide Rule....1	1
1:21 Physical Education	½	1:6 Effective Speaking	2
39:21 Accounting 21	3	1:22 Physical Education	½
R. O. T. C. 11 or 13	1½	39:22 Accounting	3
1:13 R & U in Science	3	R. O. T. C. 12 or 14	1½
		1:14 R & U in Science	3

Second Year

1:3 English	2	1:4 English	2
1:7 Speech	2	Academic Elective	2-3
1:15 Institutions in U. S.		1:16 Institutions in U. S.	
6:45 Economics	3	6:46 Economics	3
28:54 Economic Geography	3	40:62 Production Mgmt.	3
40:62 Production Mgmt.		40:54 Economic Geography	
R. O. T. C. 43 or 53	1½	R. O. T. C. 44 or 54	1½
43:31 Typing or	2	40:81 Selling or	2
40:81 Selling		43:31 Typing	

*Summer School—Students electing Advanced ROTC should take Marketing 183 and Business Finance 171 in the summer session at this point.

Third Year

1:17 Cultural Traditions	3	1:18 Cultural Traditions	3
48:183 Marketing	3	39:124 Managerial Accounting	3
40:171 Business Finance	3	40:148 Statistics	4
40:141 Business Law	3	40:142 Business Law	3
Elective or ROTC	3	Elective or ROTC	3

During the last half of his Junior year, the student will elect a "major" or field in which he desires to specialize. He must complete a minimum of 15 hours of work in his "major," including two 3-hour courses on the 200 level, excluding Policy 268.

Fourth Year

Major	9	Major	6
1:101 Problems	2	40:268 Business Policy	3
Social Science or Business	3	Social Science or Business	3
Elective or ROTC	2	Humanities or Social Science	3-4

*Students in Business Administration, who elect to take Advanced ROTC, will be required to have a minimum of 132 hours for graduation.

Three fields of specialization are available: Finance; Marketing, Merchandising and Advertising; and General Business. The courses designated under each major with an asterisk (*) are required while the others are applicable toward that major. The aim is to permit the major to be shaped to the student's individual needs. The student should select his major courses and have them approved by his adviser.

FINANCE

Courses	Cr. Hrs.	Courses	Cr. Hrs.
Economics 208	3	*Investments 272	3
Insurance and Security 158	3	Economics 204	3
Banking Practice and Management 176. 3		Security Analysis and Markets 277... 3	
		*Problems in Finance 279	3

MARKETING, MERCHANDISING AND ADVERTISING

Sales Promotion 287	2	Retailing 192	3
Retail Advertising 187	2	Art 131-132	4
*Sales Administration 291	3	Economics 268	3
Market Analysis 296	3		
*Problems in Marketing 293	3		

GENERAL BUSINESS

*Production Management 62	3	Purchasing 189	2
Accounting 124 or 27	3	Problems in Finance 279	3
Transportation 151	3	*Sales Administration 291	3
Personnel Management and Relations 163-164	4	Economics 291	2
		Advanced Statistics 248	3

GENERAL COLLEGE

40:51. BUSINESS LAW. *3 credits.*

For students in secretarial science. No credit given toward B.S. in Business Administration. Covers the elements of contracts, sales, and negotiable instruments.

28:54. ECONOMIC GEOGRAPHY. *3 credits.*

Climate, land forms, soils, mineral resources, and vegetation and their influence upon economic activity. Required of all commerce students.

40:61. BUSINESS ORGANIZATION AND MANAGEMENT. *3 credits.*

A survey of modern business procedures, including kinds of business organizations, production systems, personnel problems, wage payment plans, product design, purchasing, marketing, and advertising.

40:62. PRODUCTION MANAGEMENT. *3 credits.*

Prerequisite, 61. Divisions of the course will include the place of management in business; economics of industrial production; factors of production; and control of the production processes.

40:81. SELLING. *2 credits.*

The characteristics of effective salesmen, types of selling, activities, the human relation factors in selling, and the creation and presentation of sales appeals.

40:82. CONSUMER ECONOMICS. *3 credits.*40:84. PUBLIC RELATIONS. *2 credits.*

General course in Public Relations covering newspaper publicity, industrial publications, and other types of organizational publicity and public activities.

40:94. MERCHANDISING. *Evening session. 1 credit.*

This basic course covers the subjects of merchandise buying, inventory and merchandise control, pricing, store layout, merchandise display, etc. Credit not given if Retailing 192 is taken.

UPPER COLLEGE

40:141-142. BUSINESS LAW. *3 credits each semester.*

Origin of commercial law, operation and discharge of contracts, law of sales, agency, and negotiable instruments, partnerships and corporations, together with selected recent court cases integrated with the text material to demonstrate how principles apply to concrete cases.

40:144. LAW OF CREDIT AND COLLECTIONS. 2 credits.

Emphasizes types and characteristics of sales contracts, the law of collection procedure, liens, and other legal recourses of creditors.

40:146. REAL ESTATE LAW. 2 credits.

Directs attention to the legal problems connected with property transfer and acquisition, landlord and tenant relationships, trusts, etc.

40:148. ECONOMIC STATISTICS. 4 credits.

Prerequisite, 6 credits in Economics. Nature and uses of statistical data, ratio analyses, distribution curves, central tendencies, index numbers, correlation.

40:151. TRANSPORTATION. 3 credits.

Prerequisite, 3 hours of Economics. A basic course in the economics of transportation, the requirements of an effective transportation system, rate-setting, etc.

40:152. TRAFFIC MANAGEMENT. 2 credits.

Prerequisite, 151. The classification of commodities, setting tariffs, routing, traffic claims, etc.

40:153-154. INTERNATIONAL COMMERCE. 2 credits each semester.

Prerequisite, 3 hours of Economics. Principles of international trade, balances, distribution machinery, and the characteristics and potentials of various foreign markets. Credit not given for both Foreign Trade and International Commerce.

40:156. FOREIGN TRADE. 3 credits.

Prerequisite, 3 hours of Economics. Economics and practices of foreign trade with emphasis on world trade from the standpoint of the United States.

40:158. INSURANCE AND SECURITY. 3 credits.

Prerequisite, 171. The underlying principles on which all forms of insurance are based. Beginning with the theory of probabilities, the principles are developed as they apply to the divisions of insurance—life, fire, marine, casualty and security bonds.

40:163. PERSONNEL MANAGEMENT. 2 credits.

Prerequisite, 61. Organization and function of a typical personnel department; problems and technique in selection and placement of employees by interviewing and psychological tests; evaluation of the need for and use of training in industry and concern with the many employee services necessary to a sound and comprehensive personnel program.

40:164. PERSONNEL RELATIONS. 2 credits.

Prerequisite, 163 or equivalent. Includes relation with one's immediate superior, securing approval of one's idea in an organization, introducing changes with minimum of friction, selecting subordinates, maintaining morale and interest, importance of recognition, problems of discipline, and adjusting individual and group grievances.

40:171. BUSINESS FINANCE. 3 credits.

Prerequisite, 22 and 6 hours of Economics. Principles and practices used in financing large and small organizations. Forms of organization, raising of capital by means of stocks and bonds, investing the capital in fixed and working assets, conservation of capital, failures and reorganization are studied.

40:174. CREDITS AND COLLECTIONS. 2 credits.

Prerequisite, 61 and 3 hours of Economics, or experience. The nature and fundamentals of credit, credit investigation and analysis, credit and collection operations, collection aids and problems.

40:176. BANKING PRACTICE AND MANAGEMENT. *3 credits.*

Prerequisite, 171. This course surveys the work of the more important credit institutions, including commercial banks, finance companies, savings banks and consumer credit, and government credit agencies. Emphasis is given to the role of each type of institution in the economic system. The function of bank reserves; bank portfolio policy; capitalization and earning power; the impact of public policy upon the organization, structure and operation of the credit system.

40:183. MARKETING. *3 credits.*

Prerequisite, 6 hours of Economics. Topics to be considered will include: taking goods to market; through what channels they flow; what makes them sell; how their distribution costs can be reduced; what price and brand problems they encounter in the process; marketing legislation; cooperative marketing.

40:185. PRINCIPLES OF ADVERTISING. *3 credits.*

Prerequisite, Business Organization and Management 61, and 3 hours of English. Gives a basic understanding of the place, objectives, and tools of modern advertising. Creation and development of a campaign based upon research and trade requirements.

40:186. ADVANCED ADVERTISING. *3 credits.*

Prerequisite, 185. Emphasis is placed upon advertising problem analysis and creation of layouts and copy.

40:187. RETAIL ADVERTISING. *Evening session. 2 credits.*

A course for the student who has had Advertising 185 or store experience. Newspaper, radio and other media for retail stores will be studied. Advertising, budgets, planning and writing copy, and layouts for newspaper, direct-mail pieces, and other promotional media.

40:189. PURCHASING. *2 credits.*

Prerequisite, 3 hours of Economics. Includes the individual phase of purchasing, its significance, scope, procedure, and such topics as buying the right quality, inspection, quantity control, sources and assurance of supply.

40:192. RETAILING. *3 credits.*

Prerequisite, junior standing or consent of instructor. Management of retail operations, determination of merchandising requirements, buying, display, advertising, selling, store housekeeping, and operations control.

40:268. BUSINESS POLICY. *3 credits.*

Prerequisite, final semester senior standing. Required of all Business Administration majors. Discussion of the philosophy of scientific management; evaluation of objectives and aims of management; policy requirements in terms of the external and internal factors of business; and the use of statistical, cost, and other tools in the determination of sales, financial, personnel, expansion, and control problems.

40:272. INVESTMENTS. *3 credits.*

Prerequisite, 171. The course is devoted to the formulation of investment policies for various types of individual and institutional investors, a consideration of the principles and techniques applicable to analyzing securities of industrial corporations, railroad utilities and municipalities, and to the development of workable criteria for the selection or rejection of issues.

