THE UNIVERSITY OF AKRON

CATALOG—1952-1953

ANNOUNCEMENTS—1953-1954

Published By
THE UNIVERSITY OF AKRON
AKRON • OHIO

The University of Akron

Annual Catalog 1952-1953
With Announcements For 1953-1954

Buchtel Hall

Published By
The University of Akron
Akron, Ohio

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UNIVERSITY CALENDAR

1953

January 5, Monday .....Classes resumed
January 16, Friday .....Founders Day
January 31, Saturday .....Termination of semester final examinations
February 2-4, Monday through Wednesday .....Orientation program
February 5, 6, Thursday and Friday; February 7, Saturday until noon .....Final registration for day session
February 9, Monday .....Classes begin for day session
February 9-13, Monday through Friday, 6-8:30 P. M., February 15, Saturday until noon ....Registration for evening session
February 16, Monday .....Evening classes begin
February 23, Monday .....Washington's birthday—a holiday
March 30-April 4, Incl. .....Spring recess
April 6, Monday .....Classes resumed
May 9, Saturday .....Examination for graduate degrees, major or minor in Education and Psychology
May 21, Thursday .....May Day
May 30, Saturday .....Memorial Day—a holiday
June 13, Saturday .....Termination of semester final examinations
June 14, Sunday .....Baccalaureate
June 16, Tuesday .....Commencement
June 19, Friday and June 20, Saturday until noon .....Final registration for summer session
June 22, Monday .....Summer session classes begin
July 4, Saturday .....Independence Day—a holiday
July 31, Friday .....Six-week session ends
August 14, Friday .....Eight-week session ends
August 31, Monday to September 11, Friday, Incl. .....Pre-registration of entering freshmen
September 14, Monday .....Orientation program begins
September 17, 18, 19, Thursday, Friday, Saturday until noon....Final registration for day session
September 21, Monday .....Classes begin for day session
September 21-25, Monday through Friday, 6-8:30 p. m. and September 26, Saturday until noon..Registration for evening session
September 28, Monday .....Evening classes begin
November 26-28, Thursday through Saturday .....Thanksgiving recess
December 19, Saturday, 12 noon..Christmas recess begins

1954

January 4, Monday ..... Classes resumed
January 15, Friday ..... Founders Day
January 30, Saturday ..... Termination of semester final examinations
February 1, Monday ..... Orientation program begins
February 4, 5 Thursday and Friday, February 6, Saturday until noon ..... Final registration for day session
February 8, Monday ..... Classes begin for day session
February 8-12, Monday through Friday, 6-8:30 p. m. and February 13, Saturday until noon .. Registration for evening session
February 15, Monday ..... Evening classes begin
February 22, Monday ..... Washington's birthday—a holiday
~~March 29-April 3, Incl. ..... Spring recess~~
~~April 5, Monday ..... Classes resumed~~
April 12-17, Incl. ..... Spring recess
May 8, Saturday ..... Examinations for candidates for graduate degrees with a major or minor in education and psychology
May 27, Thursday ..... May Day
May 31, Monday ..... Memorial Day—a holiday
June 12, Saturday ..... Termination of semester final examinations
June 13, Sunday ..... Baccalaureate
June 15, Tuesday ..... Commencement
June 18, Friday, June 19, Saturday until noon ..... Final registration for summer session
June 21, Monday ..... Summer session classes begin
July 5, Monday ..... Independence Day—a holiday
July 30, Friday ..... Six-week session closes
August 13, Friday ..... Eight-week session ends

BOARD OF DIRECTORS

TERM EXPIRES DECEMBER 31, 1953

H. L. BESSHARDT ..... *88 Casterton Avenue*
MRS. W. A. HOYT ..... *175 Merriman Rd.*
SHERMAN O. SCHUMACHER ..... *2381 Falmouth*

TERM EXPIRES DECEMBER 31, 1955

LEE J. FERBSTEIN ..... *531 Second National Bldg.*
LEE R. JACKSON ..... *1200 Firestone Parkway*
CHARLES J. JAHANT ..... *655 North Portage Path*

TERM EXPIRES DECEMBER 31, 1957

HURL J. ALBRECHT ..... *750 East Tallmadge Avenue*
HARRY P. SCHRANK ..... *120 Twin Oaks Road*
E. J. THOMAS ..... *1144 E. Market Street*

OFFICERS FOR 1953

Chairman ..... LEE R. JACKSON
First Vice Chairman ..... HURL J. ALBRECHT
Second Vice Chairman ..... HARRY P. SCHRANK
Secretary ..... LESLIE 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*
ERNEST H. CHERRINGTON, JR., Ph.D. ..... *Dean of Buchtel College of Liberal Arts*
HOWARD R. EVANS, Ph.D. ..... *Dean of the College of Education*
R. D. LANDON, C.E., M.S. ..... *Dean of the College of Engineering*
DONFRED H. GARDNER, M.A. ..... *Dean of Students and Director of General Studies*
EDWIN D. DURYEA, JR., Ed. D. ..... *Director of Adult Education*
RICHARD H. SCHMIDT, M.A. ..... *Registrar*
DOROTHY HAMLEN, B.S.L.S. ..... *Librarian*
ULYSSES S. VANCE, B.A. ..... *University Editor*
ALBERT WALKER, M.S.J. ..... *Director of Public Relations*
JOHN M. DENISON ..... *Director of Alumni Relations*
GORDON HAGERMAN, B.A. ..... *Assistant Dean of Students*
MRS. MARY KEATING, B.S. ..... *Adviser of Women*
RICHARD HANSFORD, B.A. in Educ. ..... *Adviser of Men*
ERNEST A. TABLER, M.A. ..... *Assistant Director of Adult Education*
CECIL A. ROGERS, B.S. Bus. Adm. ..... *Treasurer*
ROBERT BERRY, B.S. Bus. Adm. ..... *Business Manager*
EBBA LARSON ..... *Assistant Registrar*
MRS. AILEEN BOGGS, B.A. in Educ. ..... *Assistant to the Adviser of Women*

UNIVERSITY FACULTY AND ASSISTANTS

1952-53

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)
A.B., University of Cincinnati, 1927; LL.D., Parsons College; University of Cincinnati.

††HEZZLETON E. SIMMONS, *President Emeritus of the University* (1910)
B.S., Buchtel College; M.S., University of Pennsylvania, 1912; D.Sc., College of Wooster; LL.D., University of Toledo.

PAUL ACQUARONE, *Associate Professor of Botany and Geology* (1931)
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.

AUBREY ALLMAN, *Instructor in Natural Science* (1946)
B.S., University of Akron, 1940.

WESLEY ALVEN, *Assistant Professor of Psychology* (1945)
Th.B., Northern Baptist Theological Seminary; Ph.B., Loyola University; M.A. in Education, University of Akron; Ph.D., Western Reserve University, 1950.

DAVID E. ANDERSON, *Director of Testing Laboratory and Assistant Professor of Chemistry* (1923)
B.A., Augustana College; M.S., University of Chicago, 1923.

EINAR ANDERSON, *Instructor in Accounting* (1947)
B.S., B.A., University of Akron, 1942.

†FREDERIC E. AYER, *Dean Emeritus of the College of Engineering* (March, 1914)
C.E., Lafayette College, 1900; D.Eng., University of Akron, 1947; P.E., Ohio.

NEAL BALANOFF, *Instructor in Speech* (February, 1952)
B.A., M.A., Western Reserve University, 1950.

SUMMERFIELD BALDWIN, 3RD, *Professor of History and Chairman of the Division of Social Sciences* (February, 1943)
A.B., A.M., Ph.D., Harvard University, 1928.

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., University of Akron, 1942.

MICHAEL BEZBATCHENKO, *Assistant Professor of Mechanical Engineering* (June, 1949)
B.M.E., University of Akron, 1948, P.E., Ohio.

DOROTHY I. BIESINGER, *Assistant Professor of Biology* (1951)
B.A., M.S., Western Reserve University; Ph.D., Ohio State University, 1951.

AILEEN F. BOGGS, *Assistant to the Adviser of Women* (July, 1951)
B.A. in Educ., Muskingum College, 1925.

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; A.M., Ph.D., University of Wisconsin, 1925.

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††Retired September 1951.
†Retired June 1947.
‡Retired June 1951.

RENA NANCY CABLE, *Associate Professor of Art* (1927)
B.E., M.Ed., University of Akron, 1931.

RAY CAMPBELL, *Instructor in Education* (1947)
B.A.Ed., M.A.Ed., University of Akron, 1948.

ABRAHAM CANTOR, *Assistant Professor of Bacteriology* (1949)
B.A., M.A., Ph.D., University of Pennsylvania, 1940.

ANNA BELLE CHALFANT, *Assistant Professor of French* (1947)
B.A., Ohio State University; M.A., Middlebury College, 1934.

ERNEST H. CHERRINGTON, JR., *Dean of Buchtel College of Liberal Arts and Professor of Astronomy* (August, 1948)
B.A., M.S., Ohio Wesleyan University; Ph.D., University of California, 1935.

FRANCES CLARK, *Assistant Professor of Accounting* (1946)
B.S., University of Akron; M.Ed., University of Pittsburgh, 1946.

RUTH CLAYTON, *Associate Professor of Psychology* (February, 1948)
B.A., M.A., Ohio State University; Ph.D., Western Reserve University, 1943.

KENNETH COCHRANE, *Associate Professor of Physical Education and Director of Athletics* (1948)
B.E., University of Akron; M.Ed., University of Pittsburgh, 1941.

RUDYARD M. COOK, *Professor of Civil Engineering and Head of the Department* (1951)
B.S.C.E., Case Institute of Technology; M.S.C.E., University of Illinois, 1932. P.E. Illinois.

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.

*BEATRICE S. COUNTS, *Assistant Professor of Home Economics* (1929-1931) (February, 1950)
B.A., Ohio Wesleyan University; B.S., Simmons College; M.S., Columbia University, 1926.

FREDERIC R. CROWNFIELD, JR., *Instructor in Physics* (1951)
B.A., Harvard University; M.S., Ph.D., Lehigh University.

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, *Instructor in Mathematics* (1946)
B.S.Ed., 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)
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., 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, *Associate Professor of Latin and Greek* (1946)
B.A., University of Akron; M.A., Western Reserve University; Ph.D., Johns Hopkins University, 1946.

EDWIN D. DURYEA JR., *Director of Adult Education and Director of Research* (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* (1929)
B.A., Indiana State Teachers College; M.A., Columbia University; Ph.D., Northwestern University, 1930.

THOMAS EVANS, *Instructor in Physical Education and Assistant Football Coach* (April, 1948)
B.A., College of Wooster, 1935.

†Retired June 1951.
*Resigned February 1953.

ELDORA FLINT, *Associate Professor of Secretarial Science* (1929)
B.E., 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 Students and Professor of History* (1924)
B.A., M.A., Princeton University, 1923.

JAMES W. GLENNEN, *Associate Professor of Modern Languages* (1934)
B.A., University of Akron; M.A., Western Reserve University; Ph.D., University of Pennsylvania, 1943.

DENNIS GORDON, *Associate 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, *Instructor in Business Administration* (1946)
B.A., University of Minnesota; M.B.A., Northwestern University, 1928.

GORDON HAGERMAN, *Assistant Dean of Students* (July, 1941)
B.A., University of Akron, 1941.

E. K. HAMLEN, *Associate Professor of Coordination* (March, 1946)
B.M.E., University of Akron, 1928, P.E., Ohio.

RICHARD HANSFORD, *Adviser of Men* (August, 1949)
B.A.Ed., University of Akron, 1949.

LESLIE P. HARDY, *Vice President in Charge of Finance* (1934)
B.S.Ed., Kent State University; M.S.Ed., University of Akron, 1935.

GWENDOLYN HILBISH, *Instructor in Health and Physical Education* (February, 1953)
B.S. in Ed., University ot Akron, 1951.

ELIZABETH J. HITTLE, *Instructor in Speech* (1950)
B.S. Ed., University of Akron; M.A., Kent State University, 1949.

IRENE HORNING, *Instructor in Biology* (1946)
B.S., Western Reserve University, 1934.

†FRED F. HOUSEHOLDER, *Professor Emeritus of Physics* (1918)
B.A., M.A., University of Wisconsin, 1916.

MRS. JULIA HULL, *Assistant Professor of English* (1946)
B.A., 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.

ROBERT T. ITTNER, *Associate Professor of Modern Languages, Head of the Department, and Chairman of the Humanities Division* (1950)
B.A., Ph.D., University of Illinois, 1937.

EMMA D. JOHNSON, *Instructor in Physics* (1950)
M.A., Edinburgh University in Scotland; 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-November, 1946) (1949)
B.S., in Sec. Sc., University of Akron, 1936.

DON A. KEISTER, *Professor of English and Director of the Introductory Course in the Humanities* (1931)
B.A., M.A., University of Akron; Ph.D., Western Reserve University, 1947.

††Retired June 1951.
†Retired June 1950.

DAVID KING, *Associate Professor of Political Science* (1927)
B.A., Maryville College; M.A., University of Chicago, 1925.

WALTER C. KRAATZ, *Professor of Biology* (1924)
B.A., University of Wisconsin; M.A., Ph.D., Ohio State University, 1923.

LAURENCE 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., Texas and Ohio.

EBBA LARSON, *Assistant Registrar* (August, 1926)
University of Akron.

DOROTHY LAUBACHER, *Assistant Professor of Home Economics* (1950)
B.S., M.A., Ohio State University, 1941.

ERNEST R. LAWRENCE, *Assistant Professor of Political Science* (February, 1950)
B.S., Columbia University; B.A., M.A., Ph.D., Syracuse University, 1951.

WARREN W. LEIGH, *Professor of Commerce and Business Administration and Chairman of the Division of Applied Arts* (1926)
B.A., University of Utah; M.B.A., Ph.D., Northwestern University, 1936.

GEORGE LEUCA, JR., *Instructor in Modern Languages* (1951)
B.A., 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.

BERNARD S. LOGAN, *Assistant Professor of History* (1949)
B.A., Bridgewater (Va.) College; M.S., Ph.D., University of Wisconsin, 1949.

STEWART MCKINNON, *Assistant Professor of Commerce* (1949)
B.A., M.A., University of Wisconsin, 1941.

JAMES MCLAIN, *Associate Professor of Economics* (1946)
B.A., University of Akron; M.A., Western Reserve University, 1942.

ANDREW MALUKE, *Assistant Professor of Physical Education and Assistant Coach of Football* (February, 1946)
B.S. in Ed., 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.

PRISCILLA R. MEYER, *Assistant Professor of Psychology* (1951)
B.A., Temple University; M.A., University of Nebraska; Ph.D., Western Reserve University, 1950.

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 of Economics* (January, 1934)
B.A., University of Michigan; Ph.D., University of Minnesota, 1927.

WILLIAM I. PAINTER, *Associate Professor of Education* (1945)
B.A., Oakland City College; M.A., Ph.D., Indiana University, 1933.

MRS. HELEN PAINTER, *Assistant Professor of Education* (1945)
B.A., M.A., Ed.D., Indiana University, 1941.

HELEN PARK, *Assistant Professor of Biology* (1947)
B.S., Ottawa University; M.A., Nebraska University, 1923.

IVAN PARKINS, *Instructor in Political Science* (1948)
B.S., United States Naval Academy; M.A., University of Chicago, 1948.

VIRGIL PARMAN, *Professor of Music* (1948)
B.A., Kansas Wesleyan; M.M.Ed., Northwestern University, 1942.

OMAR PEREZ, *Instructor in Spanish* (1950)
B.A., Ohio University; M.A., University of Nebraska, 1948.

W. M. PETRY, *Professor of Mechanical Engineering* (1946)
B.S.M.E., University of Missouri; M.S. in M.E., Case Institute of Technology, 1951. P.E., Ohio.

JOHN J. POTTINGER, *Instructor in Education* (1949)
B.S., University of Edinburgh; M.S.Ed., 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, *Assistant 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., University of Akron; M.S., Harvard University, 1949.

DALLAS RIDDLE, *Assistant Professor of Statistics and Business Administration* (1946) (1949)
B.S. in Bus. Adm., University of Akron; M.B.A., Harvard Business School, 1943; LL.B., Western Reserve University, 1949.

MABEL RIEDINGER, *Associate Professor of Education* (February, 1947)
B.A., Mt. Union College; M.A., University of Chicago; Ed.D., Teachers College, Columbia University, 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 ROGERS, *Treasurer* (1932)
B.S., University of Akron, 1932.

CHARLES ROGLER, *Associate 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., in Ed., University of Akron, 1939.

RAY H. SANDEFUR, *Associate Professor of Speech and Head of the Department* (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. in Edu., Milwaukee State Teachers College; M.A., Columbia University, Teachers College; Ed.D., Ph.D., Columbia University, 1952.