40:277. SECURITY ANALYSIS AND MARKETS. *3 credits.*

Prerequisite, 272. This course is a comparative study of organized security markets. Special consideration is given to the principles and practices of organized stock exchanges and over-the-counter markets. Protecting the public interest through regulation and control of promotions, the issue of securities, underwriting practices, and stock-trading practices are studied.

40:279. PROBLEMS IN FINANCE. 3 credits.

Prerequisite, 171. This course deals primarily with the financing of large corporations. Among topics studied are: use of different types of securities as instruments of finance; internal financing by reserve accruals and by retention of net income; mergers, consolidation; and holding syndicates; influence of taxation on corporate policy; and reorganization under the Federal Bankruptcy Act.

40:287. SALES PROMOTION. 2 credits.

Prerequisite, 185. Sales promotion programs will be formulated and executed, and the student will be expected to create and set up folders, booklets, catalogs, merchandise displays, etc.

40:291. SALES ADMINISTRATION. 3 credits.

Prerequisite, 183. The place of distribution in the marketing scheme, the determination of marketing objectives and policies and their implementation and control.

40:293. PROBLEMS IN MARKETING. 3 credits.

Prerequisite, 291 or its equivalent. The various problems involved in determining marketing channels, methods and sales are applied to specific situations.

40:296. MARKET ANALYSIS. 3 credits.

Prerequisite, 183 or 185 plus a minimum of three hours in advanced courses in Marketing and Economics.

40:297-298. SEMINAR. 1 credit each semester.

Required of all senior commerce majors.

ACCOUNTING

*Professor Gordon, Assistant Professors Clark, Slusher, Gruber,
and Mr. Smucker, Mr. Russell Simmons, Mr. Horton,
Mr. Robert Simmons, Mr. Katzenmeyer, Mr. Miller*

Accounting has become so increasingly important that it is now a fundamental subject for every student of business.

Competent accountants are in demand in all fields. Persons trained in accounting are qualified for positions as auditors, income tax accountants, cost accountants, budget officers, controllers and for managerial positions.

The Accounting Department offers professional training to those who (a) plan to engage in public practice (b) wish to serve a single concern exclusively, or (c) expect to enter the general field of business.

The University of Akron Accounting programs have been very successful in providing the educational background and theory essential for passing the examinations required for the C.P.A. certificate.

The C.P.A. certificate is awarded by the boards of accountancy of the various states. In Ohio a candidate is eligible if he is a citizen of the United States, or has duly declared his intention of becoming a citizen; is not less than twenty-one years of age; of good moral character; a graduate of high school or has received an equivalent education; has had at least three years of well-rounded experience in the practice of accounting, and passes the examination administered by the Ohio State Board of Accountancy. Since 1948, this examination has been the uniform one prepared by the American Institute of Accountants.

CURRICULUMS AND MAJORS

The Accounting curriculum of the College of Business Administration is designed to give thorough training in accounting together with a well balanced background in business and cultural fields. It follows the general requirements for the degree of Bachelor of Science in Business Administration.

First and Second Years

The program is identical with that for General Business with two exceptions in the second year. Instead of Elective 3 credit hours and Production Management 62, Accounting majors take:

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
Accounting 43	3	Accounting 44	3

Students electing Advanced ROTC should take Marketing 183 and Business Finance 171 in the summer session at this point.

Third Year

40:62 Production Mgmt.	3	40:148 Statistics	4
40:141 Business Law	3	40:142 Business Law	3
40:171 Business Finance	3	40:183 Marketing	3
39:27 Cost Accounting	3	39:139 Auditing	2
Elective or ROTC	3	Elective or ROTC	3

Fourth Year

1:17 Cultural Traditions	3	1:18 Cultural Traditions	3
1:101 Problems	2	40:268 Business Policy	3
39:233 Federal Taxation	3	39:239 Auditing	2
Elective—Academic Course ...	3	Elective—Academic Course ...	3
Major Elective	3	Other Electives	5
Electives or ROTC	2		

Students interested in majoring in Accounting should score well in the Level I Achievement test supplied by the American Institute of Accountants. This test is required of all students before passing Accounting 22. The Level II Accounting test is required of all students taking Accounting 239 for credit.

In the field of specialization the student must take not less than 24 hours of accounting (including the basic nine hours required of all students) and not more than 31 hours.

The following accounting courses are required of all majors: Accounting 21-22, Cost Accounting 27, Intermediate Accounting 43-44, Auditing 139 and 239, Federal Taxation 233.

Students preparing for public practice are advised to take Accounting 231. Accounting majors preparing for careers in industrial cost accounting should take Advanced Cost Accounting 228, Budgeting 123, and some advanced courses in the industrial management area.

GENERAL COLLEGE

****39:21-22. ACCOUNTING. 3 credits each semester.**

Provides elementary accounting background for study of business. Journalizing, posting, preparation of working papers, construction and analysis of financial statements. Assets, liabilities, net worth, income, expenses, books of entry, controlling accounts, voucher system, and partnership and corporation problems.

****39:27. COST ACCOUNTING. 3 credits.**

Prerequisite, 22 or 121 and 3 hours of Economics. Required of accounting majors. Theory and practice of accounting for material, labor, and overhead expenses with particular reference to manufacturing.

39:42. SECRETARIAL ACCOUNTING. 3 credits.

Prerequisite, 21. An elementary course in accounting to meet the needs of secretarial science students. Such students may take either 42 or 22.

39:43-44. INTERMEDIATE ACCOUNTING. 3 credits each semester.

Prerequisite, 22. Required of accounting majors. Intensive analysis of balance sheet accounts, working papers, financial statements and analysis.

UPPER COLLEGE

39:121. ACCOUNTING SURVEY. 3 credits.

No prerequisite. Organized for engineers and other advanced non-accounting majors who want an understanding of Accounting fundamentals. Clerical work is minimized. Industrial Management students may meet the accounting requirements by registering for Accounting 121 and 123.

*Students in Business Administration, who elect to take Advanced ROTC, will be required to have a minimum of 132 hours for graduation.

**Accounting 121 and 123, if offered, may be taken by advanced and qualified students in place of 21, 22, and 27.

39:123. BUDGETING. *3 credits.*

Prerequisite, 27, or 121. Sales, production, and distribution budgets; comparison of budget with financial statements; accounting problems involved.

39:124. MANAGERIAL ACCOUNTING. *3 credits.*

Prerequisite, Accounting 22 and 3 hours of Economics. For non-accounting majors only. Emphasis is on the interpretation of accounting data in granting credit, effecting necessary control of business operations and in formulating business policy.

39:139. AUDITING. *2 credits.*

Prerequisite, 44. Required of accounting majors. Principles of auditing; auditing procedure applied to the balance sheet and operating statements.

39:228. ADVANCED COST ACCOUNTING. *3 credits.*

Prerequisite, 27. Emphasis is given to standard cost procedure and other advanced cost accounting problems.

39:230. ACCOUNTING SYSTEMS. *3 credits.*

Prerequisite, 44 and permission of instructor. This course concerns itself with systematizing order, billing, accounts receivable, accounts payable, payrolls, and various distribution procedures. Field trips and term project.

39:231-232. ADVANCED ACCOUNTING. *3 credits each semester.*

Prerequisite, 44. The first semester deals with partnerships, consignments, installment sales, insurance, estates and trusts, receiverships, and the correction of statements and books. The second semester deals with branch accounting and consolidated statements. Accounting 232 may be taken before Accounting 231.

39:233-234. TAXATION. *3 credits each semester.*

Prerequisite, 44. The first semester deals with the current tax law as it applies to the individual and the proprietorship. The second semester discusses federal income tax problems of partnerships and corporations and includes a survey of state and local taxes. Accounting 233 is a prerequisite for 234.

39:236. ACCOUNTING PROBLEMS. *3 credits.*

Prerequisite, 44 and permission of instructor.

39:239. ADVANCED AUDITING. *2 credits.*

Prerequisite, 139. Required of accounting majors. Procedure for starting, conducting, and completing an audit, preparation of working papers, writing the report. An audit case is used as practical application.

39:299. CPA PROBLEMS. *4 credits.*

Prerequisites, 229, 231, 232, 233, and approval of instructor. The application of accounting and auditing theory through the study of selected problems. CPA examination techniques and procedures are stressed.

INDUSTRIAL MANAGEMENT

*Professor Simonetti and Mr. Sharkey, Mr. Vobbe, Mr. Dannemiller,
Mr. Kidney, Mr. Groncy, Mr. Cowan, Mr. Phillips*

The University of Akron was one of the first colleges to establish an industrial management curriculum. The location of The University of Akron in a major industrial area and the trend of the times were important factors in the decision to establish such a program.

This emphasis of education for management is the result of several factors: First, management people are becoming increasingly conscious of the nature of their responsibilities. Second, the management job is becoming much more complex in terms of number of activities, volume of work, and the broader impact of managerial decisions and activities. Third, it is more and more recognized that industrial management requires people of specific qualifications and preparation. It is essential that the status of management as a profession, a science and an art be recognized, and that those in management positions possess the requisite skills and tools.

The past decade has brought about a tremendous expansion in industry and business—in the number of enterprises, in facilities, and in the number of management jobs. Graduates with industrial management degrees find many employment

opportunities, especially with industrial firms, in staff positions in production control, quality control, time study, personnel, and factory supervision.

The following outline of the Industrial Management program is for your guidance. It is identical for the first year with that for General Business. This program should be followed as nearly as possible for a proper sequence of courses.

Second Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:3 English	2	1:4 English	2
1:7 Speaking	2	1:16 Institutions in U. S.	3
1:15 Institutions in U. S.	3	30:31 Psychology	3
40:62 Production Mgmt.	3	39:27 Cost Accounting	3
6:45 Economics	3	R. O. T. C.	1½
33:20 Drawing	1	6:46 Economics	3
R. O. T. C.	1½		

*Summer School—Students electing Advanced ROTC should take Marketing 183 and Business Finance 171 in the summer session at this point.

Third Year

1:17 Cultural Traditions	3	1:18 Cultural Traditions	3
42:101 Industrial Plants	3	40:171 Business Finance	3
42:167 Motion Study	2	40:168 Time Study	2
40:163 Personnel Management	2	40:148 Statistics	4
40:183 Marketing	3	Elective or R. O. T. C.	3
Electives or R. O. T. C.	3	Major Elective	2

Fourth Year

40:141 Business Law	3	40:142 Business Law	3
42:203 Production Control	3	40:268 Business Policy	3
1:101 Problems	2	42:256 Ind. Management Problems	3
42:205 Quality Control	2	Social Science, Business, or Humanities	2
Social Science or Business	3	Major Elective	5
Major Elective	2		

For the major elective requirement the student must take a minimum of 3 credit hours from each of the following groups. Six hours of this work must be in courses of 200 level.

Specialized Courses

Industrial Safety 107	2	Job Evaluation 165	2
Purchasing 189	2	Budgeting 123	3
Plant Maintenance 109	2		

Economics and Personnel

Collective Bargaining 260	3	Analytical Economics 241	3
Personnel Relations 164	2	Psychological Testing 207	3
Labor Problems 106	3	Industrial Psychology 116	3

Administrative Policy

Sales Administration 268	3	Government and Business 110	3
Income and Employment 292	3		

UPPER COLLEGE

42:101. INDUSTRIAL PLANTS. 3 credits.

Prerequisite, 62 and 3 hours of Economics. The industrial machinery and production flow problems encountered in basic industries, plant location, the factory as a tool of production, production analysis, plant layout and material handling and storage. Problems and projects constitute an integral part of this course.

42:107. INDUSTRIAL SAFETY. 2 credits.

Prerequisite, 62. Principles and practices of industrial safety, including the causes of accidents, fundamentals of accident prevention, maintenance of health standards, and safety organization.

42:109. MAINTENANCE OF PLANTS AND EQUIPMENT. 2 credits.

Prerequisite, 101. Maintenance embraces power metering; inspection, cleaning, lubrication and repair of equipment; estimating, control of maintenance costs.

42:167. MOTION STUDY AND MICRO-MOTION STUDY. 2 credits.

Prerequisite, 62. The principles of motion study. Recitations are alternated with laboratory periods. Industrial application of motion study; process analysis; principles of motion economy; micro-motion study; film analysis and group motion studies.

*Students electing Advanced ROTC will be required to take the last 6 hours in ROTC in addition to their 128 hours graduation requirement.

42:168. TIME STUDY. 2 credits.

Prerequisite, 62. Recitations are alternated with laboratory periods. Analysis techniques; time recording equipment; time study procedure; leveling and rating; fatigue; ratio delay study and standard data method. The student will make actual time studies and prepare a standard data method for an operation.

42:169. JOB EVALUATION AND MERIT RATING. 2 credits.

Prerequisite, 163 and 6 hours of Economics or its equivalent. Purpose and significance of job evaluation; determining organization and policies; selling the plan; job descriptions; installing and maintaining the plan; determining the wage scale; types of merit rating and developing a merit rating plan.

42:203. PRODUCTION PLANNING AND CONTROL. 3 credits.

Prerequisite, Senior standing or Instructor's permission. The necessity for production control; place in the organization; production planning and forecasting; centralized production control; scheduling; routing and dispatching; types of manufacture in relation to types of production control. Representative systems of production control are studied.

42:205. QUALITY CONTROL. 2 credits.

Prerequisites, 101 and 148 or Instructor's permission. Quality mindedness and quality control; quality control and inspection in the organization structure; the inspection function; collection and use of inspection data; application of statistical methods to quality control and use of control charts.

42:256. INDUSTRIAL MANAGEMENT PROBLEMS. *Either semester.*
3 credits.

Prerequisite, 203 and 205 and senior standing. Modern practices and principles applied to an actual problem from industry.

42:260. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING.
3 credits.

Prerequisite, 164, 106 or their equivalent. The meaning, process, principles, and organization of collective bargaining; collective bargaining agreements; the issues presented in labor disputes and settlements dealing with union status and security, wage scales, technological changes, production standards, etc. are considered. Administered jointly by the Economics and the Commerce Departments.

SECRETARIAL SCIENCE

Professor Doult, Associate Professors E. Flint and Tucker, Assistant Professor Selj, Miss Sterley, Mrs. Wettstyne, Mrs. Handwerk, Mrs. Oana, Mrs. Konstand, Mrs. Oblisk, and Mrs. Nelson

Students preparing for executive secretarial and office positions may choose between two programs offered in Secretarial Science: a two-year course leading to a certificate, and a four-year course leading to the degree B.S. in Secretarial Science. Both programs are combinations of technical subjects and Liberal Arts subjects. Degree students have an opportunity to concentrate in special fields of interest.

Admission: The secretarial programs are open to high school graduates whether they have taken commercial courses or not, provided they meet general university requirements.

Graduation: (1) Students must meet regular University requirements, and must meet departmental standards in skill subjects at time of graduation. (2) At least 60 semester hours must be in academic subjects.

Combination Courses: Two special five-year programs are available, each leading to two degrees: (1) Secretarial Science—Liberal Arts, and (2) Secretarial Science—Education. Those interested should confer with the head of the department.

Special Fields: For those interested in preparing for such specialties as that of medical secretary, chemical secretary, engineering secretary, political secretary, social secretary, or legal secretary, special programs may be arranged.

Shorthand and Typewriting: Those who have had shorthand and typewriting before entrance will begin these courses in college at such point as their degree of proficiency permits as indicated by placement tests. Full credit will not be granted where undue repetition exists.

Curriculum: In addition to the required courses in general education, the following subjects are required, although the arrangement may be varied:

First Year	Cr. Hrs.	Second Year	Cr. Hrs.
Typewriting 51-52	4	Shorthand 65-66	9
Filing Practices 27	2	Accounting 41-42 or 21-22	6
Machine & Slide Rule Calculation 25..	1	Secretarial Training 74	2
Secretarial Procedure 23	2	Bus. Org. and Mgt. 61	3
Third Year	Cr. Hrs.	Fourth Year	Cr. Hrs.
Shorthand 67-68	10	Office Practice 293-294	6
Business Law 51 or 141	3	Office Org. and Mgt. 296	3
Business Correspondence 133	3		
Economics	3		

ONE-YEAR SECRETARIAL CERTIFICATE
PROGRAM FOR COLLEGE GRADUATES

A special program has been designed for young men and women who already hold baccalaureate degrees, especially the A.B., and who have one year of shorthand and typewriting, or the equivalent.

This program may be adjusted to meet the needs of individuals who wish to attend on a part-time basis in either the day or the evening session.

Fall Semester	Semester Hours	Spring Semester	Semester Hours
Shorthand 67	5	Shorthand 68	5
Secretarial Procedure 23	2	Filing Practices 27	2
Business Org. and Mgt. 61	3	Office Org. and Mgt. 296	3
Accounting 41 or 21	3	Accounting 42 or 22	3
Business Correspondence 133	3	Machine and Slide Rule Cal. 25	1
		Secretarial Training 74	2

SPECIAL TWO-YEAR CERTIFICATE COURSE IN
SECRETARIAL SCIENCE

A special two-year course (at least 64 semester hours) is offered for those who feel unable to spend more than two years in college. This curriculum may be modified in the case of students who have had commercial courses prior to entering the University.

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:1 Writing	3	1:2 Writing	3
1:19 Personal Development	2	1:6 Speaking-Listening	2
1:21 Physical Educ. ½		1:14 Scientific Reasoning	3
1:13 Scientific Reasoning	3	1:22 Physical Educ. ½	
43:51 Typewriting	2	43:52 Typewriting	2
43:65 Shorthand	4	43:66 Shorthand	5
43:27 Filing Practices or		43:17 Filing Practices or	
43:21 Secretarial Procedure	2	43:21 Secretarial Procedure	2

Second Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
1:15 Modern Social Insts.	3	1:11 Quantitative Language	2
1:3 Writing	2	1:15 Modern Social Insts.	3
1:7 Speaking-Listening	2	1:4 Writing	2
43:67 Shorthand	5	43:68 Shorthand	5
43:93 Business Letters	2	43:74 Secretarial Training	2
39:21 Accounting	3	43:25 Machine & Slide Rule Calc. ..	1