RICHARD H. SCHMIDT, *Registrar and Professor of Chemistry* (April, 1918)
B.A., Wesleyan University; M.A., Columbia University, 1915.

GWENDOLYN SCOTT, *Assistant Professor of Health and Physical Education* (1949)
B.S.Ed., Bowling Green State University; M.A., Ohio State University, 1948.

MRS. ANNETTE K. SEERY, *Assistant Professor of Economics* (1951)
B.A., Mount Holyoke College; M.A., Washington University, 1947.

FREDERICK S. SEFTON, *Professor 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 Science* (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.

JAMES E. SHEARER, *Assistant Professor of Mechanical Engineering* (February, 1953)
B.S. M.E., University of Tennessee.

ROY V. SHERMAN, *Professor of Political Science and Director of the Introductory Course in Social Science* (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.

FRANK SIMONETTI, *Associate Professor of Business Administration* (February, 1942)
B.S., University of Akron; M.B.A., Boston University, 1941.

BUFORD SMITH, JR., *Assistant Professor of Electrical Engineering* (1951)
B.S.E.E., University of Tennessee; M.S.E.E., University of Illinois, 1949. P.E., Illinois.

‡HARRY A. SMITH, *Associate Professor of Physical Education* (1928)
B.Ed., M.Ed., University of Akron, 1929

HENRY SMITH, *Assistant Professor of Music Education* (1947)
B.M., Illinois Wesleyan; M.A., Carnegie Institute of Technology; Ed.D., Teachers College, Columbia University, 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*
Ph.B., Buchtel College; M.A., Harvard University; Litt.D., University of Akron, 1938.

JOHN F. STEIN, *Special Teacher of Voice* (1933)
Private Instruction with Herbert Witherspoon, Enrico Rosati, and Maria Kurenko.

WILLIAM J. STEVENS, *Instructor in English* (1950)
B.A., M.A., Dalhousie University, Halifax, N.S., 1939.

THOMAS SUMNER, *Associate Professor of Chemistry and Acting Head of the Department* (1950)
B.S., Ph.D., Yale University, 1951.

ERNEST A. TABLER, *Assistant Director of Adult Education and 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 and Head of the Department* (1949)
B.A., M.A., University of Saskatchewan; Ph.D., University of Wisconsin, 1948.

MRS. CHARLOTTE THOMPSON, *Assistant Professor of Art* (1946)
B.S., University of Akron; M.A., Western Reserve University, 1940.

PAUL THOMPSON, *Instructor in Psychology* (1948)
B.A., Kenyon College; M.A., Ph.D., Western Reserve University, 1952.

EVELYN M. TOVEY, *Associate Professor of Nursing Education* (1950)
B.S. and M.S. in Nursing, Western Reserve University, 1950.

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†Retired June 1943.
‡Retired June 1950.

MRS. AUDRA TENNEY TUCKER, *Associate Professor of Secretarial Science* (1926)
B.A., University of Akron; M.A., New York University, 1936.

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, *University Editor and Associate Professor of Journalism* (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.

GEORGE STAFFORD WHITBY, *Professor Emeritus of Rubber Chemistry and Director of Rubber Research* (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, Canada.

MRS. FLORENCE N. WHITNEY, *Assistant Professor of English* (1936)
B.A., Dakota Wesleyan University; M.A., Columbia University, 1913.

NELLIE WHITTAKER, *Special Instructor in Piano* (1945)
B.E., M.Ed., University of Akron, 1935.

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.

DARREL E. WITTERS, *Assistant Professor of Music* (1941)
B.S. in Ed., Bowling Green State University, 1933.

ALVIN C. WOLFE, *Assistant 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., Teachers College, Columbia University, 1939.

JOHN ZIEGLER, *Assistant Professor of Accounting* (February, 1947)
B.S.Ed., Kent State University; B.A., University of the Philippines; M.B.A., Ohio State University, 1940; C.P.A., Ohio, 1949.

PART-TIME FACULTY AND ASSISTANTS

(Day Session)

DR. THOMAS BROWNELL, *Introduction to Medical Science* (1952)
B.S., M.D., University of Kansas, 1940.

HELEN CHRISTOFF, *Home Economics* (1952)
B.A., Miami University, 1946.

ABBIE HAWK, *Sociology* (1952)
B.S., Ohio State University; M.A., Columbia University, 1945.

RUTH HOSTETLER, *Home Economics* (1952)
B.S. Ed., University of Akron, 1944.

FRANK IRELAND, *Psychology* (1948)
B.A., B.D., Kenyon College; M.S., University of Michigan, 1946.

ROSE MARY KRAUS, *Handicrafts* (1947)
B.E., University of Akron; M.A., Columbia University, 1926.

‡On leave academic year 1952-53

LIBRARY

DOROTHY HAMLEN, *Librarian and Professor of Bibliography* (February, 1937)
B.A., University of Akron; B.S.L.S., Western Reserve University, 1942.

GENIE J. PRESTON, *Associate Professor of Bibliography; Head of Catalog Department* (1939)
B.A., Northwestern University; M.A., University of Illinois, 1936.

MRS. LOIS MEYERS, *Assistant Professor of Bibliography; Library Assistant in charge of Main Desk* (1946)
B.A., Wittenberg College; B.S.L.S., Carnegie Institute of Technology, 1939.

PAULINE FRANKS, *Assistant Professor of Bibliography; Reference Librarian* (1950)
B.S. Educ., Kent State University; B.S.L.S., Western Reserve University, 1940.

EILEEN M. WUCHTER, *Instructor of Bibliography; Library Assistant in charge of Education Library* (1951)
B. S. Educ., Kent State University; M.S.L.S., Western Reserve University, 1951.

MRS. MARGARET MANCZ, *Instructor of Bibliography; Order Librarian* (September, 1952)
B.A., University of Akron; M.S.L.S., Western Reserve University, 1950.

MRS. ELIZABETH ASHTON, *Instructor of Bibliography; Library Assistant in Catalog Department* (October, 1952)
B.A., Mercyhurst; B.S.L.S., Western Reserve University, 1948.

BETTY J. CLINEBELL, *Library Assistant in charge of Science and Technology Library* (1949)
B.S., University of Akron, 1949.

MRS. RUTH HANSON, *Library Assistant in charge of Periodicals Library* (1949)
B.A., University of Akron, 1949.

MRS. WILMA BLANKENSHIP, *Secretary to the Librarian* (1949)

GERALD COWELL, *Library Assistant in charge of Audio-Visual Aids Department* (February 12, 1953)

UNIVERSITY HEALTH SERVICE

MAURICE WINCE, M. D., *University Physician* (February, 1950)
B.S., University of Akron; M.D., Ohio State University, 1942.

MRS. JULIA GOODRICH, *Nurse*

UNIVERSITY MEASUREMENT SERVICE

WESLEY ALVEN, *Director* (1945)
Th.B., Northern Baptist Theological Seminary; Ph.B., Loyola University; M.A. in Educ., University of Akron; Ph.D., Western Reserve University, 1950.

MRS. EVANGELINE B. WITZEMAN, *Associate Director* (1942-51) (February, 1953)
B.S., M.S., University of Akron; Ph.D., Western Reserve University, 1940.

FRANCIS J. WERNER, *Office Manager of the Measurement Service* (August, 1950)
B.A., M.A., University of Akron, 1952.

DIRECTING TEACHERS FOR SUMMER SESSION, 1952

ROSE AHERN ..... *Spicer School*
EMIL D'ZURIK ..... *Barberton High*
RUTH HAINES ..... *Central High*
LOUISE HAMILTON ..... *Central High*
CATHERINE HANNA ..... *Barberton High*
ELMER HOFFMAN ..... *Spicer School*
HARLAND HORTON ..... *Central High*
ELIZABETH LEITCH ..... *Spicer School*
JEANNETTE MARSH ..... *Spicer School*
NORA SANTROCK ..... *Barberton High*
ANNA SERUCH ..... *Spicer School*
RUTH SEYMOUR ..... *Central High*
LILA SINK ..... *Spicer School*
FRED WEBER ..... *Central High*

TEACHERS IN SPICER DEMONSTRATION LABORATORY SCHOOL

MRS. MILDRED COLLIS.....*1st Grade*
MRS. MARGARET ERB.....*6th Grade*
MRS. CAROLINE FRENCH....*4th Grade*
MRS. VIRGINIA GILLOOLY...*8th Grade*
ELMER HOFFMAN .....*8th Grade*
GRACE ION .....*5th Grade*
ROSE MARY KRAUS .....*2nd Grade*
BESS LEVENSON .....*1st Grade*
JEANETTE MARSH .....*L.S.S.*
MRS. BESSIE MILLER.....*1st Grade*
VIRGINIA GOSON .....*Art*
LILA NEAL .....*3rd Grade*
CATHERINE REDINGER ...*Kindergarten*
MAUDE RUMSEY .....*6th Grade*
EULALIE SAUVE .....*4th Grade*
DOROTHY SCHORLE .....*2nd Grade*
ANNA MAY SERUCH.....*5th Grade*
MARYELLEN SIMONSON .....*Music*
FAN WALCOTT .....*7th Grade*
OLGA ZEMLANSKY .....*7th Grade*
MARY LOUISE BEVERLY .....*Principal*
ELIZABETH WASHKO.*Acting Principal*

TEACHERS IN SPICER ELEMENTARY SUMMER SCHOOL

MRS. MARY LOUISE BEVERLY, ...*Principal*
ROSE AHERN .....*Spicer School*
ELMER HOFFMAN .....*Spicer School*
ELIZABETH LEITCH .....*Spicer School*
JEANETTE MARSH .....*Spicer School*
ANNA SERUCH .....*Spicer School*
MRS. LILA SINK .....*Spicer School*

DIRECTING TEACHERS, 1952-1953

JAMES APPLEBY .....*Central*
MRS. LUCILLE ADAMSON ....*Robinson*
ALINE BACLAWSKI .....*South*
MRS. FRANCES BAKER ..*Maple Valley*
MRS. EDNA BAUCH .....*Schumacher*
LOUIS BAUMAN .....*Kenmore*
MRS. FLORENCE BENSON .....*Bryan*
PAUL BRYANT .....*West*
FLORA BUMP .....*West*
MRS. ANITA CAHILL .....*East*
GEORGE CAPES .....*Central*
MRS. MACKIE CLASON .....*Hillwood*
BETTY COLE .....*Schumacher*
MRS. HAZEL CONVERSE .....*Goodrich*
ESTHER DAVIS .....*Mason*
DONNA COOPER .....*Margaret Park*
MARY K. DITTEMORE .....*Rankin*
MRS. FLORENCE DOUGHERTY .....
Schumacher
MRS. LOLA DOUGLAS .....*Allen*
HAZEL EASTERDAY .....*Lane*
HELEN FAIRBANKS .....*Seiberling*
MRS. HELEN FISHER .....*Voris*
MRS. ARLENE GREGORY .....*Robinson*
JOHN GRIFFITH .....*Garfield*
MRS. THELMA GRIMES .....*Miller*
RUTH HAINES .....*Central*
VIDA HALL .....*South*
MRS. ELOISE HALLIBURTON .....
McEBRIGHT
MRS. GLADYS HARDMAN .....*Rankin*
EDITH HARRIS .....*South*
ROBERT HARRIS .....*West*
MIRIAM HAYNES .....*Kenmore*
CALVIN HEINTZ .....*Cuyahoga Falls*
ELMER HOFFMAN .....*Spicer*
LEONE HORNING .....*Forest Hill*
FLORENCE HOWILER .....*Crouse*
MRS. IVA JAMES .....*Betty Jane*
OLGA JOHNSON .....*East*
EDWIN KIRKPATRICK .....
Jennings Jr. H. S.
EILEEN KLINGENSMITH .....*Mason*
LADONNA KOLEDIN .....*Ellet*
MRS. BESS KRAHL .....*Fairlawn*
MRS. EMILY LANCE .....*South*
MRS. RUTH MAHONEY .....*Lincoln*
JEANETTE MARSH .....*Spicer*
MRS. LUCY MCMURTREY ..*Fraunfelter*
MRS. WILMA MEROLD .....*Robinson*

DIRECTING TEACHERS, 1952-1953—Continued

JOSEPHINE MILANI .....*Forest Hill*
MRS. BELLE MONAHAN ....*Seiberling*
MARY MOSTENIC .....*East*
KATHERINE NORTON .....*Seiberling*
MRS. PATRICIA OROSZ .....*Lincoln*
DOMINIC PATELLA .....*East*
EUGENIA PAVELOI .....*Garfield*
WILBUR PFEIFER .....*Garfield*
VYNITA PLANT .....*Lincoln*
MARY PUSATERI .....*South*
CHARLES QUERRY .....*Central*
MRS. LEONA RAINS .....*Fraunfelter*
MRS. JANE RAPP .....*Mason*
MRS. HELEN REID .....*Forest Hill*
MRS. MARY REIGHARD .....*Mason*
MRS. MAXINE RIBLET .....*Hotchkiss*
IRENE RUEHLE .....*Lincoln*
MRS. LELA ST. JOHN .....
Jennings Jr. High
WILLIAM SATTERLEE .....*South*
MRS. ROSA SCHROEDER ....*Seiberling*
HAROLD SCHUMACHER .....*Crouse*
HELEN SCHURR .....*Itinerant*
ANNA SERUCH .....*Spicer*
MRS. FANNIE SEVERNS .....*Mason*
ELSA SHAFER .....*Central*
MERCEDES SHEIBLEY .....*Henry*
ARLENE SPAHR .....*Ellet*
BEATRICE SPRAGUE .....*Central*
MRS. LENA STAMBAUGH .*Schumacher*
JANE STEINER .....*West*
WILLIAM SUDECK .....*Robinson*
MAURICE TEDROW .....*Kenmore*
RUTH THOMAS .....*South*
ROBERT VERNON .....*Garfield*
BLANCHE WALKER .....*Rankin*
EDWARD WEIHE .....*David Hill*
ROBERT WHITE .....*North*
NELLIE WHITTAKER .....*Lincoln*
DOROTHY WHITTINGTON .....*Buchtel*
PARKER WILCOX .....*North*
MRS. MARIE WILSON .....*Bryan*
MARGARET CONLEY .....*Central*

AKRON PUBLIC SCHOOL OFFICERS COOPERATING WITH THE COLLEGE OF EDUCATION

OTIS C. HATTON, M.A. .....*Superintendent of Schools*
A. J. DILLEHAY, B.Ed., M.A. .....*Executive Director*
GEORGE F. WEBER, M.A.Ed. .....*Executive Director*
S. F. JAMESON, B.A., M.A. .....*Assistant Superintendent*
MARY LOUISE BEVERLY, B.S.Ed., M.S.Ed. .....*Principal of Spicer School*
ELIZABETH WASHKO, B.S.Ed., M.S.Ed. .....*Acting Principal of Spicer School*

OTHER COOPERATING SCHOOLS

FRED H. BODE, B.S.Ed., M.A. .....*Superintendent of Schools, Cuyahoga Falls*
GORDON M. DEWITT, B.A., M.A. .....*Principal, Cuyahoga Falls High School*
PAUL G. GUNNETT, B.A., M.A.....*Superintendent of Schools, Barberton*
H. A. PIEFFER, B.S., M.A. .....*Principal, Barberton High*

1952-53 EVENING SESSION FACULTY

STEPHEN E. ANDERSON .....*Transportation*
LL.B., Detroit College of Law, 1928

WENDALL WILSON ARMSTRONG .....*Production Control*
B.S., Mount Union College

EUGENE BELL .....*Drawing and Rendering*
B.S. in Ed., The University of Akron; Art Students League, New York

ELIZABETH BUEHL .....*Retail Advertising*
Ohio State University

L. E. BUNTZ .....*Elementary Surveying*
B.M.E., The University of Akron, 1935

HARMON O. DEGRAFF ..... *General Sociology Social Attitudes*
B.A., M.A., State University of Iowa; Ph.D., University of Chicago, 1926

STEPHEN H. FINLEY ..... *Physical Metallurgy*
B.S., Penn State College, 1951

WILLIAM P. FITZGERALD ..... *Selling*
B.S., University of Akron

ANNA MAE FLINT ..... *Shorthand*
B.S. in Sec. Sc., The University of Akron; M.S., Northwestern University

ARTHUR GENTER ..... *Organization and Administration of Municipal Recreation*
Springfield College

PAUL L. GRIFFIN ..... *Engineering Drawing*
B.I.E., Ohio State University, 1950

CARL W. GRONCY ..... *Plant Maintenance*
M.E., The University of Akron, 1938

ADENA HANDWERK ..... *Business English*
B.A. in Ed., University of Akron, 1941

VICTOR H. HAZZELQUIST ..... *Machine Drawing*
B.M.E., Ohio State University

ROBERT W. HERBERICH ..... *Insurance and Securities*
B.A., Harvard College, 1943

T. DONALD JOHN ..... *News Writing and Editing*
Copy editor, Akron Beacon Journal

EDWARD S. KARON ..... *General Psychology*
A.B., M.A., Ohio University, 1948

JOHN T. KIDNEY ..... *Industrial Safety*
Manager, Employees Service Division, The Goodyear Tire & Rubber Co.