GENERAL COLLEGE

- 43:23. SECRETARIAL PROCEDURE. *Either semester. 2 credits.*
Fundamental principles and procedures which relate to the secretarial position.
- 43:25. MACHINE AND SLIDE RULE CALCULATION. *Either semester. 1 credit.*
Techniques of machine and slide rule calculation as applied to business. Credit is not allowed both for this course and for Filing and Machine Calculation 26.
- 43:27. FILING PRACTICES. *Either semester. 2 credits.*
Thorough treatment of all basic filing systems.
- 43:31. TYPEWRITING (Non-Secretarial). *Either semester. 2 credits.*
A basic course intended primarily for those who can devote only one semester to this subject. Credit not allowed for this course and also 51.
- 43:35. BUSINESS ENGLISH. *Either semester. 2 credits.*
Fundamentals of English, with stress on areas in which business men have found college graduates to be weak.
- 43:41-42. SHORTHAND THEORY. *Evening session. 3 credits each semester.*
Gregg shorthand theory is completed, transcription introduced, and general dictation given. No credit given for the first semester only. Typewriting 52 or equivalent must precede or accompany Shorthand 42.
- 43:46. SHORTHAND REVIEW. *Second semester. 3 credits.*
A thorough review of Gregg shorthand theory, covering one year's work. Credit is not allowed for this course and also 41-42.
- 43:51-52. TYPEWRITING. *2 credits each semester.*
Fundamentals of typewriting, including drill, placement, letters, tabulations, preparation of reports, etc.
- 43:56. TYPEWRITING REVIEW. *Second semester. 2 credits.*
A thorough review of typewriting, covering one year's work. Credit not allowed for this course and also 51-52.
- 43:65. SHORTHAND. *First semester. 4 credits.*
Prerequisite, Typewriting 51 unless taken concurrently. Gregg Shorthand Theory is covered. No credit unless second semester is completed satisfactorily.
- 43:66. SHORTHAND. *First semester. 5 credits.*
Prerequisite, Shorthand 65. Typewriting 52 or equivalent must precede or accompany. Introduction of machine transcription and general dictation. Speed attainment: 80 to 100 words per minute.
- 43:67. SHORTHAND. *First semester. 5 credits.*
Prerequisite, Shorthand 66 and Typewriting 52 or equivalent. Vocabulary building, general dictation on letters and articles. Speed attainment: 100 to 120 words per minute.
- 43:68. SHORTHAND. *Second semester. 5 credits.*
Prerequisite, Shorthand 67. Secretarial Training 74 must precede or accompany. Letters, articles, and Congressional Record material. Speed attainment: 120 to 140 words per minute.
- 43:74. SECRETARIAL TRAINING. *Either semester. 2 credits.*
Prerequisite, 62 and 52 or equivalent. Advanced typewriting, transcription, business forms, duplicating processes, dictating and transcribing machines.
- 43:83-84. INTERMEDIATE DICTATION. *Evening session. 3 credits each semester.*
Prerequisite, 42 and 58. Vocabulary building, general dictation on letters and articles. Speed attainment: 80-100 words per minute.
- 43:85. INTERMEDIATE DICTATION. *First semester. Evening session. 3 credits.*
Prerequisite, 84. Vocabulary building; dictation on letters, articles and Congressional Record material. Speed attainment: 100-110 words per minute.

43:93. BUSINESS LETTERS. *Either semester. 2 credits.*

Principles and practice in the writing of business letters.

43:95-96. OFFICE MANAGEMENT AND PRACTICES. *Evening session. 2 credits each semester.*

A study of office functions and of the principles involved in office management, adapted for adults with office experience. Credit not allowed for this course and also 296.

UPPER COLLEGE

43:133. BUSINESS CORRESPONDENCE. *Either semester. 3 credits.*

Prerequisite, English 2. An advanced treatment of business letter writing including extensive outside reading and reports. Credit not allowed for this course and also 93.

43:186. ADVANCED DICTATION. *Second semester. Evening session. 3 credits.*

Prerequisite, 85. Abbreviated vocabulary, dictation on letters and Congressional Record material. Speed attainment: 110-120 words per minute.

43:187-188. ADVANCED DICTATION. *Evening session. 3 credits each semester.*

Prerequisite, 186. Letters, articles, Congressional Record material, and lectures. Speed attainment: 120-140 words per minute. Given 1953-54 and alternate years thereafter.

43:293-294. OFFICE PRACTICE. *3 credits each semester.*

Prerequisites, 25, 27, 66, and 74. Fundamental principles and procedures which relate to the secretarial position; laboratory work on duplication machines, transcribing and dictating machines, filing, general secretarial duties, and office experience.

43:296. OFFICE ORGANIZATION AND MANAGEMENT. *Second semester. 3 credits.*

Prerequisite, Commerce 61. Individual projects relating to analyses of various aspects of the office and to problems involved in office management.

SUMMER SESSION

HOWARD R. EVANS, Ph.D., *Dean of the College of Education, Director.*

The Summer Session is chiefly for :

1. Students enrolled in an accelerated program that permits them to complete their work in three years, instead of four.
2. Teachers who wish to obtain emergency teaching certificates or renew their certificates, and teachers who wish to complete work for their bachelor or master's degree.
3. High school graduates who want to begin their college work in June, instead of waiting for September.
4. Regular cooperative engineering students whose program requires Summer Session attendance.
5. Transient students from other institutions.

The thirty-fifth annual Summer Session is organized as follows :

1. A six-week session. (June 18-July 27, 1956.)
2. An eight-week term for Engineering students. (June 18-August 10.)
3. Evening classes. (June 20-August 10.)
4. Post session. (July 30-August 24.)

ADMISSION REQUIREMENTS

Summer Session students are admitted on the same basis as students during the regular academic year.

STUDENT TEACHING

Student teaching will be done in the Akron and Barberton public schools from June 1 to August 3. All requests for student teaching should be made to the Dean of the College of Education before May 15 with the understanding that those first enrolled will be assigned first. A deposit of \$10 is required with each formal application for student teaching.

APPLICATION FOR DEGREES OR CERTIFICATES

Students who expect to complete the requirements for degrees or certificates at the close of the 1956 Summer Session should inquire at the office of the Director the first week of the Summer Session.

EVENING AND ADULT EDUCATION DIVISION

EDWIN D. DURYEA, JR., Ed.D., Dean

DOMINIC J. GUZZETTA, Ed.D., Assistant Dean

The Evening and Adult Education Division provides students opportunities to improve themselves for their employment, to study toward college degrees in liberal arts and sciences, engineering, education, and business administration, and to expand their knowledge in special fields of interest. Undergraduate and graduate credit courses and special non-credit courses are offered in the evening.

The Division includes the Evening College credit program and the Community College non-credit offerings in the areas of culture, business and industry, home and personal living, and recreation.

Announcements of courses may be obtained from The Evening Division office in Buchtel Hall. The catalogs for the evening program include the necessary information concerning admissions, prerequisites, student course loads, absences, withdrawals, grades, and other aspects of the evening program.

Evening student activities provide opportunity for the extra-curricular interests associated with college life. An evening Student Council directs the extra-curricular affairs. Other organizations include a theater group, the national scholastic honorary fraternity Alpha Sigma Lambda, the evening local sorority, Gamma Beta, the evening social fraternity, Chi Sigma Nu, and the A. E. Honorary Fraternity.

RESERVE OFFICERS' TRAINING CORPS

In 1919, the United States Government established a unit of the Reserve Officers' Training Corps at The University of Akron. Instruction is divided into two parts: the basic course of the first two years, and the advanced course of the last two years.

In 1946, the United States Air Force established a unit of the Air Force Reserve Officers' Training Corps at The University of Akron.

OBJECTIVES OF THE ROTC PROGRAM

1. To develop character and good moral habits.
2. To inculcate good habits of citizenship in young men and acquaint them with the duties, responsibilities and obligations of citizens.
3. To make ROTC an integral and useful part of the college and community.
4. To produce qualified career officers for the U. S. Army and U. S. Air Force.
5. To produce qualified reserve officers for the U. S. Army and U. S. Air Force.

THE BASIC COURSE

A two year basic course in ROTC is required of all physically fit male students during the freshman and sophomore years with the following exceptions:

- a. Aliens.
- b. Men physically disqualified, carrying less than eight hours, or with more than one year prior honorable military service.
- c. Men above 23 years of age or enrolled in short professional or pre-professional courses not leading to degrees.
- d. Men who have completed 48 semester hours at another accredited college or university.
- e. Men who submit written declaration of valid religious or conscientious objections to military service.

During the basic course, uniforms and equipment are issued to students, and returned at the end of the year, or upon leaving the program. Each student pays a \$4 fee and is responsible for loss or damage to government property issued to him.

ARMY

GENERAL MILITARY SCIENCE

The Army ROTC at The University of Akron is a General Military Science type unit. This means that graduates of the Army program may be commissioned in any of the arms and services of the U. S. Army. The determination in which service the graduate will be commissioned will coincide with the desires of the student, the major field in which the academic degree was earned and the needs of the Army.

THE ADVANCED COURSE

The Army ROTC program consists of five hours per week during the junior and senior years. The advanced course is open to all students who have satisfactorily completed the basic course and veterans who have been honorably discharged or transferred to the Enlisted Reserve Corps and relieved from active duty, provided that they are selected by the President of the University and the Professor of Military Science and Tactics.

While the student is enrolled in the advanced course, the government pays a total of \$100.00 toward the purchase of a complete, individually tailored uniform that becomes the property of the cadet upon graduation and may be worn upon entry to active duty. In addition, the government pays him a monetary allowance.

The Army unit requires that the student must not have reached his 27th birthday at the time he enrolls in the advanced courses.

Once the student enters the advanced course, he must complete it to qualify for a University degree.

The Army ROTC student qualifies for his commission in the Army Reserve Corps by completing the advanced course and four calendar years of academic work.

On the basis of scholastic attainment and demonstrated leadership, students will be designated distinguished military students and will be given an opportunity to qualify for a regular Army commission upon graduation.

THE ADVANCED CAMP

Six-week Advanced ROTC camps are conducted each summer. Students will be required to attend one summer camp program unless sooner discharged from the ROTC. The student will receive the pay of the seventh enlisted grade while at the advanced camp, and he will be reimbursed for his travel to and from the camp.

MILITARY SCIENCE AND TACTICS (Army)

11-12. **FIRST YEAR BASIC MILITARY SCIENCE. *1½ credits each semester.***

Three 1-hour classes each week. Required of freshman men not taking 13-14.

43-44. **SECOND YEAR BASIC MILITARY SCIENCE. *1½ credits each semester.***

Prerequisite 12.

101-102. **FIRST YEAR ADVANCED MILITARY SCIENCE. *3 credits each semester.***

Prerequisite 44.

111-112. **FIRST YEAR ADVANCED MILITARY SCIENCE. *1½ credits each semester.***

For Prejunior Cooperative Engineering Students. Prerequisite 44.

121-122. **FIRST YEAR ADVANCED MILITARY SCIENCE. *1½ credits each semester.***

For Junior Cooperative Engineering Students. Prerequisite 112.

123. SECOND YEAR ADVANCED MILITARY SCIENCE. *1½ credits.*
Summer term or fall. For Cooperative Engineering Students. Prerequisite 122.
141. SECOND YEAR ADVANCED MILITARY SCIENCE. *1½ credits.*
For Senior Cooperative Engineering Students. Prerequisite 123.
- 151-152. SECOND YEAR ADVANCED MILITARY SCIENCE. *3 credits each semester.*
For Seniors. Prerequisite 102, Cooperative Engineers 141.

AIR FORCE

As a permanent program of instruction at civilian educational institutions, it is the mission of the AFROTC to select, educate and motivate students to serve as commissioned officers in the regular and reserve components of the United States Air Force. Specialized training in USAF occupational career fields is no longer incorporated into the AFROTC Program. Under the new generalized curriculum, the basic program serves two purposes: (1) The education, motivation, and selection of potential junior officers for the advanced phase and, (2) It provides an opportunity to offer an air-age citizenship course to a large segment of the male undergraduate population of the University.

THE ADVANCED COURSE

The advanced program consists of five class hours per week during the junior and senior years.

The advanced program is open to men who are physically qualified and are interested in flying with the United States Air Force, either as a pilot or observer, and to a limited number of selected engineering and science majors. Entrance into the advanced phase is limited to men who have successfully completed the basic course, will be in upper college at the time of entrance, who are in phase scholastically, and to veterans who have been honorably discharged from the Armed Forces or transferred to the Enlisted Reserve Corps and relieved from active duty. Air Force directives now require all veterans enrolling at universities or colleges, who plan to enter the advanced phase of AFROTC, to attend basic AFROTC class. However, the Professor of Air Science may waive so much of the basic course as he considers equivalent to the active service training provided that he does not waive any portion which the cadet can complete prior to entrance into the advanced course. To satisfy entrance requirements for the advanced course, veterans entering an institution at freshman or sophomore level who desire a commission through AFROTC will be required to take in phase with nonveteran contemporaries that portion of the basic program which remains. Final selection will be made by the President of the University and the Professor of Air Science.

The student must not have reached his 25th birthday at the time of entrance into the advanced course and he must complete it prior to his 28th birthday.

Once the student enters the advanced course, he must complete all requirements for a degree within two (2) years (engineering students, 3 years) in order to qualify for a commission.

Qualified cadets may be granted a period of non-attendance between their sophomore and junior years in order to bring their academics in phase with ROTC. Normally, this period will not exceed one semester; however, the Professor of Air Science is authorized to extend this period for an additional semester.

THE ADVANCED CAMP

A four week summer camp is conducted each summer. Students will be required to attend one summer camp, usually between the junior and senior year, unless sooner discharged from the AFROTC program. Students will receive the pay of an airman basic while at camp and will be reimbursed for their travel to and from camp.

AIR SCIENCE

- 13-14. BASIC AIR SCIENCE. *1½ credits each semester.*
Three 1-hour classes each week. Required of freshmen not taking 11-12.
- 53-54. SECOND YEAR BASIC AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 14. 43-44 or 53-54 is required of second year men.
- 103-104. ADVANCED AIR SCIENCE. *3 credits each semester.*
Prerequisite, 54.
- 115-116. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 54. For Pre-Junior Cooperative Engineering Students.
117. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Summer Session or Fall Semester. Prerequisite, 116. For Junior Cooperative Engineering Students.
- 125-126. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 117. For Junior Cooperative Engineering Students.
- 153-154. ADVANCED AIR SCIENCE. *3 credits each semester.*
Prerequisite, 104: Full-time students.
155. ADVANCED AIR SCIENCE. *1½ credits.*
For first semester Senior Cooperative Engineering Students. Prerequisite, 126.
156. ADVANCED AIR SCIENCE. *3 credits.*
For Second Semester Senior Cooperative Engineering Students. Prerequisite, 155.
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SCHOLARSHIPS, FELLOWSHIPS, HONORS, AND PRIZES

Scholarships are awarded by the Scholarship Committee of the University. Application for scholarship should be addressed to the Chairman of the Scholarship Committee at The University of Akron. Applications may be obtained at the office of the Chairman of the Scholarship Committee.

AKRON EDUCATIONAL SCHOLARSHIPS

Two scholarships a year are sponsored jointly by The University of Akron, the Akron Board of Education and the Akron Educational Association to cover the maintenance fees for four years of college attendance. The scholarships will be awarded to students planning to enter the teaching profession. The awards will be granted by the University Scholarship Committee upon recommendation of a committee of the Akron Educational Association and representatives of the College of Education.

AKRON RUBBER GROUP SCHOLARSHIPS IN CHEMISTRY

An award of \$150 a semester is available for entering students and undergraduate students majoring, or intending to major, in Chemistry. Outstanding ability in science and chemistry will be given primary emphasis in the award of these scholarships. The award for the second semester and renewal of the scholarship for succeeding years is contingent upon satisfactory scholarship.

AKRON SECTION OF THE AMERICAN CHEMICAL SOCIETY AWARD

The award of student memberships and subscriptions to two of the Society's official publications is made to two chemistry major students of Junior rank on the basis of scholarship.

AKRON SOAP BOX DERBY SCHOLARSHIP

An award of \$500 to the winner of the Akron Soap Box Derby is made by the Chevrolet Dealers of the Akron area. The scholarship is payable at the time the winner becomes enrolled as a full time student at The University of Akron.

F. W. ALBRECHT SCHOLARSHIP FUND

This scholarship fund has been established from the proceeds of the Acme sponsored Akron University-Wittenberg football game of 1954. Scholarships will be awarded to worthy students by the University Committee on Scholarships, Awards and Grants. Special consideration will be given to requests from students enrolled in the College of Business Administration and Engineering.

ALPHA LAMBDA DELTA AWARD

The National Chapter of Alpha Lambda Delta, scholastic honorary for women, awards a book to the graduating Senior member with the highest scholastic average.

AMERICAN INSTITUTE OF CHEMISTS AWARD

A student membership in the American Institute of Chemists and a medal are given to an outstanding student majoring in chemistry. This award is granted upon the recommendation of the head of the department.

AMERICAN VISCOSE CORPORATION FELLOWSHIP
IN CHEMISTRY

The American Viscose Corporation has made available a fellowship in the amount of \$1,500 per year in the Department of Chemistry, with remission of all University fees. This fellowship is open to a graduate of a standard American college or university.

ARMED FORCES CHEMICAL ASSOCIATION SCHOLARSHIP
Cleveland Chapter

An award of \$125 a semester awarded for a two-year period to a student enrolled in a course leading to a degree in engineering, physics or chemistry. Selection is made by the Scholarship Committee of The University of Akron on the basis of grades and aptitude tests at the University (90%), and financial need (10%).

ASHTON PRIZES

A fund of \$3000 was established in 1887 by Oliver C. Ashton of Bryan, Ohio, endowing the O. C. Ashton Prizes for excellence in reading and speaking. Two contests are held during the year, one in original oratory and one in interpretative reading. The amounts of the prizes awarded at each contest vary from \$5 to \$30.

THE SUMMERFIELD BALDWIN III SCHOLARSHIP
AND BOOK FUND

This Fund was established by the family of Summerfield Baldwin III. The income is to be used to assist a student in the junior class who is majoring in the field of History and who scholastically and intellectually proves that he or she intends to pursue studies in this field, preferably to the graduate level. All awards will be made by the University Scholarship Committee.

The Book Fund is to be used for the purchase of History books for the Library, with special emphasis on Medieval History.

BETA SIGMA PHI SCHOLARSHIP

This scholarship was created by the Beta Sigma Phi International Sorority and covers the fees and books for a four year period. The grant is made to a young Akron woman on the basis of her interest and progress in college training, and is for one who otherwise might not be able to attend college.

MILDRED HETER BUCKINGHAM MEMORIAL SCHOLARSHIP

The Mildred Heter Buckingham Memorial Scholarship Fund was established in 1954 by Mr. Lisle M. Buckingham in memory of his wife, Mildred Heter Buckingham. The income from this fund shall be used to assist any full-time student at the University who shows promise in the field of applied music and who is recommended for the Scholarship by the Music Department of The University of Akron. Music majors are to receive preference if equally well qualified. Final approval will rest with the University Committee on Scholarships and Awards.

HOMER C. CAMPBELL FUND

A fund established under the will of the late Homer C. Campbell provides for assistance by loan or gift from its income to needy students dependent on their own resources. Preference is given to young men who have been newsboys in Akron.

WARREN E. CARTER SCHOLARSHIP FUND

Two scholarships in the amount of \$300 per year have been made available to students in the College of Business Administration at The University of Akron. The recipients must be American citizens who are residents of Summit County and who are in need of assistance.

COLLEGE CLUB OF AKRON SCHOLARSHIP

An award of \$100 sponsored by the College Club of Akron is given annually to a woman selected from the Junior class in the College of Education. It is to be used by the recipient as an aid in financing the expense of her Senior year at the University.

A scholarship in the amount of fees for an entering woman student is awarded that student who qualifies on the basis of scholastic achievement and need. Application is made in the Spring of each year.

COOPER TIRE AND RUBBER COMPANY SCHOLARSHIP

Two scholarships in the amount of \$125 per semester are made available by The Cooper Tire and Rubber Company to two outstanding Seniors majoring in the College of Business Administration. Applicants will be judged on the basis of likelihood of success in business, scholarship, personality, and performance records at the University as manifested by campus and extra-curricular activities, and personal conditions. The award for the second semester is contingent upon satisfactory scholarship and performance during the first semester. Applications for this scholarship may be obtained from the Dean's Office, College of Business Administration.

The student receiving this scholarship will be expected to spend during the Christmas and Spring vacations not less than eight working days at the home plant of the Company at Findlay, Ohio, meeting the personnel of the Company and working upon a problem which shall be assigned him.

DELTA KAPPA GAMMA SCHOLARSHIP

This scholarship is offered by the three chapters, Phi, Beta Mu and Beta Xi of the Delta Kappa Gamma Society. An award of \$300 annually is granted to a woman in her Junior or Senior year who expects to enter the field of teaching. The University Scholarship Committee will make the award upon the recommendation of the Scholarship Committees of the three chapters of the Delta Kappa Gamma Society.