MARY KONSTAND ..... *Shorthand*
B.S., M.S., University of Akron; M.S. Boston University

WILLIAM R. LANTZ ..... *Purchasing*
The University of Akron

WALTER C. LIPPS ..... *Organization and Administration of Municipal Recreation*
B.E., The University of Akron, 1928

JOSEPH LONG ..... *Production Control*
B.S., Miami University, 1934

CECIL O'DEAR ..... *Applied Mechanic*
The University of Akron; B.E., Case Institute of Technology

KATHERINE OANA ..... *Typewriting*
B.S. in Bus. Ed., The University of Akron

EDWARD A. PAUL ..... *English*
B.A., The University of Akron, 1947

THOMAS M. POWERS ..... *Business Law*
A.B., Cornell University; L.L.B., Cleveland Law School, 1927

K. L. REYNOLDS ..... *Personnel Relations, Personnel Management*
B.S., University of Illinois, 1927

ROBERT ROSS ..... *Lighter-than-Air-Theory*
B.S., M.S. Ph.D., Case Institute of Technology, 1945

THELMA I. SCHOONOVER ..... *Psychology of Childhood and Adolescence*
B.S., M.A., Ohio State University

RUSSELL L. SMITH ..... *Time Study, Motion Study*
B.S. in Bus. Adm., Kent State University, 1940

JOHN K. SMUCKER ..... *C.P.A. Problems*
B.S. in Bus. Adm., Ohio State University, 1930; C.P.A., Ohio

LEONA STERLEY ..... *Shorthand*
B.S. in Sec. Sc., The University of Akron; M.A. in Bus. Ed., New York University, 1942

L. C. TURNER ..... *Business and Professional Speaking*
B.S., Hiram College; M.A. The University of Akron, 1929

CLARENCE R. UPP ..... *Heat Power Engineering*
M.E., Ohio State University, 1910; P.E., Ohio

SUMNER VANICA ..... *Audio-Visual Aids*
B.A., M.A. in Ed., The University of Akron, 1944

C. W. VOBBE ..... *Quality Control*
B.B.A.,University of Toledo, 1935

DWITE A. WALKER ..... *Engineering Drawing*
B.M.E., The University of Akron, 1949

STANLEY I. WEISS ..... *Vibration Analysis*
B. Aero E., M.S., Rensselaer Polytectic Institute, 1945; Ph.D., University of Illinois 1949

BETTY WETTSTYNE ..... *Typewriting*
B.S. in Sec. Sc., University of Akron; M.B.A., University of Chicago, 1944

RICHARD T. WISE ..... *Drawing Interpretation and Sketching*
M.E., University of Cincinnati, 1939

RUBBER RESEARCH STAFF

G. STAFFORD WHITBY, *Professor of Rubber Chemistry, Director of Rubber Research* (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, Canada.

MAURICE MORTON, *Professor of Polymer Chemistry and Assistant Director of Rubber Research* (October, 1948)
B.S., Ph.D., McGill University, 1945.

HOWARD STEPHENS, *Research Chemist and Instructor of Rubber Chemistry* (1950)
B.S., M.S., University of Akron, 1950.

MARY WILMA ALTIER, *Research Chemist* (July, 1951)
B.S., Youngstown College; M.S., Western Reserve University, 1950.

JOSEPH A. CALA, *Research Chemist* (1951)
B.A., Alfred University, 1950.

SAMUEL KAIZERMAN, *Research Chemist* (December, 1951)
B.A., M.S., Ph.D., New York University, 1952.

MRS. IRJA PIIRMA, *Research Chemist* (December, 1952)
Diploma in Chemistry, University of Darmstadt.

**NATHAN WELLMAN, *Research Chemist* (July, 1947)
B.S. Chem. Eng., Purdue University; M.S., Ohio State University, 1936.

RESERVE OFFICERS' TRAINING CORPS

DEAN GARDNER, *Civilian Coordinator*

ARMY

A. L. HUGINS, *Professor of Military Science and Tactics* (1952)
A.B., Syracuse University, 1937; Lieutenant Colonel, Infantry.

LAWRENCE L. LARSEN, *Associate Professor of Military Science and Tactics* (1949)
B.S., Michigan State College, 1937; Lieutenant Colonel, Infantry.

**Resigned 1952.

THOMAS H. FARRINGTON, *Assistant Professor of Military Science and Tactics* (1952)
Captain, Infantry.

EDWARD M. BROWN, JR., *Assistant Professor of Military Science and Tactics* (1950)
B.S., University of Virginia, 1948; Captain Infantry.

WAYNE H. BURKE, *Administrative Assistant* (1949)
Warrant Officer Junior Grade, AUS.

ALBRECHT E. BLOCK, *Assistant Instructor in Military Science and Tactics* (1952)
Master Sergeant, Unassigned.

RICHARD L. KELLY, *Assistant Instructor in Military Science and Tactics* (1952)
Master Sergeant, Medical Service.

FRANCIS E. THOMPSON, *Administrative Non-Commissioned Officer and Assistant Instructor in Military Science and Tactics* (1953)
Master Sergeant, Unassigned.

FRED A. DUGAN, *Assistant Instructor in Military Science and Tactics* (1952)
Sergeant First Class, Unassigned.

WILLIAM B. HUFFMASTER, *Assistant to the Military Property Custodian* (1952)
Corporal, Quartermaster.

MRS. THELMA M. NOLTE, *Administrative Assistant* (1952)

AIR

ROBERT C. HILLIARD, *Professor of Air Science and Tactics* (1949)
B.A., West Virginia University, 1932; Lieutenant Colonel, USAF.

WILBUR W. WALTON, *Assistant Professor of Air Science and Tactics* (1949)
Major, USAF.

ARTHUR B. CHABATON, *Assistant Professor of Air Science and Tactics* (1951)
B.A. in Ed., University of Alabama, 1939; Ed. M., Boston University, 1948; Captain, USAF.

ROBERT E. JOHNSON, *Assistant Professor of Air Science and Tactics* (1952)
B.A., University of Wyoming, 1947; M.S., University of Wyoming, 1950; First Lieutenant, USAF.

JOHN F. FECK, JR., *Assistant Professor of Air Science and Tactics* (1951)
B.S., St. Joseph's College, 1940; Captain, USAF.

THOMAS H. MASTERSON, *Assistant Professor of Air Science and Tactics* (1951)
B.A., Hiram College, 1941; First Lieutenant, USAF.

JAMES E. PEARCY, *Administrative Assistant* (1952)
Master Sergeant, USAF.

ROLAN R. HIMES, *Administrative Assistant* (1952)
Technical Sergeant, USAF.

DAVID T. KILEY, *Instructor in Air Science and Tactics* (1949)
Master Sergeant, USAF.

ODES D. LOCKWOOD, *Instructor in Air Science and Tactics* (1950)
Master Sergeant, USAF.

ELLIS R. MCDUFFEE, *Instructor in Air Science and Tactics* (1950)
Master Sergeant, USAF.

WILLIAM H. DENNINGTON, *Supply Sergeant* (1949)
Technical Sergeant.

GENERAL INFORMATION

HISTORY

The University of Akron became a municipal institution August 25, 1913, when the plant and endowment of Buchtel College was accepted by the city of Akron as a nucleus for a non-sectarian municipal university. On December 15, 1913, Mayor Frank W. Rockwell appointed nine Akron citizens to serve on the first Board of Directors. In September 1926, the new municipal university was officially designated The University of Akron.

Buchtel College was originally established in 1870 by the Ohio Universalist Convention, and took its name from its most generous benefactor, Hon. John R. Buchtel. It received its charter from the state legislature in 1872. Today, Buchtel College retains its name and identity in the Buchtel College of Liberal Arts.

PRESIDENTS OF BUCHTEL 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, B.A., LL.D. 1951-

ADMISSION TO THE UNIVERSITY

Students are accepted by the University upon graduation from an accredited high school or honorable transfer from another college or university. Special provisions are made for those persons over 21 years of age, who qualify as adult students by reason of their maturity and experience.

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.

*Deceased.

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 of Akron.

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.

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.

SPECIAL STUDENTS

Special students are applicants who do not meet requirements for admission, but may take limited work. They may audit courses, but may not displace regular students.

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 take 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 for the next semester 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 time. Fees are due at time of registration.

REGISTRATION DAYS

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.

ADULT STUDENTS

Applicants over 21 years of age may be permitted to enroll for not more than seven credit hours in any one semester in evening classes and may be permitted to take up to a total of fourteen credits. Such students will be designated as Adult Students. If adult students desire additional work for credit, they must qualify for regular student status by meeting entrance requirements to the satisfaction of the Committee on Admissions. *The initiative for change of status rests with the adult student.*

ORIENTATION WEEK

The week preceding the opening of the regular session is devoted to general assembly, tests, physical examination, lectures, and payment of fees.

Entering freshmen are required to report Monday, Sept. 14, 1953, for the fall session, and participate in all orientation week activities.

DEGREE REQUIREMENTS

Students in Liberal Arts, Education and Business Administration must present 128 semester hours with at least a 2 point average. Engineering students must present at least 155 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 March 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.

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.

ACCREDITATION

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

The North Central Association of Colleges, Ohio College Association, Association of American Universities, American Medical Association, American Chemical Society, the Engineers' Council for Professional Development, and American Association of Colleges for 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, and the Ohio College Association.

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.

BUILDINGS AND EQUIPMENT

The University campus is bounded by Buchtel Avenue on the north, Brown Street on the east, Carroll Street on the south, and Sumner Street on the west.

Campus buildings include BUCHTEL HALL, in which administrative offices are located; CARL F. KOLBE HALL, housing Bierce Library; CROUSE GYMNASIUM; R.O.T.C. ARMORY; CURTIS COTTAGE, housing the Department of Home Economics, and the University Health Service; OLIN HALL, occupied by the department of Biology; SIMMONS HALL, housing the Colleges of Liberal Arts and Business Administration, and some laboratories of the College of Engineering; and a CENTRAL HEATING PLANT.

The University Student Building, first occupied in 1939, was constructed from Public Works Administration funds. It contains dining facilities, a little theatre, offices of student publications, meeting and game rooms, and lounge.

The Chemistry Building named KNIGHT HALL in memory of Dr. Charles M. Knight and completed in 1950, houses the Chemistry Department, rubber mill, curing and physical testing rooms, and plastics laboratory.

The Engineering Building, completed in 1949 and named AYER HALL in honor of Dean Emeritus Frederic E. Ayer, houses the College of Engineering.

The FIRESTONE CONSERVATORY OF MUSIC is located in two buildings one-half mile from the campus proper, a recent gift of the Harvey Firestone family.

The COLLEGE OF EDUCATION building has complete facilities for the University's extensive teacher education program.

The Quonset Hut on the campus was erected in 1946 to accommodate the Bookstore. Another temporary frame structure houses the Air R.O.T.C. unit.

Buchtel Athletic Field is situated about two blocks from the campus. Varsity football games are held at the Akron Rubber Bowl, and basketball games are played at Goodyear Gymnasium. The Athletic Building erected in 1949 at Buchtel Field services the athletic teams and facilitates the physical education program.

Two buildings, one for Physical and Health Education, and the other for Arts and Sciences, are in the process of construction.

UNIVERSITY LIBRARY

The University Library, named Bierce Library in recognition of a bequest from General L. V. Bierce in 1874, occupies Carl F. Kolbe Hall. In 1949, an annex was added which doubled the floor and stack space. Total book collection is 93,290 and 585 periodicals are currently received. The Audio Visual Aids department offers complete service for films and records.

GOVERNMENT LABORATORIES

Early in 1944, the University assumed management of a Government-owned pilot plant and evaluation laboratory on West Wilbeth Road. The laboratories were dedicated June 28, 1944. They consist of 10 buildings housing equipment for production and testing of experimental rubbers to improve the quality of rubber goods.

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., The Buchtelite (student newspaper), Tel-Buch (yearbook), athletics for men and women, departmental clubs, religious organizations, sororities and fraternities. The program is facilitated by the Student Building lounge, cafeteria, dining room, recreation rooms and publication offices.

INTRAMURAL SPORTS

Sports are conducted to provide wholesome recreation and physical exercise. The Physical Education Department encourages each student in the University, enrolled in 8 or more hours, to engage in scheduled activities.

INTERCOLLEGIATE ATHLETICS

Intercollegiate sports are under the administration of a Faculty Committee appointed by the President.

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 responsibilty 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.

EMPLOYMENT FOR STUDENTS

The Dean of Students' office serves as a clearing center for student employment.

REGULATION OF STUDENT OUTSIDE WORK

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.

GENERAL OBJECTIVES OF THE UNIVERSITY OF AKRON

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 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 the General College and four upper colleges, divided on the basis of educational objectives. The upper colleges are for 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 four divisions as follows:

Humanities	*Social Sciences*	*Natural Sciences*	*Applied Arts*
Latin and Greek	Economics	Biology	Art
Literature	History	Chemistry	Home Economics
Modern Languages	Political Science	Mathematics	Journalism
Music	Sociology	Physics	
Philosophy			
Speech			

A major is also offered in Psychology.

THE COLLEGE OF ENGINEERING

The departments are:

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

The departments are:

Commerce Secretarial Science Industrial Management

DIVISION OF ADULT EDUCATION

The Division of Adult Education operates the Evening Session and Community College in addition to sponsoring institutes that study community problems.

EVENING SESSION

All colleges of the University offer courses in the evening. Work toward a degree, diploma, or certificate is available for new and former students on a full or part time basis.

COMMUNITY COLLEGE

Non-credit courses are offered on a short-term basis for persons who desire practical training for a particular vocation or avocation.

SUMMER SESSION

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

REGULATIONS

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.

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 Admission and Retention.

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

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

Special permission of the Committee on Admission and Retention is required before students may repeat a credit course for which he already has a passing grade.

A student desiring to withdraw from the University is required to notify the Dean of the College in which he is enrolled. Otherwise F grades may be received in all work carried.

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. A fee is charged for work in excess of 18 hours, except in the case of definitely prescribed curricula.

ABSENCE

Students are expected to attend class meetings for which they are registered regularly, 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.

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 all required general courses. (Exceptions may be made in the College of Engineering and Division of Natural Science.)

Students who plan to meet requirements for promotion to upper college standing in the Colleges of Liberal Arts 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.

SPECIAL EXAMINATIONS

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 at the Registrar's office.

SYSTEM OF NUMBERING

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 a bachelor's degree.

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.

SUMMARY STATEMENT

The following tabulation is a typical charge for a new student enrolled in day classes for a schedule of 11 to 18 hours each semester.

	First Semester	Second Semester
Matriculation Fee	$ 10.00	$ 00.00
Maintenance Fee	68.00	68.00
Student Activity Fee	15.00	5.00
Student Building Fee	3.50	3.50
Library	1.50	1.50
Total for residents of Akron	98.00	78.00
Additional fee for non-residents of Akron	90.00	90.00
Total for non-residents of Akron	$188.00	$168.00

Laboratory fees, deposits and books are additional.

FEES FOR ENGINEERING STUDENTS ENROLLED ON COOPERATIVE BASIS (9 to 10½ credit hours)

	First Semester	Second Semester	Summer
Maintenance Fee	$ 48.00	$ 48.00	$ 48.00
Student Activity Fee	15.00	5.00	1.00
Student Building Fee	3.50	3.50	1.00
Library Fee	1.50	1.50	1.00
Total—Residents	68.00	58.00	51.00
*Additional fee for non-residents of Akron	60.00	60.00	60.00
Total—Non-Residents	$128.00	$118.00	$111.00

* Rate per credit hour when enrollment is for less than nine hours $6.75

VETERANS' EXPENSES

World War II veterans 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.

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

RULES GOVERNING NON-RESIDENT FEES

Legal residents of the City of Akron will not be charged the non-resident fees.

United States citizens, 21 years of age or over, residing in the City of Akron, provided they have resided continuously in Ohio for at least one year and in Akron 40 days immediately prior to final registration day for any semester, shall be deemed to be legal residents of Akron.

A person under 21 years of age living with parents who are legal residents of the City of Akron, shall be considered a legal resident.

A husband or wife who is a citizen of the United States and lives with a spouse who is a legal resident of the City of Akron, shall be considered a legal resident.

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

Any person exempted from the non-resident fee forfeits that exemption upon abandoning Akron as his legal residence but may regain the right upon reestablishing his legal residence in the City.

No person is considered to have gained or lost legal residence by any act of himself, his parents, or his guardian, within any semester he or she is enrolled in the University.

In case a legal resident of the City of Akron is appointed guardian of a minor, the legal residence of such minor is considered to be the City of Akron only after the expiration of one year after such appointment. Legal residence may not be acquired by a minor for whom a legal guardian is appointed to avoid paying tuition.