DELTA PI IOTA SORORITY SCHOLARSHIP

This scholarship of \$100 a year is available to full-time women students. Either entering or continuing students are eligible for this award. The candidate must have a satisfactory scholastic record, and evidence of need, good character and leadership will be considered. A committee of Delta Pi Iota shall nominate a list of candidates for this annual award with the cooperation of the Scholarship Committee of the University.

RUTH DUGAN AERONAUTIC SCHOLARSHIP

This scholarship is offered by the Akron Women's Chapter of the National Aeronautics Association. A sum, not less than \$100 a year, may be awarded to an undergraduate or graduate student who is a resident of Summit County, Ohio. Upon recommendation of the Scholarship Committee of the Chapter, the University Scholarship Committee will make the award.

The scholarship is to assist a student who is primarily interested in studying some phase of aeronautics in an accredited university for a period of one year, and, with the supplementary recommendation and approval, for an additional period of one year.

FIRESTONE AND GOODYEAR FELLOWSHIPS

Fellowships in the Department of Chemistry are offered by the Firestone Tire and Rubber Company and the Goodyear Tire and Rubber Company for the study of the chemistry and technology of rubber. These fellowships are open to graduates of standard American colleges and universities and are of the value of \$1500 per year, with remission of all University fees.

DR. E. B. FOLTZ PRE-MEDICAL PRIZE

Under the provisions of the will of the late Dr. E. B. Foltz a fund was established to provide for a pre-medical prize of \$100 which is awarded each year to that member of the graduating class who makes the highest average grade in all work taken in the four-year pre-medical course and who plans to enter medical college the following year. The name of the winner is announced at Commencement, but the actual award is not made until the winner has enrolled in medical college.

ARTHUR L. FOSTER SCHOLARSHIPS

In January 1951, the Board of Directors of the University voted to establish a maximum of thirteen scholarships per year to be awarded to graduates of Akron high schools in the amount of \$120 per semester. Principals of high schools in Akron may submit names of three candidates for these scholarships for the Freshman year. The candidate must be in the upper third of his graduating class and must become a full-time student. Scholastic achievement, citizenship, promise and leadership are the qualities used as the basis for the award, which is made by a committee of the University.

Applications are made at the office of the High School principal in the last semester of the Senior year.

The award for the second semester is contingent upon satisfactory scholarship for the first semester.

CHRISTIAN GOTTWALD JUNIOR ACHIEVEMENT SCHOLARSHIP

Four annual scholarships are awarded to Barberton students with high scholarship who are outstanding in the business training program established by industry in the community.

M. M. HARRISON MEMORIAL CHEMISTRY SCHOLARSHIP FUND

The income from this fund is to provide an annual scholarship for male chemistry students, excluding freshmen.

THE OTIS C. HATTON SCHOLARSHIP

A four-year scholarship in the amount of \$125 per semester for the purpose of aiding a graduate of an Akron public high school who is planning to enter the educational profession. Preference will be given to well-qualified male students. Candidate must be in upper third of high school graduating class. The scholarship was established by the Akron Council of Parent Teachers Association in honor of Otis C. Hatton, former Superintendent of Schools.

ALICE HESLOP HOOVER SCHOLARSHIP

This scholarship is to be used for the purpose of aiding talented young women at The University of Akron studying voice culture who merit assistance.

CLARENCE L. HYDE MEMORIAL SCHOLARSHIP

The Clarence L. Hyde Memorial Scholarship was created in 1946 by Mrs. Harriet Williams and Mrs. E. B. Perrin. The scholarship shall be a living memorial to Dr. Hyde and his service to humanity.

The sum of \$100 is to be awarded each year to a Senior student residing in Akron, and shall be determined by scholarship and by need on the part of the student. Race, color, creed, or sex shall not be considered by the committee in making the award.

INLAND MANUFACTURING DIVISION SCHOLARSHIP FUND

The Inland Manufacturing Division of General Motors Corporation of Dayton, Ohio, has established a scholarship fund of \$4500 for two five-year scholarships in Mechanical Engineering. The candidates participate in a cooperative work-study training program. A gentleman's agreement exists between the students and the Company that the students will remain with the Company a minimum of eighteen months after graduation from the program. The scholarship agreement between the Company and the student will remain in effect as long as the student remains in good standing.

JUNIOR WOMEN'S CIVIC CLUB SCHOLARSHIP

An annual scholarship of \$150 a semester is awarded to a deserving student in the upper third of his high school class. The scholarship may be awarded either to a resident or a non-resident of Akron.

ROBERT KASSE MEMORIAL SCHOLARSHIP FUND

The Robert Kasse Memorial Scholarship Fund was established in 1945 by his family and friends to perpetuate the memory of Robert Aaron Kasse, who died in the service of his country on December 10th, 1944.

The sum of \$100 is to be awarded annually to that student in the Departments of English, Journalism, Speech, Radio and Dramatics, in Buchtel College of Liberal Arts, who at the completion of his junior year shows the greatest promise of success based upon academic excellence, character, and leadership.

C. BLAKE McDOWELL FUND

The proceeds from this Fund will be used for the benefit of any person attending The University of Akron. The recipient of this assistance will be selected by The University of Akron Scholarship Committee.

VICTOR I. MONTENYOHL SCHOLARSHIP

The Victor I. Montenyohl Scholarship Fund for advanced study was established in 1946 by Mrs. Elizabeth Montenyohl, his wife, and his son and daughter, Victor and Patricia, in memory of Victor I. Montenyohl, in recognition of Mr. Montenyohl's devotion to the rubber industry, and his belief that The University of Akron offered a unique opportunity for rubber research. It is considered appropriate that the income from this fund be made available whenever possible to a student well qualified and interested in the field of rubber chemistry.

JULIUS MUEHLSTEIN AWARD

This award amounts to \$250 a year and is given to help promising students to continue their education. They are awarded to students in the field of rubber chemistry on the basis of need and satisfactory work. The committee shall make no discriminations as to race, color, or creed.

NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP

In 1951, Tire Town Chapter of the National Secretaries Association established an annual scholarship of \$250 for an outstanding Junior in the Department of Secretarial Science to defray normal collegiate expenses in the Senior year. The student is selected by the Department on the basis of criteria mutually acceptable to the Department and to Tire Town Chapter, N. S. A. This scholarship is known as the Louise Gamble Memorial Scholarship.

WILLIS NEUENSCHWANDER SCHOLARSHIP

A four-year scholarship at the University will be awarded to the winner of a Summit County-wide driving contest which will consist of a written test and a driving test. This scholarship is awarded by the Akron Automobile Dealers Association and the New Car Dealers of Summit County, for the purpose of encouraging skillful, courteous and safe driving among high school students of Summit County.

OHIO STATE UNIVERSITY GRADUATE SCHOLARSHIP

In the spring of 1935 a number of graduate scholarships were established by Ohio State University, one to be assigned to each of the Ohio colleges fully accredited by the North Central Association of Colleges and Secondary Schools. The scholarship entitles the student to the exemption of tuition and fees of all kinds except a matriculation fee. Selection is left to the individual colleges.

M. O'NEIL COMPANY SCHOLARSHIPS

The M. O'Neil Company has established four scholarships in the amount of \$250 a year to be awarded to two students from the Junior class and two students from the Senior class who are preparing to enter the field of Retail Business. In succeeding years it will be awarded to two juniors annually. The scholarships are renewable each semester upon satisfactory performance, scholarship, and the student's continued preparation for a career in Retail Business.

Students selected shall have a minimum of a 2.5 quality point ratio for all previous college work. Achievement, citizenship, leadership and promise of success in the business field will be used as a basis for making the awards.

PANHELLENIC COUNCIL SCHOLARSHIP

The Panhellenic Council of The University of Akron has established a scholarship of \$125 a year for a woman student, to be applied entirely on the payment of fees.

This scholarship shall be awarded by the scholarship committee to a full-time student irrespective of race, religion, creed, field of study or sorority membership, after completion of at least one semester's work (12 or more hours) at The University of Akron, and shall be on the basis of scholarship and need. A ratio of at least 3.0 in the major and 2.5 in over-all scholarship is required.

RAYMOND B. PEASE AWARD OF THE AKRON MANUSCRIPT CLUB

The Raymond B. Pease award was established in 1946 by the members of the Akron Manuscript Club. The sum of \$25 is to be awarded annually to that Junior at The University of Akron who has been consistently outstanding in the field of creative writing during his three years at the University. In the selection of the recipient there shall be no consideration of race, sex, nationality, or creed. The recipient shall apply the award toward fees in his Senior year at the University.

PIXLEY SCHOLARSHIPS

In accordance with the will of Isabel McRoy Pixley, wife of Frank Pixley, class of 1887, a fund of \$50,000 was established in 1931. Awards are made each semester to students of outstanding ability and promise in the fields of literature, music, and speech. To be eligible for one of these awards the student must be enrolled in an upper college or qualified to enter an upper college and must be a major in the department in which the scholarship is awarded, or a divisional major in the humanities division. The awarding of these scholarships is made by a University committee. To be eligible for a Pixley Scholarship, a student must have a quality point ratio of at least 2 in all work taken; in the field of the award the quality of scholarship is expected to be much higher.

A. POLSKY COMPANY SCHOLARSHIPS

Four scholarships of \$250 each have been established by the A. Polsky Company. These scholarships will be awarded to two students from the Junior class and two students from the Senior class who are preparing to enter the field of Retail Business. In succeeding years it will be awarded to two juniors annually.

The students selected shall have a minimum of a 2.5 quality point ratio for all previous college work. Achievement, citizenship, leadership and promise of success in the business field will be the bases for making the awards, which are renewable each semester upon satisfactory performance, scholarship and the student's continued preparation for a career in Retail Business.

GEORGE E. PRICE, JR. MEMORIAL AWARD

The George E. Price, Jr. Memorial Award was established in 1949 by the Purchasing Agents Association of Akron to serve as a living commemoration of George E. Price, Jr. and his contribution to the field of Industrial Purchasing. Mr. Price was one of the founders of the local Association and a president of the National Association of Purchasing Agents.