FALL AND SPRING SEMESTER FEES

NON-RESIDENT FEES

	Each Semester
Payable by non-resident students in the day session:	
For 1 to 5 credit hours inclusive, per credit hour	$ 6.00
For 6 credit hours	35.00
For 7 credit hours	50.00
For 8 credit hours	60.00
For 9 credit hours	70.00
For 10 credit hours	80.00
For 11 credit hours or more	90.00
Payable by non-resident students in the evening session:	
For less than 7 hours	No Charge
For 7 to 10 credit hours inclusive, per credit hour in excess of 6	20.00
For 11 credit hours or more	90.00

* The educational cost or its equivalent sball be judged to be a sum equal to the tuition plus such other fees as are applicable to the curriculum in wbich the student is enrolled.

MATRICULATION AND TRANSFER FEES

A matriculation fee of $10 is charged each student registering for the first time in the University in the regular day session.

A matriculation fee of $5 is charged each student registering for the first time in the University in the evening or summer sessions.

A transfer fee of $5 is charged each student who enters the regular day session for the first time after previous enrollment in a summer or evening session of the University.

MAINTENANCE FEES

Payable by all students both resident and non-resident in the day and evening sessions:

For 1 to 7 credit hours inclusive, per credit hour ..... $ 8.50

For 8 credit hours or more 68.00

LIBRARY FEE

Payable by all day and evening students enrolled for 6 or more credit hours.. $ 1.50

(Not subject to change during a semester because of reduction in number of credits carried.)

STUDENT ACTIVITY FEE

Payable by all undergraduate students in the day session taking six credit hours or more. (Not subject to change during a semester because of reduction in number of credits earned.) This fee supports extra-curricular activities.

First semester (including athletic and dramatic ticket) $15.00

Second semester, students enrolled first semester 5.00

Second semester, new entrants (including athletic and dramatic ticket).. 10.00

Payable by all evening session students, per semester ..... .50

STUDENT BUILDING FEE

Payable by all students in the day session enrolled for six credit hours or more, per semester. (Not subject to change during a semester because credit hours are reduced.) This fee makes available the facilities of the Student Building ..... $ 3.50

Payable by all students enrolled in the day session taking less than six hours, per semester 2.00

Payable by all evening session students, per semester 1.00

LATE REGISTRATION FEE

A fee of $5 will be charged day students, and $1 for evening students who have not completed registration, classification, and payment of fees before the closing time of registration in the college in which they are registered.

The dates on which this fee will first be payable in 1953-54 are:

First Semester: Monday, September 21, for Day Session and September 28, for Evening Session.

Second Semester: Monday, February 8, for Day Session and February 15, for Evening Session.

1953 Summer Session: Day Session, June 22, Evening Session, June 23.

MUSIC

Two individual half-hour lessons per week, each semester, in Piano, Voice, Violin, Organ or Band Instruments $80.00
One individual half-hour lesson per week, each semester, in Piano, Voice, Violin, Organ or Band Instruments 40.00
Organ rental by special arrangement.
Semi-private Voice Lesson (Small Group Instruction) 20.00

GRADUATION FEE

(Payable at time of application for degree)

Bachelor's degree $10.00
Master's degree 10.00
Bachelor's degree in Nursing (5 year) 17.00
For graduation in absentia an additional fee 5.00

THESIS AND BINDING FEES 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.

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 Community College courses unless otherwise noted in the circular printed each semester which describes the courses.

EXCESS LOAD FEE

A fee of $8.50 per credit hour is charged for registrations in excess of 18 hours in the regular semester of the day session, and also in excess of 10½ hours in co-operative engineering courses. In the six week day and evening summer terms, this fee is applied to registration for more than 6 hours. If excess hours are required in a regularly prescribed curriculum, this fee will be waived upon approval of the Dean of the College in which registration is made. This fee is not refundable. No charge will be made for credit in band, glee club, debate, orchestra, and Advanced ROTC taken in excess of a normal academic load.

MISCELLANEOUS FEES

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.

FEES FOR 1953 SUMMER SESSION

DAY SESSION

All students except those in Cooperative Engineering.
Six and Eight Week Sessions

Matriculation	$ 5.00
Non-resident Fee (7 hours or more) per credit hour	6.00
Maintenance Fee:	
1 to 4 credit hours, per credit hour	8.50
5 to 6 credit hours	36.00
*Student Activity Fee	1.00
*Student Building Fee	1.00
*Library Fee	1.00
Late Fee (After June 20)	5.00
Excess Load Fee (7 hours or more) per credit hour	8.50

College of Engineering

Cooperative Basis (9 to 10½ hours)

	Residents	Non-Residents
**Non-resident Fee		$ 60.00
Maintenance Fee	$ 48.00	48.00
Student Activity Fee	1.00	1.00
Student Building Fee	1.00	1.00
Library Fee	1.00	1.00
Totals	$51.00	$111.00
Excess Load Fee (11 hours or more) per credit hour	8.50	8.50

A $10.00 deposit is required of applicants for student teaching in the Summer Session.

EVENING SESSION

Six and Eight Week Sessions

Matriculation	$ 5.00
Non-resident Fee (7 hours or more) per credit hour	6.00
Maintenance Fee:	
1 to 4 credit hours, per credit hour	8.50
5 to 6 credit hours	36.00
Late Fee (After June 22)	1.00
Excess Load Fee (7 hours or more) per credit hour	8.50

*Not charged for registration in which all the enrollment is in Summer Workshop.
**Rate per credit hour when enrollment is for less than nine hours.....$6.75

LABORATORY FEES

	Each Semester
Art 59, 60, 175, 176	$ 5.00
Art 70, 108, 109	1.00
Art 102	1.50
Art 105	2.00
Art (Metal Craft—Community College)	1.00
Biology 33, 47, 48	3.00
Biology 35	2.00
Biology 41, 42	2.50
Biology 51, 52, 144, 217	4.00
Biology 61, 62, 91, 113, 114, 135, 136, 141, 235, 236, 258	5.00
*Biology 77, 78, 107, 108	8.00
Biology 146, 148	1.00
Biology 154	7.00
Biology 155	13.00
Biology 215, 216	6.00
Biology 256	7.50
Biology 267, 268, 367, 368, per credit hour	3.00
*Chemistry 21, 22, 43, 44, 55, 56, 105, 106, 107, 108, 307, 308, 309, 321, 326, 329, 339, 337	10.00
*Chemistry 23, 24, 27, 28, 45, 131, 132, 333, 334, 342	5.00
*Chemistry 25, 26	2.50
*Chemistry 365, 366, per credit hour	5.00
*Chemistry 213, 214, 307, 308, 321, 322	8.00
*Chemistry 327, 328, 330	15.00
Commerce 22, 233	1.00
*Commerce 167	2.00
*Commerce 168	1.00
Education 41, 105, 235, 312, 335	2.00
Education 136, 302	1.00
Education 313	3.00
Engineering 21, 22, 43	1.00
*Engineering 119	2.00
*Engineering C. E. 47, 108, 109	5.00
*Engineering C. E. 101	4.00
*Engineering C. E. 112	3.50
*Engineering E. E. 30, 131, 148, 157, 162, 163, 165, 166	3.00
*Engineering E. E. 135, 145, 147, 149, 153, 154, 155, 156, 160, 161, 164	1.50
*Engineering M. E. 169, 170	3.00
Engineering M. E. 171, 174, 179	1.00
*Engineering M. E. 182	4.00
*Engineering M. E. 183	5.00
*Engineering M. E. 188, 189	1.00
Home Economics 21, 22, 23, 62, 105, 106	1.00
Home Economics 41, 42, 43, 45, 46	6.00
Home Economics 44, 63	4.00
Home Economics 65, 107, 108, 119, 120, 215	2.00
Home Economics 115, 118	7.50
Home Economics 122	55.00
Home Economics 216	5.00
Music 55, 56, 57, 58	5.00
Physical Education 3, 4, 114 (Swimming—Men)	2.50
Physical Education 3, 4, 114 (Swimming—Women)	7.00
Physics 24, 31, 32, 41, 42, 51, 52, 53, 201, 202, 304, 306, 314	2.00
Physics 61, 209, 210	4.00
Physics 309, 310	6.00
Psychology 45, 110, 207	2.00
Psychology 208	3.00

*Requires a breakage deposit of $5.00, the unused portion of which will be returned to the student.

**ROTC Basic Course	10.00
***ROTC Advanced Course	10.00
Secretarial Science 27	1.75
Secretarial Science 31, 51, 52, 56, 57, 58, 59	4.00
Secretarial Science 62, 63, 64, 83, 84, 85, 163, 164, 165, 166, 186, 187, 188	1.50
Secretarial Science 74, 293, 294	3.00
Speech 45, 46, 81, 181, 271, 272, 287	2.00
Speech 161, 162	3.00
Speech 273, 274	1.00

REFUNDS

Fees are not returnable either by cash or by adjustment of an account except when withdrawal is caused by:

(1) Serious illness as evidenced by a written statement of a physician.
(2) Change in hours of employment as evidenced by a written statement of employer.
(3) Other circumstances entirely beyond the control of the student.
(4) Cancellation of course by the University.

Application for refund or adjustment of an account will not be considered after the close of the semester for which fees have been charged, or in case a student is dropped for failure or academic discipline. The time of withdrawal is ordinarily taken as the date at which the student formally files his withdrawal request. The date of withdrawal is certified by the Dean or Director.

To be entitled to a refund, in any case, the student withdrawing must present to the Treasurer of the University in writing a "Withdrawal Request" setting forth the particulars properly supported as they apply to his case. Permission to withdraw does not imply that a refund or adjustment will be made, but serves only as a basis for application of the rules by the Treasurer's office.

A withdrawal request will include:

1. A statement from the Dean of the College that the student is in good standing, is entitled to an honorable dismissal, and is withdrawing with the Dean's permission, from the school or courses designated.
2. A statement from the Military Department, if he is a student in ROTC, that his uniform account is clear.

If dropping a laboratory subject, the deposit card certified by the proper person, showing the amount of the refund due must be presented to the Treasurer's office.

If dropping an Evening or Summer Session subject, the student shall present a statement from the Director stating that permission is given to withdraw from the subject.

Upon return of the student athletic ticket, refund or adjustment will be made on the same basis as other regular fees.

When above conditions have been complied with, the request will be ruled upon and refund, if due, will be made.

The amount of regular fees charged will be refunded or adjusted less the proportion to be retained by the University as follows:

**This deposit is returnable at the end of the semester less charges for lost or damaged articles.
***This deposit is returnable only upon the completion of the course.

FIRST AND SECOND SEMESTER

Time of Withdrawal	*Amount Retained by The University*
After registration or During 1st week	$5.00 Day Session $1.00 Evening Session
During 2nd week	20% of semester charge
During 3rd and 4th weeks	40% of semester charge
During 5th and 6th weeks	60% of semester charge
During 7th and 8th weeks	80% of semester charge
After 8th week	Full amount of semester charge

SUMMER SESSION Six-Week Term

After registration or During 1st week	$2.00
During 2nd week	40% of term charge
During 3rd week	60% of term charge
After 3rd week	Full amount of term charge

COOPERATIVE ENGINEERING
8-WEEK SUMMER TERM EVENING SUMMER TERM

After registration or During 1st week	$5.00
During 2nd week	20% of term charge
During 3rd week	40% of term charge
During 4th week	60% of term charge
During 5th week	80% of term charge
After 5th week	Full amount of term charge

NO REFUND WILL BE MADE ON THE FOLLOWING FEES

(1) Advanced Deposit
(2) Registration—Evening College
(3) Late Registration
(4) Excess Load
(5) Special Examination and Test
(6) Matriculation and Transfer
(7) Change of Schedule
(8) Incomplete Removal
(9) Swimming
(10) Community College

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.

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

For engineering, at least 1½ units of high school algebra, 1 unit of plane geometry and ½ unit of solid geometry or ½ 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 1½ 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.

GENERAL EDUCATION

The work in the General College covers two years. However, students may shorten the time by taking special examinations. Required courses in general education are:

1. English, Oral and Written.....6 hours, first year
2. Hygiene, Mental and Physical.....4 hours, first year
3. Introduction to the Social Sciences.....6 hours, first year
*4. Introduction to the Natural Sciences.....6 hours, first or second year
5. Introduction to the Humanities.....6 hours, first or second year
‡6. Mathematics, Accounting, or Foreign Language .....6 or 8 hours, first or second year
7. Military Science and Tactics (for men).....6 hours
   (One from 4 and 5, and one from 6 must be taken the first year)
8. Physical Education .....2 hours, first year

*The Introduction to the Natural Sciences may be waived in whole or in part at the discretion of the proper academic officers in the case of certain science majors.
‡Not required in Elementary Education Curriculum.

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

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—*Required:* Philosophy 55, 56, second year of French or German. *Recommended:* Mathematics 21, Psychology 41.

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 41, 48, Mathematics 57 (or equivalent), second year of a foreign language. *Recommended:* Mathematics 21, Psychology 41, 43 or 62.

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

POLITICAL SCIENCE—*Required:* Political Science 41 and 3 hours of Political Science (below 100 number), second year of a foreign language. *Recommended:* History, 6 hours.

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, Psychology 41, second year of French or German. *Recommended:* Sociology 41.

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

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

MATHEMATICS—*Required:* Mathematics 21, 22, 43, 45, second year of French or German.

PHYSICS—*Required:* Physics 51, 52, Mathematics 21, 22, 43, 45, 46, second year of French or German.

THE APPLIED ARTS DIVISION

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

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. *Recommended:* Art 21, 22.

JOURNALISM—*Required:* Journalism 51, 52, 71, 72, second year of a foreign language. *Recommended:* Speech and Political Science.

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.

First Year	Cr. Hrs.	*Second Year*	Cr. Hrs.
English 1-2	6	Introduction to Humanities 7-8	6
Intr. to Soc. Sci. 5-6	6	Psychology 41-55	6
Hygiene, Mental and Physical 15-16	4	Introduction to Education 55	3
ROTC (Men)	3	Fundamentals of Speech	3
Physical Education 3-4	2	ROTC (Men)	3
Elective	3 or 5	Intro. to Nat. Sci. 9-10	6
Foreign Language	6 or 8	Elective	5

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.

B-3. BASIC MATHEMATICS. *3 credits.**

A terminal course which develops the number concept as manifested in arithmetic, elementary algebra, quantitative measurement, geometry, graphing, and numerical right triangle trigonometry. Two one-hour lectures and one two-hour laboratories each week.

B-5. FAMILY LIVING. *3 credits.**

A course to help students recognize the economic problems which face young couples as they start their homes. It furnishes guideposts that will help to solve these problems. Important factors in establishing good family relationships are discussed and applied to budgeting the family income.

B-7. BUSINESS RECORDS. *3 credits.**

A course to give students sound training in modern business records. A complete overview of the flow of business transactions, starting with the journal and ledger and continuing through to the final summary of the financial reports, is presented.

B-9. SURVEY OF BUSINESS. *3 credits.**

An introductory course to the field of business. The nature of business organizations, operating methods, problems, career requirements and opportunities are stressed. Practical problems, particularly those of small business, are stressed throughout.

REQUIRED COURSES IN GENERAL EDUCATION

1-2. FRESHMAN ENGLISH, ORAL AND WRITTEN. *3 credits each semester.*

Instruction in reading, writing, and speaking the English language. Assigned readings, correlated with general introductory courses, provide models for analysis and stimulate oral and written expression, on the part of the student. During the first semester, this material is primarily expository in character; during the second, the narrative and descriptive methods of reporting experiences are stressed. A review of the principles of English usage, and instruction in taking notes and using the library are included.

Students who demonstrate exceptionally good preparation in English may go directly into English 2 on the condition that they follow it, in the next semester with another General College course in English. Students who make A in English 1 may substitute another General College English Course for English 2. Students

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

who make B may take another General College course in English *as well as* English 2 in their second semester.

3-4. PHYSICAL EDUCATION. *1 credit each semester.*

Required course in Physical Education activity. For description of sections see Physical Education Department section under College of Education.

5-6. INTRODUCTION TO THE SOCIAL SCIENCES. *3 credits each semester.*

This course gives each student an appreciation of, an interest in, and a general comprehension of, the fundamental institutions of modern civilization. It is based upon the thesis of social change and organized primarily around the social, economic, and political problems of our time. It serves as a terminal course for students who concentrate in other fields, and as a foundation for social science study.

7-8. INTRODUCTION TO THE HUMANITIES. *3 credits each semester.*

This course assists the beginning student to understand and appreciate the intellectual and cultural achievements and tendencies of his own civilization and of the past. Text, lecture, and discussion are combined to present a broad survey of western civilization.

9-10. INTRODUCTION TO THE NATURAL SCIENCES. *3 credits each semester.*

A study of how the development of science has affected the course of human life and has made modern civilization possible. The course begins with the study of man's place in the universe. Many of the great discoveries in science are discussed. Illustrative material is drawn from the biological and physical sciences. The aims are: to encourage the use of objective methods of reasoning, and to develop an appreciation of the contributions made by the great scientists; to give the student a greater knowledge of the fundamental principles of science.

15-16. HYGIENE, MENTAL AND PHYSICAL. *2 credits each semester.*

This course has three major objectives. The first is to assist the student to master certain knowledges and to develop attitudes, habits, and skills which will be effective in enabling him to live at a high level of physical efficiency. The second is to enable him to explore, analyze, and evaluate his abilities, interests, and needs as a sound basis for personal and social adjustments. The third is to assist the student in his other school work. One lecture and one discussion group per week.

MILITARY AND AIR SCIENCE AND TACTICS

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.

THE BASIC COURSE

A basic course in Military Science and Tactics or Air Science and Tactics is required of all men 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 military or naval 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.

The work is given three hours per week for the first two academic years, with 1½ hours of credit each semester.

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 deposit and is responsible for loss or damage to government property issued to him.

THE ADVANCED COURSE

Both Air and Army ROTC programs consist of five hours per week (three hours credit per semester) 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 or Air Science and Tactics.

While the student is enrolled in the advanced course, the Government furnishes him with uniforms and equipment, and pays him a monetary allowance. The advanced student in Air ROTC may keep his uniform upon successfully completing the course.

The Army unit requires that the student must not have reached his 27th birthday at the time he enrolls in the advanced courses. The Air unit requires that he must not have reached his 25th birthday at the time he enters the advanced course, and he must complete it before his 28th birthday.

Once the student enters either advanced course, he must complete it to qualify for a University degree.

The Air Force ROTC student will be appointed a second lieutenant in the Air Force Officers Reserve Corps following completion of the advanced course and receipt of his 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 or Air Force 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 and approval by PMST.

111-112. FIRST YEAR ADVANCED MILITARY SCIENCE. *1½ credits each semester.*
For Prejunior Cooperative Engineering Students. Prerequisite 44 and approval.

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 SCIENCE AND TACTICS

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 and approval.

115-116. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 54 and approval. 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.

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 a 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 four divisions: Humanities, Social Sciences, Natural Sciences, and Applied Arts.

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.

OBJECTIVES OF THE APPLIED ARTS DIVISION

1. To give students the necessary preparation for vocations in the fields included in the Division; to encourage general education and an appreciation of cultural values; to provide undergraduate educational programs suitable as a basis for advanced study; to help students in personal development and growth.

2. To encourage the faculty to think in terms of broad educational policy and to provide a means for an understanding of basic problems.

3. To serve the community by providing trained personnel and by being alert to changing community needs.

4. To assist students in solving their vocational problems and in achieving their vocational objectives.

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, French, German, Spanish, Latin and Greek. These hours must include courses beyond the requirements in Freshman English 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 education, 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 education each program must include:

a. At least 54 semester hours in the division.

b. At least 12 semester hours in each of the four departments in the division.

c. An additional 6 semester hours in the upper college in the division.

d. Courses from any or all of the other divisions are to be substituted for the *Introduction to the Natural Sciences.*

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 curriculum, 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. (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.)

The Applied Arts: Bachelor of Arts; Bachelor of Science in Art.

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 and two minor fields, or in a comprehensive major and one minor field, according to the grouping of subjects by the State Department of Education.

Minimum professional requirements are the following:

Second Year General College

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
General Psychology	3	Educational Psychology	3
Introduction to Education (first or second semester)	3		

First Year Upper College

Methods	3	Tests and Measurements	2

Second Year Upper College

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

The master's degree is granted on the basis of high degree of proficiency in a certain field, rather than for the collection of a specified number of credits.

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.

Other departments offer graduate work which may constitute a minor. In the natural sciences, selection of a major is limited to those departments that offer adequate courses on the 300 and 400 levels.

The candidate for graduate study must satisfy the Admissions Committee that all required secondary school and college credits have been obtained and that he has received a bachelor's degree from a recognized college. A complete transcript of record must be sent from the institution where the applicant earned his baccalaureate degree to the University registrar. The applicant is responsible for the transcript being sent sufficiently in advance of the date of enrollment to permit evaluation of his work. The Committee on Graduate Study may require candidates to prove they have a satisfactory background for such work by passing prescribed examinations.

The extent of undergraduate preparation in the major field required for graduate standing varies with the department. Students who do not meet these requirements may be permitted to enroll in graduate courses provided they are not candidates for the master's degree.

GRADUATE CREDITS REQUIRED FOR A DEGREE

When both Major and Minor Subjects are Laboratory Sciences..26 credits

When Major or Minor Subject is a Laboratory Science.....28 credits

When Neither is a Laboratory Science.....30 credits

A maximum of 10 semester hours of accredited graduate work done elsewhere may be accepted for credit toward the master's degree in the College of Liberal Arts. 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.

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 student status may be established at the time of registration. 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 additional assignments.

Courses numbered from 300 to 499 automatically carry graduate credit when satisfactorily completed.

Graduate credit in any course numbered from 200 to 299 will be awarded only if the student earns a B or an A. No graduate credit will be given upon completion of courses numbered from 300 to 499 if the grade 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 hours required for the master's degree. All other work presented must be of B or A quality.

Candidates for the master's degree with major in one of the natural sciences must have an over-all quality point ratio of at least 3. (B average.)

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. The student should show a sufficient relationship between his major and minor to lead to a well-integrated study program. A student who seeks the master's degree in education and natural science should take the major in education with the minor in natural science.

THESIS

Writing of a thesis or formal report on a research problem is required for the master's degree. Up to 4 semester hours of credit may be granted for the thesis. 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.

The thesis topic or the problem upon which a formal report is to be made must be selected in conference with and approval of the head of the major department not later than Nov. 1 of the academic year in which the student expects to receive the degree. Two copies of the thesis or formal report in its final form should be presented to the department head and the professor who has supervised the research on or about May 1 of the final year.

WRITTEN AND ORAL EXAMINATIONS

Each candidate for the master's degree must file an application for the degree with the Registrar at least one semester prior to the date on which he expects to receive the degree. (Applications for degrees at the June Commencement must be filed not later than January.) When the application is filed, a diploma fee of $10 and a charge of approximately $4 for binding the two official copies of the thesis must be paid. In addition, a student who expects to receive graduate credit for his thesis without enrolling in a research or problems course must pay a thesis fee of $10.

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.

SUBJECTS OF INSTRUCTION

ART

Professor Davis, Associate Professor Cable, Assistant Professor Thompson, 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 education: Design, 4 credits; Art Appreciation, 4 credits; Engineering Drawing 21, 2 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 105	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.

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

Basic principles of design and color theory.

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

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

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.

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

Basic principles of design and color theory and their adaptation to our surroundings. The development of graphic art and design through the ages.

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.

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.

43. INDUSTRIAL DESIGN. *First semester. 2 credits.*

Prerequisite, 22 and Engineering Drawing 21. 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.

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

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

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.

59. CERAMICS. *First semester. 2 credits.*

Prerequisite, 22. Simple forming processes, hand built, wheel and mold, and decorating, glazing and firing procedures. Lab. fee.

60. CERAMICS. *Second semester. 2 credits.*

Prerequisite, 59. More advanced work in the design of pottery forms, with considerable emphasis on small ceramic sculpture. Lab. fee.

70. CRAFTS. *2 credits.*

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

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.

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.

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

102. CRAFTS. *2 credits.*

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

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

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

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

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

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. Lab. fee.

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 and composition.

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.

151-152. COSTUME. *3 credits each semester.*

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

171-172. INTERIOR DECORATION. *3 credits each semester.*
Prerequisite, 22, 45 and Engineering Drawing 21. Modern and traditional interior design; house plans and elevations; study of interiors and furnishings.

175-176. FIGURE DRAWING. *2 credits each semester.*
Prerequisite, 46. Study of anatomy, action and proportion of the human figure. Lab. fee.

179. ILLUSTRATION. *First semester. 2 credits.*
Prerequisite, 176. Psychology of art for children of different ages; illustration of children's books.

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.

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.

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.

203-204. HISTORY OF ART SEMINAR. *3 credits each semester.*
Prerequisite, 202. A restricted field of study to be selected.

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 Cantor, Park, and Biesinger, Miss Horning, Mr. Allman

Biology major students must obtain 36 credits in the department; graduate schools may require more.

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 and in come cases a second year, preferably either Organic Chemistry 44 and 107 or Organic Chemistry 55 and Physiological Chemistry 56, but for other biology majors, interested more in social sciences or in meeting teaching requirements, only Chemistry 21-22; German 43-44 or French 43-44; and Psychology 41. Recommended are Physics 51-52, Mathematics 21-22, and Sociology 41.

PRE-MEDICAL MAJOR COURSE

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
English 1	3	English 2	3
Hygiene, Mental 15	2	Hygiene, Physical 16	2
Introduction to Social Science 5.	3	Introduction to Social Science 6..	3
Mathematics 21	3	Mathematics 22	2
Inorganic Chemistry 21	4	Inorganic Chemistry 22	4
Military Training 11	1½	Military Training 12	1½
Physical Education 3	1	Physical Education 4	1

Second Year

General Zoology 61	4	General Zoology 62	4
Qualitative Analysis 43	5	Organic Chemistry (El.) 44	4
Introduction to Humanities 7	3	Introduction to Humanities 8	3
German 21	4	German 22	4
Military Training 43	1½	Military Training 44	1½

Third Year

Vertebrate Anatomy 155	4	Embryology 256	4
Organic Chemistry (Int.) 107	4	Physics 52	4
Physics 51	4	German 44	3
German 43	3	Psychology 41	3

Fourth Year

General Physiology 235	3	General Physiology 236	3
Physics (Optics) 53	4	Human Genetics 148	2
Quantitative Analysis 105	4	Quantitative Analysis 106	4
Electives, Humanities or Social Science Division	4-6	Applied Psychology 43	3
		Electives, Humanities or Social Science Division	4-6

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

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.

PRE-TECHNICIANS' COURSE

The registry of Medical Technologists requires a year of hospital laboratory training preceded by a minimum of two years of college. The two-year schedule comprises (1) Absolute requirements: biology, 8 semester credits; bacteriology, 3 semester credits; inorganic chemistry, 8 credits; quantitative analysis, 3 credits; (2) "Highly recommended" courses: physics, 8 credits; organic chemistry, 4 credits.

A three-year curriculum is arranged which includes: (1) the University required General College introductory courses; (2) the above minimum requirements; and (3) such other courses as are found in other pre-technician curricula and are deemed helpful by hospital technicians.

The student can complete four years with the B.S. degree by fulfilling the additional requirements of the biology major.

University courses included in the three-year curriculum are: English 1 and 2, 6 credits; Hygiene 15 and 16, 4 credits; Physical Education 3 and 4, 2 credits; Social Science 5 and 6, 6 credits; Humanities 7 and 8, 6 credits; Algebra 21, 3 credits; Chemistry 21 and 22, 8 credits; Chemistry 45, 3 credits; Chemistry 55 and 56, 6 credits; Physics 51 and 52, 8 credits; Zoology 61 and 62, 8 credits; Bacteriology 107 and 108, 8 credits; Histological Technique 154, 3 credits; Physiology 135 and 136, 6 credits, or Physiology 91, 4 credits.

GENERAL COLLEGE

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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 predental majors. Two lectures and three 2-hour Laboratory periods a week. Lab. fee.

71. SANITATION. *First semester. 3 credits.*

Principles of public health, communicable disease control, and sanitation. Three lectures a week.

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. Lab. fee.

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.

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

A briefer study of modern human physiology than course 135-136. Adapted especially to the needs of students in Home Economics. Not open to biology and premedical majors. No prerequisites in biology. Two lectures and two 2-hour laboratory and demonstration periods a week. Lab. fee.

UPPER COLLEGE

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. 1952-1953 and alternate years. Lab. fee.

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. Lab. fee.

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.

154. HISTOLOGICAL TECHNIQUE. *Either semester. 3 credits.*

The methods of preparation of tissues and other specimen materials for microscopial study. No lectures. Nine hours of laboratory work a week. Required in pre-technicians' course. Suitable for biology majors. Prerequisite, 62. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

235-236. GENERAL PHYSIOLOGY. *3 credits each semester.*

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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.

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. Lab. fee.

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

Individual problem work of a more advanced nature. Open to graduate students. Lab. fee.

CHEMISTRY

Associate Professor Sumner, Professors Cook, Whitby, Schmidt and Morton, Associate Professor Floutz, Assistant Professors Anderson, Wolfe and Corsaro, Mr. Stephens

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 21, Trigonometry 22, 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: In addition to laboratory fees, a deposit of $5 for breakage is required in each laboratory course.

GENERAL COLLEGE

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. No credit is given toward graduation for less than the full year's work. Lab. fee.

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. Lab. fee.

25-26. CHEMISTRY FOR NURSES. *1½ credits recitation, ½ credit laboratory each semester.*

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

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

See description for Chemistry 21-22. Lab. fee.

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. Lab. fee.

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. Lab. fee.

45. ELEMENTARY QUANTITATIVE ANALYSIS. *1 credit recitation, 2 credits laboratory.*

Prerequisite, 22 or 24. Intended primarily for students preparing to become laboratory or hospital technicians. Elementary theory and calculations in quantitative analysis, fundamental operations in volumetric, gravimetric and colorimetric analysis.

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. Lab. fee.

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. Lab. fee.

UPPER COLLEGE

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. Lab. fee.

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

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

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. Lab. fee.

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.

131-132. ENGINEERING CHEMISTRY. *See College of Engineering section. 3 credits recitation, 1 credit laboratory each semester.*

133-134. METALLURGY. *See College of Engineering section.*

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. Lab. fee.

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.

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. Lab. fee.

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. Lab. fee.

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.

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.

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.

321. ADVANCED INORGANIC PREPARATIONS. *2 credits laboratory.*

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

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.

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.

337. ADVANCED PHYSICAL CHEMISTRY LABORATORY. *2 credits laboratory.*

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

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

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

COURSES IN RUBBER AND POLYMERS

229. POLYMERS AND POLYMERIZATION. *2 credits recitation.*

Prerequisites 108 and permission. Definitions, classification of polymeric substances into fibers, plastics and rubbers. Discussion of sources, methods of preparation, physical and chemical properties of important natural and synthetic high polymers. Mechanism of condensation and addition polymerization reactions.

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. Synthetic rubber latices. Lab. fee.

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

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

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. Lab. fee.

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.

333-334. PHYSICAL CHEMISTRY OF HIGH POLYMERS LABORATORY. *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. Lab. fee.

341. CHEMISTRY OF PLASTICS. *2 credits recitation.*
Prerequisite, 107. The production, chemistry and applications of phenolic, urea and other thermosetting resins; cellulose derivatives, vinyl resins, polyamides, and other thermoplastic resins. Permission required to take this course.

342. CHEMISTRY OF PLASTICS LABORATORY. *1 credit laboratory.*
Preparation of typical synthetic resins and plastics in illustration of the subject matter of course 341. Open only to students enrolled for 341. Lab. fee.

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. Lab. fee.

ECONOMICS

Professor O'Hara, Assistant Professors Seery and McLain

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.

The following courses are accepted in meeting the requirements for a degree in economics. Except as indicated, all have as prerequisites Economics 41 and 48. In special cases, these prerequisites may be modified.

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

GENERAL COLLEGE

41. PRODUCTION, PRICES AND INCOME. *Either semester. 3 credits.*
The principles of production, the pricing process (or value theory), the distribution of income, and related topics. Prerequisite to all other economics courses.

42. CURRENT ECONOMIC PROBLEMS. *Either semester. 3 credits.*
The problems of employment and wages, monetary and fiscal problems, foreign trade and exchanges, etc. Designed as a survey of the field of economics for those who do not intend to take courses at the upper college level.

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. Offered as demanded.

48. MONEY AND BANKING. *Either semester. 3 credits.*
The development of money, credit and banking, and the place of each in the modern economy. Prerequisite, Economics 41.

82. CONSUMER ECONOMICS. *Second semester. 3 credits.*

UPPER COLLEGE

151. TRANSPORTATION. *First semester. 3 credits.*

171. BUSINESS FINANCE. *First semester. 3 credits.*
Prerequisite, 48.

183. MARKETING. *First semester. 3 credits.*
(Courses 151, 171 and 183 are given in the Commerce Department. See Commerce Department for course descriptions.)

204. MONETARY AND BANKING POLICY. *Second semester. 3 credits.*

Prerequisite, 48. 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.

206. LABOR PROBLEMS. *Either semester. 3 credits.*

The position of labor in modern industrial society; problems of the wage system, trade unionism and labor law.

208. PUBLIC FINANCE. *Second semester. 3 credits.*

The facts, principles and theories of public expenditures, taxation, and debt.