The purpose of this award is to promote a greater interest in the field of purchasing among the students in the College of Business Administration of The University of Akron.

ROBINSON CLAY PRODUCT FUND

This fund was established in 1952 by The Robinson Clay Product Company. A portion of the income will be used annually for a cash award to the outstanding Senior student in the College of Engineering.

FRANK ROSENBLUM ANNUAL SCHOLARSHIP

The Frank Rosenblum Annual Scholarship of \$500 is open to all greater Akron Union members, their children or grandchildren, who are, or who desire to become, full-time students at The University of Akron. Candidates must be graduates of an accredited high school, or attending Akron University or another university. The selection of candidates is based on character and superior quality of citizenship, seriousness of purpose, sound scholarship and ability to do college work, and financial need. Award will be made by the University Scholarship Committee.

SENIOR ALUMNI PRIZE

A fund has been established by the Alumni Association for the purpose of awarding an annual cash prize of \$50 to that Senior student who has completed the regular undergraduate curriculum with the highest average grade for the work taken, having carried an average load of 12 credit hours per semester.

SOUTH AKRON BOARD OF TRADE SCHOLARSHIPS

The South Akron Board of Trade has established three \$100 scholarships to be awarded to an outstanding graduate from South, Garfield and St. Mary's High Schools in the amount of \$100 per year, payable at \$50 a semester. The award for the second semester is contingent upon satisfactory scholarship for the first semester. The principal of each high school may submit the names of three scholarship candidates for the Freshman year at the University.

The candidate must be in the upper third of his graduating class and must become a full-time University student. Scholastic achievement, citizenship, promise and leadership are the qualities used as the basis for the awards. Applications are made at the office of the high school principal in the last semester of the Senior year. Recommendations of the high school principals will be considered by the University Scholarship Committee on or about May 1 each year.

TOUCHDOWN CLUB SCHOLARSHIPS

The Touchdown Club Scholarships are awards of \$120 a semester for four years. The scholarships are renewable each semester contingent upon satisfactory performance and scholarship. Candidates must be in the upper half of their high school graduation class and must become full-time students at The University of Akron. Scholastic achievement, citizenship, athletic ability, need and leadership will be used as a basis for making the awards.

TUESDAY MUSICAL CLUB SCHOLARSHIP

An award of \$50 a semester is made to a full-time student who is a resident of Summit County, contingent upon satisfactory scholarship, evidence of need, good character, and leadership. It is limited to persons who show promise in the field of applied music. Music majors will receive preference if equally well qualified.

LYNN F. (PINDY) WAGNER SCHOLARSHIPS

These scholarships amount to \$240 a year each and are awarded to High School Senior men and women who are candidates for admission to The University of Akron. They extend over two school years.

To qualify the individual must be a member of the Akron Junior Bowling Congress and must be a high school student in his final semester. For each later semester the award is contingent upon satisfactory performance in college.

The applicant must be of good repute, and recommended by his high school. The applicant must be in the upper half of his class and accepted for admission to The University of Akron. He must enroll as a full-time student.

Decision as to the winner is made jointly by a committee of the Akron Junior Bowling Congress and the Scholarship Committee of The University of Akron.

The award will be made regardless of race, creed, color, national origin, or course of study and will be made jointly by the above awards committee in the spring each year.

WOMEN'S AUXILIARY OF THE AKRON DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS SCHOLARSHIP

An award of \$240 a year is made to a sophomore in the College of Engineering who has acquired a minimum of 28 semester hours of credit at The University of Akron. The student selected must be enrolled as a full-time student and will be selected on the basis of scholarship, leadership and need. The second semester award is contingent upon satisfactory achievement in the first semester. The award will be made by the Scholarship Committee of the University upon recommendation of the Dean of the College of Engineering.

LOAN FUNDS

The University will assist worthy students to finance their education through its loan funds. Application should be made through the Office of the Treasurer or the Director of Student Personnel well in advance of the beginning of each semester. Loans for emergency purposes will be considered during the academic year.

AKRON COLLEGE CLUB LOAN FUND

The Akron College Club maintains a loan fund known as the Elizabeth A. Thompson Scholarship Fund. Loans are made to deserving women students of the University.

AKRON COUNCIL OF PARENT-TEACHER ASSOCIATIONS LOAN FUND

This fund was established in 1925. Loans are made from this fund to Juniors and Seniors of the University.

MAXWELL P. BOGGS MEMORIAL FUND

This fund was established in memory of Maxwell P. Boggs, Treasurer of The University of Akron (1932-1950), to aid faculty members who may need financial assistance in emergency situations. The President of the University administers the fund and receives contributions from those who wish to help in this endeavor.

HOMER C. CAMPBELL FUND

A fund established under the will of the late Homer C. Campbell provides for assistance by loan or gift from its income to needy students dependent on their own resources. Preference is given to young men who have been newsboys in Akron.

KATHERINE CLAYPOLE LOAN FUND

This fund was established by a number of women's organizations of the city and dedicated as a memorial to Mrs. Katherine Claypole, wife of Dr. E. W. Claypole, former Professor of Natural Science of Buchtel College. The principal of the fund is lent to students, "who in mid-semester, as often happens, find themselves without sufficient means to complete the year's work."

CUYAHOGA PORTAGE CHAPTER D. A. R. LOAN FUND

The money in this fund was donated by the Cuyahoga Portage Chapter of the Daughters of the American Revolution for the purpose of aiding deserving men and women students of the University.

EVENING SESSION LOAN FUND

By voluntary contributions since February, 1933, the evening students have accumulated this fund to aid evening session students. Loans are made for short periods to students who have attended this division of the University for at least one year.

HARRIET HALE LOAN FUND

The money in this fund was given to the University by the trustee of the Harriet Hale estate to be used in the furtherance of education in music. Loans for the payment of fees are made to students specializing in music.

HERMINE Z. HANSEN LOAN FUND

A trust fund, established under the will of the late Hermine Z. Hansen, provides for a share of the distribution of its income to be used for the benefit of needy and deserving students while attending the University. At the discretion of the trustees of the fund, money is available through loans to needy students for purposes which will assist in completing their studies. Repayments are returned to the income of the trust fund.

INDIAN TRAIL CHAPTER OF DAUGHTERS OF
THE AMERICAN COLONISTS LOAN FUND

The money in this fund was donated by the Indian Trail Chapter of Daughters of the American Colonists for the purpose of making loans to students of the University.

LICHTER FOUNDATION LOAN FUND

The aid rendered by this fund is in the form of loans in such amounts as the loan committee may decide. No interest is required, but the principal is to be repaid at face value. The recipient must be properly recommended and must be qualified as a student in good standing. It may be used for an entering Freshman, a transfer, or an advanced student.

MABEL JANE ROGERS MEMORIAL FUND

The Mabel Jane Rogers Memorial Fund, amounting to \$100, was given by the alumnae of Flora Stone Mather College, Western Reserve University, in memory of Miss Mabel Jane Rogers, who was instructor in Spanish at The University of Akron for eight years. It is used for short emergency loans to women students.

HENRY STRONG EDUCATIONAL FOUNDATION

To assist students to complete their education, application may be made for an allotment of funds for a loan through the Henry Strong Educational Foundation. Undergraduate students beyond the Freshman year and graduate students under the age of twenty-five are eligible. Repayment is required over a period of four years after graduation. The fund is administered by the Trustees of the Foundation in Chicago. Full particulars may be obtained at the Office of the Treasurer of the University.

THOMAS-LITCHFIELD LOAN FUND

This fund was established by two directors of the University, Mr. John W. Thomas and Mr. P. W. Litchfield, in 1932. Money for the payment of fees is loaned for short periods of time to upperclassmen who are residents of Akron.

RICHARD J. WITNER LOAN FUND

A fund has been established by the parents and wife of Captain Richard James Witner, who was killed in action in North Africa on March 28, 1943. The principal of this fund is to be used for loans to worthy students to finance their education.