210. COMPARATIVE ECONOMICS. *Second semester. 3 credits.*

A comparative study of the advantages and limitations of Capitalism, Socialism, Communism, Fascism, and Co-operation.

239. AMERICAN LABOR AND THE GOVERNMENT. *3 credits.*

This course considers State activity in relation to Labor. Major statutes affecting Labor's status and protection are examined. The sources, nature, functions, and limitations on government intervention in Labor-Management relations are explored. The approach is analytical rather than strictly legalistic.

241. ANALYTICAL ECONOMICS. *First semester. 3 credits.*

An advanced course in the principles of economics. Emphasis is placed upon the exercise of discrimination in evaluating theories and systems.

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.

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

Prerequisite 164, 206 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 changes, production standards, etc. are considered. Administered jointly by the Economics and the Commerce Departments.

268. INTERNATIONAL ECONOMIC RELATIONS. *Second semester. 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.

270. PRINCIPLES OF SOCIAL ECONOMY. *3 credits.*

Meaning and criteria of the ideal (or optimum) economy from the viewpoint of human values. Relation of means to ends and the principles of economy of means. Income and the equitable distribution of opportunity. Conflict between efficiency, liberty and the optimal use of resources. Prerequisites, Economics 41 and 15 hours of Social Science.

291. BUSINESS CYCLES. *First semester. 3 credits.*

Types of business fluctuation; methods of measurement and correction; comparative study of theories of the cycle and proposals for correction or elimination. Prerequisite, Math. 57 or equivalent.

292. INCOME AND EMPLOYMENT. *Second semester. 3 credits.*

Based upon Lord Keynes' GENERAL THEORY, this course compares earlier equilibrium theories with contemporary views and develops the modern views with respect the following: income, consumption and saving, and employment, etc. In general, dynamic, process analysis is employed instead of the conventional static, partial analysis of older economics. Prerequisite, 241 or permission.

293. DEVELOPMENT OF ECONOMIC THOUGHT. *First semester. 3 credits.*

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

297. METHODS OF ECONOMIC RESEARCH. *Second semester. 3 credits.*

Testing of theories by reference to factual data. Types of index numbers and time series in use; statistical methods of correction and adjustment of data. Prerequisites, 48; Mathematics 57 or equivalent.

298. SEMINAR IN ECONOMICS. *Second semester. 2 credits.*

Each senior major is expected to select a field of intensive study and research, and to submit his results in a well-organized and documented report or thesis. Seniors only.

LABOR RELATIONS

The following curriculum is a guide to the selection of courses by students interested in the growing field of Labor Relations.

Vocational opportunities in this field are to be found in industry, government and, to a limited extent, in the labor movement.

This curriculum, embodying a full major in Economics, leads to the degree Bachelor of Science in Labor Relations.

(The courses whose titles appear in capital letters are required for the B.S. in Labor Relations. Other courses in the curriculum are recommended, but suitable substitutions may be made with the consent of the advisor.)

LABOR ECONOMICS & LABOR RELATIONS MAJOR

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
ENGLISH 1	3	ENGLISH 2	3
SOCIAL SCIENCE 5	3	SOCIAL SCIENCE 6	3
NATURAL SCIENCE 9	3	NATURAL SCIENCE 10	3
Foreign Language 21, or Algebra 21, or Accounting 21	4 or 3	Foreign Language 22, or Math. of Finance 60, or Accounting 22	4 or 3
HYGIENE 15	2	HYGIENE 16	2
PHYSICAL EDUCATION 3	1	PHYSICAL EDUCATION 4	1
ROTC 11 or 13*	1½	ROTC 12 or 14*	1½

Second Year

HUMANITIES 7	3	HUMANITIES 8	3
Foreign Language 43, or Elective	3	Foreign Language 44, or Elective	3
ROTC 43 or 53*	1½	ROTC 44 or 54*	1½
PRODUCTION, PRICES & INCOME 41	3	MONEY & BANKING 48	3
GENERAL SOCIOLOGY 41	3	Social Attitudes 42	3
GENERAL PSYCHOLOGY 41	3	Human Relations in Business and Industry 62	3

Third Year

Consumer Economics 82	3	Public Speaking 41	3
LABOR PROBLEMS 206	3	BUSINESS LAW 141	3
PERSONNEL MANAGEMENT 163.	2	PERSONNEL RELATIONS 164	2
Accounting 121**	3	STATISTICS 148	4
ANALYTICAL ECONOMICS 241	3	AMERICAN NATIONAL GOV. 41	3
Development of Economic Institutions 44	3		

Fourth Year

COLLECTIVE BEHAVIOR 202	3	CONSTITUTIONAL LAW 205	3
AMERICAN LABOR AND THE GOVERNMENT 239	3	BUSINESS CYCLES 291	3
INCOME & EMPLOYMENT 292	3	THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING 260	3
METHODS OF ECONOMIC RESEARCH 297	3	Electives	4-6
Elective	3		

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

** This course is required of students who have chosen modern language or mathematics rather than Accounting 21 & 22 in the freshman year.

ENGLISH

Professors Duffy and Keister; Associate Professor R. Thackaberry; Assistant Professors Putnam, Raw, Roberts, H. Thackaberry, Whitney and Hull; Mr. Stevens, Mr. Paul

Students majoring in English must complete twenty-six hours in the department. The following courses are required: English 65-66 and English 46. The remainder must include: six hours from English 41, 112, 113, 201, 203, 209, 212, 219, 220, and six hours from English 202, 213, 214, 215, 216, 218, 221, 222. 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

1-2. English, Oral and Written. *3 credits each semester.*
Described in the General College section.

41. Shakespeare. *3 credits.*
Reading of fifteen or more plays, with explanatory lectures and discussions.

42. The Making of Modern English. *Second semester. 3 credits.*
A study of modern English usage, with attention to historical backgrounds and the principles of descriptive grammar.

43. Advanced Writing—Imaginative. *First semester. 2 credits.*
Further training in description and narration.

44. Advanced Writing—Factual. *Second semester. 2 credits.*
Similar to English 43; further training in exposition.

45. Appreciation of Prose. *Either semester. 3 credits.*

46. Appreciation of Poetry. *Either semester. 3 credits.*

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.

50. Appreciation of the Drama. *Either semester. 3 credits.*
Courses 45, 46, and 50 constitute an approach to critical reading.

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.

UPPER COLLEGE

111. European Backgrounds of English Literature. *3 credits.*
Representative French, German, Italian, and Spanish works, medieval to nineteenth century, in translation.

112. Modern European Literature. *3 credits.*
Representative European writers from about 1850 to the present.

113-114. 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 semster: the Wisdom Books and the New Testament.

143. Advanced Writing Workshop—Factual. *First semester. 2 credits.*
Prerequisite, 43 or 44, or permission. Factual writing at a level above English 44.

144. ADVANCED WRITING WORKSHOP—IMAGINATIVE. *Second semester. 2 credits.*

Prerequisite, 43, 44, or permission. Students write stories, plays and poetry.

201. CHAUCER. *First semester. 3 credits.*

A study of *The Canterbury Tales* as one of the masterpieces of English poetry and as a reflection of medieval life.

202. SIXTEENTH CENTURY LITERATURE. *Second semester. 3 credits.*

A study of the non-dramatic literature of the Tudor period.

203-204. WORLD DRAMA. *3 credits each semester.*

The drama from ancient Athens to modern Broadway.

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.

207. MIDDLE ENGLISH. *3 credits.*

The language and literature of the eleventh to the fifteenth centuries, exclusive of Chaucer.

209. SHAKESPEARE. *3 credits.*

Concentrated study of a few plays.

212. MILTON. *2 credits.*

Concentrated study of selected prose and the major poems.

213. SEVENTEENTH CENTURY LITERATURE. *First semester. 3 credits.*

A study of non-dramatic literature from Bacon to Dryden.

214. EIGHTEENTH CENTURY LITERATURE. *Second semester. 3 credits.*

The literature of the century with emphasis upon the work of Pope and Johnson.

215-216. NINETEENTH CENTURY LITERATURE. *3 credits each semester.*

First semester: the English Romantic Movement; second, the Victorian era.

218. CONTEMPORY ENGLISH AND AMERICAN LITERATURE. *3 credits.*

Contemporary fiction, poems, and plays.

219-220. MAJOR AMERICAN WRITERS. *3 credits each semester.*

An intensified study of a selected group of authors.

221-222. ENGLISH FICTION: DEVELOPMENT OF THE NOVEL. *3 credits each semester.*

First semester: Defoe to Scott, second semester; the Brontes to Hardy.

231-232. SEMINAR. *Either or both semesters, with a total of 2 credits.*

Special studies; methods of literary research.

262. HISTORY OF THE ENGLISH LANGUAGE. *Second semester. 3 credits.*

The development of the English language from the Anglo-Saxon period to the present.

401. RESEARCH. *1 to 3 credits.*

Writing of a thesis for the Master of Arts degree.

HISTORY

Professors Baldwin and Gardner, Associate Professor Roe, Assistant Professor Logan

General Final Examination: To be recommended for a degree, a student majoring in history must pass a general final examination covering Historiography, the United States, Modern Europe, and two other fields approved by the department. In lieu of this requirement, a satisfactory grade in the Graduate Record Examination will be accepted.

GENERAL COLLEGE

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.

42. The United States Since 1865. *Second semester. 3 credits.*

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

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.

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.

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.

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

118. The Renaissance. *3 credits.*

The cultural and institutional history of Europe in the fourteenth and the fifteenth centuries. The birth of the lay spirit. The rise of plural sovereignties.

151. England to 1689. *First semester. 3 credits.*

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

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.

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.

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.

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.

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.

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

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

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.

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.

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.

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.

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

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

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.

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.

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.

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, Counts and Laubacher, Miss Christoff, Mrs. Hostetler

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.
Institutional Management 212	3	Quantity Cookery 216	3
Experimental Foods 115	3	Child Development 65	3
Bacteriology 107	4	Meal Service and Demonstration Foods 118	3

Fourth Year

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

TEXTILES AND CLOTHING

Third Year

Tailoring 105	3	Advanced Clothing 106	3
Home Management 62	3		

Fourth Year

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

GENERAL COURSE

Third Year

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

Fourth Year

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

GENERAL COLLEGE

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. Fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

43. FOODS AND NUTRITION. *3 credits.*

For student nurses. A practical course in the basic principles of nutritions 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. Lab. fee.

44. DIET THERAPY. *3 credits.*

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

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. Lab. fee.

46. GENERAL FOODS. *3 credits.*

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

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.

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.

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. Lab. fee.

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

Care and feeding of infants and pre-school children. 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. Lab. fee.

UPPER COLLEGE

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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. Lab. fee.

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.

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. Lab. fee.

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. Lab. fee.

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

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

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.

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. Board and room minimum. Lab. fee.

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.

215. HOUSEHOLD EQUIPMENT. *First semester. 3 credits.*

The selection, use and care of modern household equipment. Lab. fee.

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. Lab. fee.

JOURNALISM

Associate Professor Vance, Mr. Walker, Mr. John

Required for major in Journalism: 24 credit hours, including: News Writing 51 and 52; Editing 153 and 154, or Newspaper Management 155 and 156, or one semester of each; Feature Writing 59 or Sports Writing 61; Principles of News Photography 131: (But not including News Writing and Editing 53, a special Evening Session course.)

Students majoring in Journalism must complete all required courses in general education as prescribed in the General College, including the requirement of the second year of a foreign language on the college level.

Students graduating with a major in Journalism receive the degree Bachelor of Arts.

Freshman English, Oral and Written, is prerequisite to all Journalism courses.

Concurrent work on student or other publications is expected in most of the courses.

GENERAL COLLEGE

51. NEWS WRITING. *First semester. 3 credits.*

Concurrent reporting on The Buchtelite or other publications is required, supplemented by extensive exercise work, class discussions, and illustrative materials. Textbook is used.

52. NEWS WRITING. *Second semester. 3 credits.*

Similar to 51, but with more advanced and specialized work for students in their second semester. May be taken either before or after 51. Textbook is used.

53. NEWS WRITING AND EDITING. *Evening session. 2 credits.*

A comprehensive course covering all phases of newspaper work.

59. FEATURE WRITING. *First semester. 2 credits.*

Short newspaper feature articles. Members of the class write for The Buchtelite or other publications. Recognition of human interest situations and practice in portraying them. Extensive writing and class discussions.

60. SPECIAL FEATURE ARTICLES. *Second semester. 2 credits.*

Writing and discussion of longer features and magazine articles, and actual preparation and submission of manuscripts, with illustrations, for publication.

61. SPORTS WRITING. *First semester. 2 credits.*

A specialized writing course considering articles for the sports pages. Concurrent work on The Buchtelite or other publications is required. Emphasis on writing and on complete understanding of various types of athletic events.

71. HISTORY OF JOURNALISM. *First semester. 2 credits.*

Study of newspapers from the earliest beginnings to the present, with emphasis on developments since World War I.

72. CONTEMPORARY NEWSPAPERS. *Second semester. 2 credits.*

A study of today's leading newspapers and newspapermen.

84. PUBLIC RELATIONS. *2 credits.*

Given in the Commerce department. This course may be counted toward a major in Journalism.

UPPER COLLEGE

131. PRINCIPLES OF NEWS PHOTOGRAPHY. *First semester. 2 credits.*

Prerequisite, two semesters of Editing or Newspaper Management. This course is intended primarily for majors in Journalism.

132. ADVANCED NEWS PHOTOGRAPHY. *Second semester. 2 credits.*

Laboratory work with the camera, and in processing films and making prints for publication use.

153. EDITING. *First semester. 3 credits.*

Copyreading, headline writing, proofreading, makeup, etc. Actual practice on newspapers is required to supplement exercise. A study of type and typography, printing machines and processes, and newspaper systems and methods. Prerequisite, 51 or 52 or the equivalent.

154. EDITING. *Second semester. 3 credits.*

Similar to 153, but may be taken either before or after it. Advanced work in editing processes. Prerequisite, 51 or 52 or the equivalent.

155. NEWSPAPER MANAGEMENT. *First semester. 2 credits.*

Permission of instructor required. Limited to students actively engaged in publication work, or preparing to edit or supervise periodicals. Critical discussion and study of current issues of University student publications, stressing editorial policies and responsibilities, editing techniques, ethics of journalism, staff organization and management, finance and budgets, advertising, printing, and other problems.

156. NEWSPAPER MANAGEMENT. *Second semester. 2 credits.*

Similar to 155, but may be taken either before or after it.

157. EDITORIAL WRITING. *Second 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.

LATIN AND GREEK

Associate 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.

GENERAL COLLEGE

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

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.

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.

61-62. COMPARATIVE LITERATURE. *3 credits each semester.*
No prerequisite, and either course may be taken without the other. First semester: study of the major Greek writers in translation, together with a consideration of their influence on later European literature. Second semester: study of the major Roman writers.

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

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.

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

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.

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

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

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.

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

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

113. GREEK ARCHAEOLOGY. *3 credits.*
No prerequisite. Daily life of the Greeks; their achievements in the arts and sciences. Archaeological aims and methods.

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

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

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 21, 22, 43, 45-46. Pre-medical students, however, must take 21, 22, and students taking the Pre-technicians' course must take 21.

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 17 and Basic Mathematics B-3 cannot be counted toward the major.

GENERAL COLLEGE

17. ALGEBRA. *1 credit.*

Open only to students who have had one year or less of high school algebra or to persons who have been out of school for some time. If taken prior to Algebra 21, credit will be allowed only to those students whose high school transcripts show at most one year of high school algebra.

21. COLLEGE ALGEBRA. *3 credits.*

Algebra through quadratics, a study of progressions, variation, binomial theorem, theory of equations, permutations, combinations, determinants, inequalities.

22. TRIGONOMETRY. *2 credits.*

This course should be taken after or simultaneously with 21. It begins with the definitions of the trigonometric functions and follows through such topics as the solution of right triangles, trigonometric identities (with special stress on those pertaining to the half angle, double angle, and sum and difference of angles), logarithms, and their application to the solution of right and oblique triangles.

23. SPHERICAL TRIGONOMETRY. *2 credits.*

Prerequisite, 22. Study of right and oblique spherical triangles, and numerous applications to aviation and astronomy.

25-26. ASTRONOMY. *2 credits each semester.*

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.

31. MATHEMATICS OF NAVIGATION AND AVIATION. *2 credits.*

Prerequisite, 22. Solution of problems in navigation and aviation which require the use of mathematics; study of maps, charts, tables, and use of computers.

43. ANALYTIC GEOMETRY. *3 credits.*

Prerequisite, 22. This course shows how geometrical properties of curves and surfaces may be studied by the aid of algebra and various coordinate systems.

45. DIFFERENTIAL CALCULUS. *3 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.

46. INTEGRAL CALCULUS. *3 credits.*

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

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.

60. MATHEMATICS OF FINANCE. *3 credits.*

Prerequisite, 21. Interest procedures, annuities, amortization, sinking funds, bonds, stocks, depreciation.

UPPER COLLEGE

104. HISTORY OF MATHEMATICS. *3 credits.*

Prerequisite, 21-22. The origin and development of the elementary mathematical ideas and processes.

121. MATHEMATICS OF INSURANCE. *2 credits.*

Prerequisites, 21, 60. Stresses formulas for finding life insurance premiums, valuation procedures, construction of mortality tables.

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.

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.

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.

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.

206. HIGHER GEOMETRY. *3 credits.*

Prerequisite, 45. A continuation of 43; analytic geometry of space; topics in non-Euclidean, projective and metric geometry.

207. HIGHER ALGEBRA. *3 credits.*

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

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.

210. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. *3 credits.*

Prerequisite, 46. 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.

MODERN LANGUAGES

Professor Ittner, Associate Professors Internoscia and Glennen, Assistant Professor Chalfant, Mr. Perez, Mr. Leuca

Major: At least 24 hours in one language.

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

High School Credits	*Course Entered in College*	*Credit Given*
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

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.

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.

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

Reading, speaking, and writing German.

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

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

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.

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

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.

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.

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.

209 to 216. ADVANCED FRENCH. *3 credits each semester.*
Prerequisite, 102 or 104.

One of the following French courses is given each year:

209-210. NINETEENTH CENTURY DRAMA.
A study of the development and tendencies of the French drama during the 19th century and contemporary period.

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.

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.

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.

101-102. GERMAN DAILY LIFE AND COMPOSITION. *3 credits each semester.*
Prerequisite, 44.

207 to 218. ADVANCED GERMAN. *3 credits each semester.*
Prerequisite, 44.

One of the following German courses is offered each year:

207-208. SCHILLER.

209-210. GOETHE.

211-212. SURVEY OF GERMAN LITERATURE.

213-214. MODERN GERMAN DRAMA.

215-216. FAUST.

217-218. SHORT STORY.

One of the following Spanish courses is offered each year:

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.

106. COMMERCIAL CORRESPONDENCE. *3 credits.*
Prerequisite, 103. Translation of business letters from Spanish into English and from English into Spanish, with attention to advertising, and the rubber industry.

207-208. MODERN SPANISH LITERATURE. *3 credits each semester.*
Prerequisite, 44.

209-210. SPANISH LITERATURE OF THE GOLDEN AGE AND EIGHTEENTH CENTURY (1550-1800). *3 credits each semester.*
Prerequisite, 44.

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.

MUSIC

Professor Parman, Associate Professor Ende, Assistant Professors Smith and Witters, Mr. Stein, Mr. Lightfritz, Miss Whittaker, Mrs. Mitchell, Mr. Heylman

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.

First Year

	Cr. Hrs.
Fundamentals of Music 23	2
Art of Music 22	2
Applied Music	2
Music Organization	2

Second Year

	Cr. Hrs.
Theory 41-42	10
String Class 55-56	2
Applied Music	2
Music Organization	2

Third Year

	Cr. Hrs.
Woodwind Class 57	1
Brass Class 58	1
History of Music 101-102	4
Theory 103-104	6
Music Organization	(2)

Fourth Year

	Cr. Hrs.
Music Composition 111	2
Conducting 110	2
Orchestration 114	2
Music Criticism 201	2
Music Research 202	2
Applied Music	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. This group will be combined with the University Singers for special performances.

UNIVERSITY SINGERS. *2 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 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 and summer term. 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

22. THE ART OF MUSIC. *2 credits.*
An introduction to the literature of music using recordings as illustrative material.

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.

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.

42. THEORY II. *5 credits.*
Prerequisite, 41. A continuation of Theory I. Harmonica dictation.

55-56. STRING CLASS. *1 credit each semester.*
Actual playing of string instruments with emphasis on the violin. Study of material and teaching techniques.

57. WOODWIND CLASS. *1 credit.*
Actual playing of woodwind instruments with emphasis on the clarinet. Study of material and teaching techniques.

58. BRASS CLASS. *1 credit.*
Actual playing of brass instruments with emphasis on the cornet. Material and teaching techniques; also rudimentary drumming.

*UPPER COLLEGE

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.

103. THEORY III. *3 credits.*
Prerequisite, 42. Simple, two- and three-part modal and tonal counterpoint in the five species.

104. THEORY IV. *3 credits.*
Prerequisite, 103. An analytical study of the forms employed in music, covering both the homophonic and polyphonic devices.

110. CONDUCTING. *2 credits.*
Prerequisite, 23. The fundamentals of conducting technique and individual practice in conducting.

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.

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.

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.

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*Other Music courses are listed in the College of Education section.

201. MUSIC CRITICISM. *2 credits.*

Prerequisites, 101-102 and Philosophy 110. An introduction to musicology, stressing a study of comparative values. To be taken in senior year.

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 55, 56, 103, 104 and enough other work in Philosophy to total at least 24 hours.

GENERAL COLLEGE

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.

56. INTRODUCTION TO LOGIC AND SCIENTIFIC METHOD. *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.

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.

58. PHILOSOPHY OF RELIGION. *3 credits.*

A critical analysis of the basic problems of theology and religion. Prerequisite, 55 or permission.

59. COMPARATIVE RELIGION. *First semester. 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.

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

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. Students planning to take both should take them in their natural order. Open to sophomores by approval of the Department.

111. AESTHETICS. *First semester. 3 credits.*

A study of the nature of art, beauty, and the aesthetic experience.

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.

129. INTERMEDIATE DEDUCTIVE 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.

158. ADVANCED ETHICS. *3 credits.*

A continuation of the examination of ethical principles. Prerequisite, 57 or permission.

221-222. PROBLEMS OF PHILOSOPHY. *3 credits each semester.*

224. CONTEMPORARY PHILOSOPHY. *3 credits.*

Survey of nineteenth and twentieth century philosophy. Prerequisites, 103-104 or permission.

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.

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.

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, Mrs. Johnson, Mr. Crownfield

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 24, 41, 42 are for Engineering students or others who are interested primarily in the applications of Physics. Majors may take these courses but it will increase the total hours required for a major.

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

24. MECHANICS. *4 credits.**

The first course in physics for all engineering students is regularly given in the second semester of the Freshman year but may be offered at night in the first semester of the Sophomore year. The course covers the principles of mechanics from a strictly engineering point of view. The engineering units will be emphasized and the problem work will be such as to emphasize the engineering applications. No student will be admitted to the course who has not completed algebra and trigonometry. Three recitations and one laboratory period per week. Lab. fee.

*The laboratory work in these courses is integrated with classroom work. No separate credit is given for the class work or the laboratory work.

41. MECHANICS AND HEAT. *4 credits.**

A continuation of Physics 24, and heat. Again the engineering phase is emphasized and the calculus is required, or at least it must be taken simultaneously. Three recitations and one laboratory period per week. Lab. fee.

42. SOUND, ELECTRICITY AND MAGNETISM. *4 credits.**

The chief principles of magnetism and electricity and sound with the same emphasis. Three recitations and one laboratory period per week. Lab. fee.

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. While the course does not prepare the student for work in applied physics, it is sufficient for the arts students and for pre-medical students and is a prerequisite for all later courses in physics. Three lectures and one laboratory period per week. Lab. fee.

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. Lab. fee.

UPPER COLLEGE

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 and may be taken either with the classrom work concurrently or later by special arrangements with the department. Three recitations and one laboratory period per week. Lab. fee.

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 and some knowledge of differential equations. Three recitations and one laboratory period per week. Fee.

204. INTRODUCTION TO ATOMIC PHYSICS. *3 credits.*

A review of the revolutionary discoveries in physics made since 1890 and the part they have had in establishing the electrical nature of matter. The structure of the atom, the transmutations of matter, and an introduction to the quantum mechanics complete the course. Prerequisites, calculus and optics.

205. MECHANICS AND SOUND. *3 credits.*

An intermediate course in mechanics and sound with special emphasis on the theory of elasticity and acoustics. Prerequisites, calculus and Physics 52.

209-210. PHYSICS MEASUREMENTS. *2 credits each semester.*

A laboratory course in advanced physics measurements involving advanced laboratory technics. Some of the more advanced classical experiments and certain experimental projects growing out of Physics 204 and 205. A thesis course. Lab. fee.

221-222. COLLOQUIUM. *1 credit each semester.*

251. 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. Atom building and the periodic system of the elements are studied. Prerequisites, Physics 53 and 204.

*The laboratory work in these courses is integrated with classroom work. No separate credit is given for the class work or the laboratory work.

252. 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.

GRADUATE COURSES

302. QUANTUM MECHANICS. *3 credits.*

A course in quantum mechanics planned to give a knowledge of the failure of the classical mechanics in the domain of atomic physics and a familiarity with some of the fundamental physical ideas and mathematical methods of the subject. Open only to students who have majored in physics and are familiar with calculus. A knowledge of the matrices is not necessary.

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.

304. LABORATORY. *1 credit.*

A series of experiments involving the use of electron tubes and electric circuits to accompany or follow 304. Lab. fee.

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. The elements of spectroscopy and spectroscopic analysis will be emphasized.

306. LABORATORY. *1 credit.*

Laboratory exercises in interference, diffraction, and polarization to accompany or follow 306. Lab. fee.

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.

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.

309-310. ADVANCED PHYSICAL MEASUREMENTS.

A graduate thesis course. Credit according to work done. Usually about 2 credits per semester. Lab. fee.

311-312. THERMODYNAMICS. *3 credits each semester.*

A mathematical course covering the principles of thermodynamics and their physical applications.

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.

314. LABORATORY. *1 credit.*

Laboratory practice in X-ray work to accompany or follow 314. Lab. fee.

POLITICAL SCIENCE

Professor Sherman, Associate Professor King, Assistant Professor Lawrence, Mr. Parkins

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

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.

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.

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.

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

101. Municipal Government. *First semester. 3 credits.*

The development, composition, and governmental organization of American city life.

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.

103. Political Parties. *First semester. 3 credits.*

Their development, organization, functions, and machinery in U.S.A.

108. Parliamentary Law and Legislative Procedure. *Second semester. 3 credits.*

A drill course in parliamentary procedure, and a study of modern legislative procedure.

109. Government and Social Welfare. *First semester. 3 credits.*

A study of the part government has come to play in the social welfare field.

110. Government and Business. *Second semester. 3 credits.*

The relationships of government with business.

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.

205. CONSTITUTIONAL LAW. *First semester. 3 credits.*
The Constitution and the American government in terms of Supreme Court decisions.

206. MUNICIPAL CORPORATIONS. *Second semester. 3 credits.*
The American city from the legal point of view.

207. MUNICIPAL FINANCE. *Second semester. 2 credits.*
Municipal budgets, purchasing of materials, sources of municipal revenue, and problems of real estate tax.

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.

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.

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.

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.

217-218. FIELD WORK IN PUBLIC ADMINISTRATION. *3 credits each semester.*
Open only to senior majors with six hours of public administration.

220. ADMINISTATIVE 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.

298. SEMINAR IN POLITICAL SCIENCE. *Second semester. 2 credits.*
Required for senior majors planning Graduate Work.

301. READINGS IN WORLD AFFAIRS. *1 to 3 credits.*

302. READINGS IN PUBLIC ADMINISTRATION. *1 to 3 credits.*

303. READINGS IN POLITICS AND PUBLIC AFFAIRS. *1 to 3 credits.*
Not more than 6 credits may be earned in reading courses.

401. RESEARCH AND THESIS IN POLITICAL SCIENCE. *1 to 3 credits.*

PSYCHOLOGY

Professor Twining, Associate Professor Clayton, Assistant Professors Alven and Meyer, Mr. Thompson, Mr. Ireland, Mr. Karon, Miss Schoonover

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 45 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.

No student, major or otherwise, may present more than two of the courses numbered 43, 52, and 62. All Liberal Arts College requirements for graduation apply to students who major in Psychology, including the requirement of the second year of a foreign language on the college level.

SOCIOLOGY

Associate Professors Rogler and Newman, Mr. DeGraff, Miss Hawk

Sociology 41 and 42 are 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. (See partial list of agencies for supervised field work in "Community Cooperation" section in this catalog.)

GENERAL COLLEGE

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.

41. General Sociology. *Either semester. 3 credits.*

A study of the origin, development, structure, and function of social groups.

42. Social Attitude. *Either semester. 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.

43. Modern Social Problems. *3 credits.*

A presentation of social problems from the sociological point of view.

45. Social Anthropology. *3 credits.*

An elementary course dealing with the fundamental concepts of our cultural heritage.

UPPER COLLEGE

104. Leadership. *Second semester. 2 credits.*

An interpretation of leaders and leadership with emphasis upon problems, techniques, and processes of the same.

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.

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.

113. Urban-Rural Sociology. *First semester. 2 credits.*

A comparison and analysis of urban and rural life.

114. Criminology. *Second semester. 3 credits.*

A general background course for delinquency and penology. Cause, treatment, and prevention of crime.

117. Child Welfare. *Second semester. 3 credits.*

A study of the relation and responsibility of the state and community to the child.

201. Penology. *Second semester. 3 credits.*

Penal systems, practices and theories, past and present, with emphasis on the changing conceptions about the treatment of prisoners in penal institutions.

202. Collective Behavior. *First semester. 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.

204. THE FAMILY. *Second semester. 3 credits.*
A presentation of the family as a group of interacting personalities.

205. THE SOCIOLOGY OF LEISURE TIME. *First semester. 3 credits.*
A study of the public, private, commercial, and industrial provisions for recreation and leisure time activities.

206. COMMUNITY ORGANIZATION. *First semester. 3 credits.*
A practical study of the social, religious, educational, relief, and character building agencies of a community. Required of majors.

209. WELFARE ASPECTS OF SOCIAL SECURITY. *Second semester. 3 credits.*
An analysis of social security as interpreted by social and welfare agencies.

210. POPULATION MOVEMENTS. *Second semester. 3 credits.*
Present movements of population as in-migration, refugee, urban and rural, with their sociological implications.

213. THE JUVENILE DELINQUENT. *First semester. 3 credits.*
A study of the delinquent as a person. Emphasis upon causes, treatment and prevention.

215. SOCIAL THEORY. *First semester. 3 credits.*
Analysis of theoretical basis of modern thoughts, institutions, and organizations. Required of majors. Seniors and graduates.

216. SOCIAL ORIGINS. *Second semester. 3 credits.*
Analysis of the origin of social institutions, organizations, and systems of social thought. Required of majors. Seniors and graduates.

217. RACE RELATIONS. *Second semester. 3 credits.*
A study of minority groups with emphasis upon the sociological interpretation of relationships between dominant and minority groups.

219-220. COMMUNITY SOCIAL STUDIES. *3 credits each semester.*
No credit is given toward graduation for less than a full year's work. Analysis of community problems based upon research with reference to Census Tract Maps.

221. SOCIAL CONTROL. *First semester. 3 credits.*
A consideration of the foundations, means and techniques for controlling social behavior.

223. THEORY OF SOCIAL WORK. *First semester. 3 credits.*
An interpretation of the historical and theoretical background of social work, techniques, and philosophy.

231. SOCIAL CONFLICT. *First semester. 3 credits.*
Social conflict will be considered here as a fundamental aspect of social interaction; emphasis will be on principles regarding the nature, causes, and results.

251-252. TECHNIQUE OF SOCIAL CASE WORK. *2 credits each semester.*
A study of practical techniques with emphasis upon case work interpretation and procedure.

SPEECH

Professor Sandefur, Associate Professor Varian, Mr. Balanoff, Miss Hittle, Mr. Turner

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 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, 291, 292, 293. 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. At least three 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 free 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. Practical training is offered through the facilities of local radio 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

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.

42. ADVANCED PUBLIC SPEAKING. *Either semester. 3 credits.*

Prerequisite, 41. An advanced course for those who wish to develop skill in direct public address.

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. Lab. fee.

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.

48. ADVANCED BUSINESS AND PROFESSIONAL SPEAKING. *Either semester. 2 credits.*

Prerequisite, 47.

51. READING ALOUD. *First semester. 3 credits.*

A basic course to provide experience in the oral interpretation of the printed page.

52. ADVANCED INTERPRETATION. *Second semester. 3 credits.*

Prerequisite, 51. Further practice in reading aloud. Program building in reference to specific audiences and specific types of literature.

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.

54. VOICE AND ARTICULATION. *2 credits.*

A basic course in voice training designed to provide practice in the correct production of speech sounds.

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.

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.

65-66. SPEECH IMPROVEMENT. *1 credit each semester.*

For students who need special help to improve their articulation and enunciation, voice quality, pitch, intensity, or rate.

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.

81. RADIO SPEAKING. *3 credits.*

Prerequisite, 51. A beginning course in radio speaking to provide instruction in microphone technique and announcing. Lab. fee.