INDEX

A

- Absence 28
 Accidents, Student 28
 Accounting Course 141
 Accreditation 20
 Activities, Student 27
 Administrative Officers 5
 Admission 24
 From Other Colleges 24
 To College of Engineering 88
 To College of Education 105
 To General College 37
 To College of Business Administration 134
 To Upper Colleges 27
 Adult Education 150
 Advanced Course, Army ROTC 152
 Advanced Course, Air ROTC 153
 Advertising and Marketing Course 138
 Aeronautic Scholarship 157
 Aims and Objectives 21
 Air ROTC 14, 153
 Akron College Club Scholarship,
 Loan Fund 157, 162
 Akron Educational Scholarships 155
 Akron Rubber Group Scholarships 155
 Albrecht Scholarship Fund 155
 Alpha Lambda Delta Award 155
 Alumni Prize 161
 American Chemical Society Award 155
 American Institute of Chemists Award 155
 American Viscose Fellowship 156
 Ancient Languages 68
 Army ROTC 14, 151
 Art 38, 48, 111, 121
 Ashton Prizes 156
 Attendance at Baccalaureate and
 Commencement 25
 Athletics 27
 Athletic Injuries 28
 Auditors 25
- B**
- Baldwin Scholarship and Book Fund 156
 Basic Courses 39
 Basic Course in Military Science 151
 Basic Engineering Courses 89
 Basic Requirements in College of
 Education 106
 Beta Sigma Phi Scholarship 156
 Pierce Library (See Library)
 Biology 38, 50
 Board of Directors 5
 Board of Trade Scholarships 161
 Boggs Fund 162
 Breakage Deposits 34
 Buchtel College, History of 20
 Buchtel College of Liberal Arts
 (See College of Liberal Arts)
 Buckingham Scholarship 156
 Buildings 23
 Business Administration College 134
 Business Education 111, 121
- C**
- Calendar 3
 Campbell Fund 156, 162
 Carter Scholarship 156
 Certificate Courses in Secretarial Science 146
 Certification for Teaching 107, 117
 Certificate Fee 34
 Changes in Students' Programs 26, 33
 Chemical Association Scholarships 156
 Chemistry 38, 54
 Chemistry Scholarships, Fellowships 155
 City Testing Laboratory 31
 Civic Club Scholarship 159
 Civil Engineering 92
 Classical Languages 68
 Claypole Loan Fund 162
 Clothing Course 65
 Clubs, Student 30
 College Club Scholarships, Loan Fund 157, 162
 College of Business Administration 134
 Accounting 141
 Admission 134
 Advisory Committee 134
 Curriculum 135
 Degrees 136
 General Business 137
 Industrial Management 143
 Secretarial Science 145
 College of Education 104
 Admission to 105
 First Two Years 39
 Degrees 106
 Graduate Study 117
 Majors and Minors 106
 Subjects of Instruction 121
 College of Engineering 86
 Admission Requirements 88
 Advisory Committee 86
 Basic Engineering Courses 89
 Civil Engineering 92
 Cooperative Plan 86
 Degrees 88, 89
 Electrical Engineering 96
 Mechanical Engineering 100
 Pre-Engineering Curricula 88
 College of Liberal Arts 41
 Divisions in 21, 41
 Degrees 44
 Graduate Study 45
 Majors 43
 Objectives 41
 Promotion to 38
 Subjects of Instruction 48
 Commerce
 (See College of Business Administration)
 Commercial Teacher Training Require-
 ments and Curricula 111
 Community Cooperation 31
 Community College 150
 Conditioned Grade 29
 Conversion from Secondary to Elementary
 Certificate 110
 Cooper Company Scholarship 157
 Cooperative Plan in Engineering 86
 Course Numbers 29
 Courses of Study
 General College 37
 College of Liberal Arts 48
 College of Engineering 89
 College of Education 121
 College of Business Administration 135
 Credit, Basis of 29
 Credit by Examination 27
- D**
- D.A.R. Loan Fund 162
 Dates of Registration, etc. 3
 Daughters of American Colonists Loan
 Fund 163
 Degrees with Distinction 26
 Degrees 25
 College of Liberal Arts 44
 College of Engineering 88
 College of Education 106
 College of Business Administration 136
 Delta Kappa Gamma Scholarship 157
 Delta Pi Iota Scholarship 157
 Demonstration School Staff 16
 Directing Teachers 16

Directors of the University	5
Discipline, Student	28
Distinction, Degrees	26
Division of Adult Education	150
Divisional Majors, Arts College	43
Dropping Courses	26
Dugan Aeronautical Scholarship	157

E

Economics	38, 58
Education	(See College of Education)
Electrical Engineering	96
Elementary Education Course	109
Employment, Student	28
Engineering	(See College of Engineering)
English	38, 61
Entrance Requirements	(See Admission)
Evening and Adult Education Division	22
Evening Session Faculty	17
Evening Session Loan Fund	162
Examination Fee	34
Expenses	(See Fees)
Extra-Curricular Activities	27

F

Faculty	6
Failure	26
Fees and Expenses	33
Fellowships	155
Fields of Concentration	42
Finance Course	138
Firestone Fellowship	157
Foltz Pre-Medical Prize	158
Foods and Nutrition Course	65
Foster Scholarships	158
Fraternities	30
Freshman Orientation Week	25
Freshman English	39
French	72

G

General College	21, 37
General College Courses	39
General Business Course	137
General Education—Required Courses	37
General Information	20
General Motors Scholarship	158
General Objectives	21
General Regulations	20
General Studies Program	37
Geography	125
German	72
Goodyear Fellowship	157
Gottwald Scholarship	158
Government Laboratories	31
Grading System	29
Graduate Study	22
Liberal Arts	45
Education	117, 123
Psychology Courses	132
Graduation Fee	34
Graduation Requirements	
Quality Points	29
College of Liberal Arts	44
College of Engineering	88
College of Education	106
College of Business Administration	136
Graduation With Distinction	26
Grants in Aid	155
Greek	38, 68

H

Hale Loan Fund	162
Hansen Loan Fund	163
Harrison Fund	158
Hatton Scholarship	158
Health Service	13, 28
Health and Physical Education Course	112

Hearing and Speech Clinic	32
High School Teaching, Preparation For	44
Historical Statement	20
History	38, 63
Holidays	3
Home Economics	38, 65, 113, 125
Home Management Residence Fee	34
Honorary Fraternities	30
Hoover Scholarship	158
Hospitals, Cooperation with	115
Humanities Division	38, 41
Hyde Memorial Scholarship	158

I

Incomplete Grade	29
Industrial Option for Engineering	102
Industrial Management Curriculum	143
Injuries, Athletic	28
Inland Mfg. Division Scholarship Fund	158
Institute of Rubber Research	13
Intercollegiate Athletics	27
Intramural Athletics	27

J

Journalism	62
Junior Achievement Scholarship	158
Junior Women's Civic Club Scholarship	159

K

Kasse Memorial Scholarship	159
----------------------------	-----

L

Labor Relations Course	60
Late Registration Fee	33
Latin	38, 68
Liberal Arts College	(See College of Liberal Arts)
Lichter Loan Fund	163
Library, Bierce	
Holdings	24
Staff	12
Litchfield-Thomas Loan Fund	163
Load, Student	27
Loan Funds	162
Lecker Fee	34

M

Maintenance Fee	33
Marketing Course	138
Mathematics	38, 70
McDowell Fund	159
Medical Technology Course	51
Mechanical Engineering	100
Military Science and Tactics	(See ROTC)
Modern Languages	38, 72
Montenyoil Scholarship	159
Muehlstein Award	159
Music	38, 74, 114
Music Organizations	74
Music Fees	34
Music Education	125

N

National Secretaries Association	
Scholarship	159
Natural Science Division	42
Neuenschwander Scholarship	159
Non-Resident Fees	35
Numbering System	29
Nurses Training Programs	115, 126
Nursing Education Course	126
Nursing Fee	34
Nutrition Course	65

O

Objectives of the University	21
Objectives	
College of Education	104
College of Liberal Arts	41
College of Business Administration	135
The Divisions	41
The University	21
Officers of Administration	5
Office of Rubber Research	31
Officers' Training Corps	(See ROTC)
Ohio State University Graduate Scholarship	159
O'Neil Co. Scholarships	160
Organization of the University	21
Orientation Week	25
Out-of-Town Students, Fees	(See Fees)
Outside Work	28
Outside Work for Engineering Students	86

P

Panhellenic Council Scholarship	160
Parent-Teacher Associations Loan Fund	162
Part-Time Faculty	15, 17
Pease Award	160
Philosophy	38, 76
Phi Eta Sigma	30
Phi Sigma Alpha	30
Physics	38, 77
Physical Education	128
Pixley Scholarships	160
Points, Quality	29
Political Science	38, 80
Polsky Co. Scholarships	160
Pre-Dental Course	51
Pre-Medical Course	51
Pre-Medical Prize	158
Pre-Professional Courses	37
Preparation for High School Teaching	44
Prerequisites for the Upper Colleges	38
Presidents of Buchtel College	20
Presidents of the University	20
Price Award	160
Probation and Failure	26
Promotion to an Upper College	27
Promotion to College of Engineering	88
Psychological Services	13, 32
Psychology	81, 130
P.T.A. Loan Fund	162
Public School Officers and Teachers Cooperating With College of Education	15
Public Speaking	83

Q

Quality Points	29
----------------	----

R

Refunds of Fees	36
Registration Dates	3
Registration Fee	(See Fees)
Regulations	20
Repeating Courses	26
Requirements	
Admission	24
Degrees	25
Engineering	88
General Education	37
Graduation	
Liberal Arts	44
Engineering	88
Education	106
Business Administration	136
Promotion	27
Research Problem Fee	(See Fees)
Reserve Officers' Training Corps	14, 151
Residence Requirement	(See Fees)
Robinson Fund	161
Rogers Memorial Fund	163
Rosenblum Scholarship	161

R.O.T.C. Staff	14
Rubber Chemistry	57
Rubber Chemistry Fellowships	155
Rubber Research Institute	13, 31, 32

S

Scholarships	155
Secretarial Science	145
Semester Hour	29
Senior Alumni Prize	161
Sigma Pi Epsilon	30
Sigma Tau	30
Soap Box Derby Scholarship	155
Social Science Division	38, 42
Social Science Major	43
Society of Professional Engineers	
Scholarship	162
Sociology	38, 82
Sororities	30
South Akron Board of Trade Scholarships	161
Spanish	72
Speech	38, 83, 116, 133
Speech Clinic	32
Special Examination Fee	34
Special Students	24
Sports	27
Spicer Demonstration School Staff	16
Strong Foundation	163
Student Accidents	28
Student Activities	27, 30
Student Employment	28
Student Load	27
Student Organizations	30
Student Teaching	117
Subjects of Instruction	
General College	39
College of Liberal Arts	48
College of Engineering	89
College of Education	121
College of Business Administration	135
Summer Session	149
Summer Session Fees	33
Synthetic Rubber Laboratories	31

T

Teaching Certificate	107
Teachers College	(See College of Education)
Testing Laboratory	31
Technician's Course	51
Textiles and Clothing Course	65
Theoretical Music	75
Thesis Fee	34
Thomas-Litchfield Loan Fund	163
Touchdown Club Scholarship	161
Transcript of Record Fee	34
Transfer Fee	34
Transfer Students	24
Tuition	(See Fees)
Tuesday Musical Club Scholarship	161
Two-Year Certificate Course in Secretarial Science	146

U

Uniform Fee	34
University Calendar	3
University Faculty	6
University Health Service	13
University Scholarships	155
Upper Colleges, Organization	22
Upper College, Promotion to	27
Upper Colleges	41

V

Veterans' Expenses	33
--------------------	----

W

Wagner Scholarships	161
Withdrawal Refunds	36
Withdrawal	26
Witner Loan Fund	163

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