UPPER COLLEGE

114. TEACHING OF SPEECH. *Second semester. 2 credits.*

A course in teaching methods to improve the speech of the elementary and secondary school child.

161. PLAY PRODUCTION. *First semester. 3 credits.*

An introduction to play direction and stage design. Scenery construction, stage lighting, make-up, and theatre management. Fee.

162. ADVANCED PLAY PRODUCTION. *Second semester. 3 credits.*

Prerequisite, 161. Fee.

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.

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.

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. Fee.

204. SPEECH PHONETICS. *Second semester. 2 credits.*

271-272. SPEECH CORRECTION. *2 credits each semester.*

The classification, diagnosis, and treatment of speech defects. In 272, attention is given to case studies and clinical practice. Lab. fee.

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. Lab. fee.

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. Fee.

291-292. HISTORY AND DEVELOPMENT OF SPEECH. *2 credits each semester.*

First semester: a study of the development of rhetorical principles from Plato and Aristotle to the present.

Second semester: criticism of British and American public address, including speeches by Fox, Pitt, Burke, Webster, Clay and Calhoun.

293. SPEECH SEMINAR. *Second semester. 2 credits.*

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.

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 (Fall)	Second Semester (Spring)

SOPHOMORE YEAR
(Full Time)

First Semester (Fall)	Second Semester (Spring)	Third Term* (Summer)

PRE-JUNIOR YEAR
(Cooperative)

	First Semester (Fall)		Second Semester (Spring)		Third Term (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 (Fall)		Second Semester (Spring)		Third Term (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) First Semester (Fall)		(Full Time) Second Semester (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.

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 155 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)

Subject	Rec.	Lab.	Cr.
College Algebra 21	3	0	3
Trigonometry 22	3	0	3
English, Oral and Written 1	3	0	3
Engineering Drawing 21	0	6	2
Survey of Engineering 23	1	0	1
Hygiene, Mental 15	2	0	2
Military Science and Tactics 13	2	1	1½
Physical Education 3	0	2	1
	14	9	16½

SECOND SEMESTER
(Spring)

Subject	Rec.	Lab.	Cr.
Analytic Geometry 43	3	0	3
Physics 24 (Mechanics)	3	2	4
English, Oral and Written 2*.	3	0	3
Engineering Drawing 22	0	6	2
Intro. to Social Sciences 6	3	0	3
Military Science and Tactics 14	2	1	1½
Physical Education 4	0	2	1
	14	11	17½

*Special Sections for Engineering Students.

SOPHOMORE YEAR
(Full Time)

FIRST SEMESTER
(Fall)

Subject	Rec.	Lab.	Cr.
Differential Calculus 45	3	0	3
Physics 41 (Heat)	3	2	4
Descriptive Geometry 43	1	5	3
(Economics 41 or (Public Speaking 41	3	0	3
Intro. to Humanities 7	3	0	3
Military Science and Tactics 53	2	1	1½
	15	8	17½

SECOND SEMESTER
(Spring)

Subject	Rec.	Lab.	Cr.
Integral Calculus 46	3	0	3
Physics 42 (Electricity)	3	2	4
(Public Speaking 41 or (Economics 41	3	0	3
Intro. to Humanities 8	3	0	3
Applied Mechanics 48 (Statics)	3	0	3
Military Science and Tactics 54	2	1	1½
	17	3	17½

THIRD TERM (Half Semester)
(Summer)

Subject	Rec.	Lab.	Cr.
Heat Power Engineering ME 46	6	0	3
Applied Mechanics 49 (Dynamics)	6	0	3
Elementary Surveying CE 47	2	6	2
D.C. and A.C. Principles EE 30 (for C.E. and M.E. students) or	3	3	2
E.E. Fundamentals EE 31 (for E.E. students)	4	0	2
	17	9	10
	18	or 6	10

BASIC ENGINEERING COURSES

GENERAL COLLEGE

20. Drawing Interpretation and Sketching. *1 credit (0-1)**

(For Industrial Management students.) Principles of projections. Freehand and scaled sketches. Dimensioning, cross sections, notes and shop terms. Reading exercises on prints of machines, structures and industrial layouts.

21. Engineering Drawing. *2 credits (0-2)*

Freehand sketching, lettering and proper use of drawing instruments. Geometric drawing. Orthographic projection. Emphasis on accuracy and technique with pencil and pen. Lab. fee.

22. Engineering Drawing. *2 credits (0-2)*

Prerequisite, Engineering Drawing 21. Auxiliary views, isometric and oblique drawing and cross sections. Detailed dimensions. Bolt and screw details. Working drawings. Tracings and prints. Lab. fee.

23. Survey of Engineering. *1 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.

43. Descriptive Geometry. *3 credits (1-2)*

Prerequisite, Engineering Drawing 22. 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. Lab. fee.

48. Applied Mechanics (Statics). *3 credits (3-0)*

Prerequisite, Physics 24. 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.

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.

UPPER COLLEGE

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.

*Rec.-Lab. credit.

118. HYDRAULICS. *3 credits (3-0)*
Prerequisite, Applied Mechanics 49. Liquids at rest, including balance of liquid columns, forces on plane and curved surfaces and center of pressure. Liquids in motion, including flow through orifices, tubes, weirs, pipes and open channels. Characteristics of tangential wheels, reaction turbines and centrifugal pumps.

119. HYDRAULICS LABORATORY. *1 credit (0-1)*
Prerequisite, Hydraulics 118. Verification of water flow through orifices, tubes, weirs, pipes and open channels. Calibration of meters. Applications of logarithmic plotting. Performance tests of displacement and centrifugal pumps. Lab. fee.

131. ENGINEERING CHEMISTRY. *4 credits (3-1)*
Prerequisite, Pre-Junior standing. Study of fundamental laws and important reactions with emphasis on applications in industry. Concurrent laboratory exercises for illustration and verification. Lab. fee.

132. ENGINEERING CHEMISTRY. *4 credits (3-1)*
Prerequisite, Chemistry 131. Continuation of 131. Lab. fee.

133. PHYSICAL METALLURGY. *3 credits (3-0). Evening session*
Prerequisite, Chemistry 22 or 132 or permission of instructor. Physical properties of non-ferrous metals. Principles of alloying. Phase diagrams. White metals, light alloys, copper alloys. Die castings.

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.

151. TECHNICAL REPORT WRITING. *2 credits (2-0)*
Prerequisites, English 2 and Pre-Junior standing. Detailed study of content, style, graphic aids and arrangement of informal and formal technical reports. Requirements include submission of four complete reports.

CIVIL ENGINEERING

Professor Cook, 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 & B)*

Subject	Rec.	Lab.	Cr.
Strength of Materials CE 101	6	3	3½
Engineering Chemistry 131	6	6	4
A.C. Machines EE 131	4	6	3
	16	15	10½

SECOND SEMESTER
(Spring)

(Sections A & B)*

Subject	Rec.	Lab.	Cr.
Advanced Strength of Materials CE 102	6	0	3
Engineering Chemistry 132	6	6	4
Route Surveying CE 108	2	12	3
	14	18	10

THIRD TERM (Half Semester)
(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Technical Report Writing 151	4	0	2
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109	4	12	4
	14	12	9

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Technical Report Writing 151	4	0	2
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109	4	12	4
	14	12	9

(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
Hydraulics 118	6	0	3
	16	6	9

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
Hydraulics 118	6	0	3
	16	6	9

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 114	6	0	3
Engineering Mathematics 112	6	0	3
C. E. Problems CE 128J	6	0	3
Concrete Laboratory CE 112	0	6	1
	18	6	10

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
C. E. Problems CE 128J	6	0	3
Concrete Laboratory CE 112	0	6	1
	18	6	10

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.

SENIOR YEAR

FIRST SEMESTER (Cooperative) (Fall)

(Section A & B)*

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 115	2	12	3
Reinforced Concrete Design CE 117	6	0	3
Water Supply CE 121	6	0	3
Hydraulics Laboratory 119	0	6	1
	14	18	10

SECOND SEMESTER (Full Time) (Spring)

Subject	Rec.	Lab.	Cr.
Reinforced Concrete Design CE 118	1	6	3
Sewerage CE 122	2	0	2
Sanitary Design CE 124	0	3	1
Applied Soil Mechanics CE 120	3	0	3
Non-Technical Elective**	3	0	3
Community Planning CE 126	3	0	3
C.E. Problems CE 128S	1	6	3
	13	15	18

DESCRIPTION OF CIVIL ENGINEERING COURSES

GENERAL COLLEGE

47. Elementary Surveying. *2 credits (1-1)*†

Prerequisite, Math. 22. Principles of plane surveying. Use of tape, level and transit. Computation of areas. Field problems in measuring horizontal and vertical distances and angles. Principles of stadia and plane table. Lab. fee.

UPPER COLLEGE

101. Strength of Materials. *3½ credits (3-½)*

Prerequisite, Applied Mechanics 48. Tensile, compression and shearing stresses. Riveted and welded joints. Torsion. Shear and bending moment diagrams. Deflection of single span beams. Design of single span beams. Elementary combined stresses. Columns under axial loads. Laboratory tests of steel in tension and torsion, wood in compression, wood and cast iron in flexure, concrete in compression. Hardness tests. Lab. fee.

102. Advanced Strength of Materials. *3 credits (3-0)*

Prerequisite, 101. Columns under eccentric loads. Combined stresses in two and three dimensions. Continuous beams. Elastic energy of bodies subjected to static and dynamic loads. Curved beams. Beams of variable cross-section. Beams of two materials. Concept of fatigue.

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. Graphic statics. Influence lines.

106. Statically Indeterminate Structures. *3 credits (3-0)*

Prerequisite, 105. Shear, moment and deflection in beams. Single-span frames and arches. Complex frames. Moment distribution. Slope deflection. Truss deflection. Secondary stresses. Redundancy.

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. Lab. fee.

109. Advanced Surveying. *4 credits (2-2)*

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. Lab. fee.

*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.

110. HIGHWAY DESIGN AND CONSTRUCTION. *3 credits (2-1)*
Prerequisites, 101, 108. Principles of highway design and construction. Drainage, foundations and roadway materials. Design and cost estimate of a highway to meet given specifications.

112. CONCRETE LABORATORY. *1 credit (0-1)*
Prerequisite, Chemistry 132. Tests of cement, aggregates and concrete in accordance with A.S.T.M. Standards. Design of concrete mixes. Lab. fee.

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.

115. STRUCTURAL STEEL DESIGN. *3 credits (1-2)*
Prerequisite, 114. Detailed design of plate girders, roof truss and highway bridge.

117. REINFORCED CONCRETE DESIGN. *3 credits (3-0)*
Prerequisites, 102, 106, 112. Rectangular beams. Tee beams. Shear, moment and bond stresses. Floor systems. Columns. Footings. Retaining walls. Stairways.

118. REINFORCED CONCRETE DESIGN. *3 credits (1-2)*
Prerequisite, 117. Detailed design of multi-story building. Design of rigid frame structure.

120. APPLIED SOIL MECHANICS. *3 credits (3-0)*
Prerequisites, 102. Hydraulics 118. Analysis of earth pressures. Study of embankment failures, soil bearing capacity and frost action. Design of coffer dams, footings and piles. Soil testing methods.

121. WATER SUPPLY. *3 credits (3-0)*
Prerequisite, Hydraulics 118. Elements of hydrology. 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.

122. SEWERAGE. *2 credits (2-0)*
Prerequisite, 121. Hydraulics of sewers. Quantity of domestic sewage and storm water. Collection by separate and combined systems. Treatment of domestic sewage.

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.

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.

128J. CIVIL ENGINEERING PROBLEMS. *3 credits (3-0)*
Prerequisite, Junior standing. Principles of engineering economy including equivalence, alternatives, costs, depreciation, valuation and selected project studies.

128S. CIVIL ENGINEERING PROBLEMS. *3 credits (1-2)*
Prerequisite, Senior standing. Selected problems assigned to individuals or small groups under supervision of staff members. Requirements include complete engineering report.

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.

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 B. Smith

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 principals 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 & B)*

Subject	Rec.	Lab.	Cr.
Strength of Materials CE 101	6	3	3½
Engineering Chemistry 131	6	6	4
A.C. Circuits EE 141	3	0	1½
Shop Practice ME 169	0	6	1
	15	15	10

SECOND SEMESTER (Spring)

(Sections A & B)*

Subject	Rec.	Lab.	Cr.
Shop Practice ME 170	0	6	1
Engineering Chemistry 132	6	6	4
Technical Report Writing 151	4	0	2
D. C. Machines EE 160	3	3	2
A. C. Circuits EE 142	3	0	1½
	16	15	10½

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.

THIRD TERM (Half Semester)
(Summer)
(Section A Only)

Subject	Rec.	Lab.	Cr.
Thermodynamics ME 175	6	0	3
Engineering Electronics EE 153	3	3	2
A. C. Circuits EE 143	3	0	1½
A. C. Machines EE 161	3	3	2
Electrical Measurements EE 145	3	3	2
	18	9	10½

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)
(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Thermodynamics ME 175	6	0	3
Engineering Electronics EE 153	3	3	2
A.C. Circuits EE 143	3	0	1½
A.C. Machines EE 161	3	3	2
Electrical Measurements EE 145	3	3	2
	18	9	10½

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Hydraulics 118	6	0	3
M.E. Laboratory ME 189	0	3	½
Electrical Measurements EE 147	2	3	1½
Engineering Electronics EE 154	3	3	2
A.C. Machines EE 162	3	6	2½
	14	15	9½

SECOND SEMESTER
(Spring)
(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Hydraulics 118	6	0	3
M.E. Laboratory ME 189	0	3	½
Electrical Measurements EE 147	2	3	1½
Engineering Electronics EE 154	3	3	2
A.C. Machines EE 162	3	6	2½
	14	15	9½

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
Electrical Measurements EE 148	2	6	2
Engineering Electronics EE 155	3	3	2
A.C. Machines EE 163	3	6	2½
M.E. Laboratory ME 188	0	3	½
	14	18	10

THIRD TERM (Half Semester)
(Summer)
(Section B Only)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
Electrical Measurements EE 148	2	6	2
Engineering Electronics EE 155	3	3	2
A.C. Machines EE 163	3	6	2½
M.E. Laboratory ME 188	0	3	½
	14	18	10

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)
(Sections A & B)*

Subject	Rec.	Lab.	Cr.
A.C. Machines EE 164	3	3	2
Industrial Electronics EE 152	4	0	2
Industrial Instrumentation EE 149	4	3	2½
Engineering Electronics EE 156	0	3	½
Illumination Engineering EE 135	4	3	2½
	15	12	9½

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Electrical Controls EE 165	2	3	3
E.E. Problems EE 167	0	3	1
Non-technical Elective**	3	0	3
Circuit Analysis EE 144	3	0	3
Power Transmission and Distribution EE 159	2	0	2

Power Option

Advanced A.C. Machines EE 166	2	3	3
Electrical Machine Design EE 168	1	6	3
	13	15	18

Electronics Option

Ultra High Frequencies EE 157	2	3	3
Communication Networks EE 158	3	0	3
	15	9	18

*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 ELECTRICAL ENGINEERING COURSES

GENERAL COLLEGE

30. Direct Current and Alternating Current Principles. *2 credits (1½-½)**

Prerequisite, Physics 42. (For C.E. and M.E. students) Principles of direct current circuits, generators and motors. Principles of alternating current circuits and instruments. Lab. fee.

31. Electrical Engineering Fundamentals. *2 credits (2-0)*

Prerequisite, Physics 42. 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.

UPPER COLLEGE

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. Lab. fee.

135. Illumination Engineering. *2½ credits (2-½)*

Prerequisite, Physics 42. Fundamentals of illumination and principles underlying specifications and designs for adequate electrical lighting. Lab. fee.

141. Alternating Current Circuits. *1½ credits (1½-0)*

Prerequisite, 31. Vector analysis of alternating current, voltage, and power. Complex operator. Real and apparent power. Series and parallel circuits.

142. Alternating Current Circuits. *1½ credits (1½-0)*

Prerequisite, 141. Network theorems. Coupled circuits. Balanced and unbalanced polyphase circuits.

143. Alternating Current Circuits. *1½ credits (1½-0)*

Prerequisite, 142. Voltage and current loci. Metering polyphase power. Electric filters. Non-sinusoidal waves. D.C. transients.

144. Circuit Analysis. *3 credits (3-0)*

Prerequisites, 143, 155, 164, Math. 112. A.C. transients. Current in vacuum tubes. Fourier analysis of non-sinusoidal waves. Operational methods.

145. Electrical Measurements. *2 credits (1½-½)*

Prerequisite, 31. High and low resistance potentiometers. Precision direct current measurements. Direct current meter calibration. Dudell oscillograph. Ballistic galvanometer applications. Lab. fee.

147. Electrical Measurements. *1½ credits (1-½)*

Prerequisites, 142, 145. Alternating current bridges for capacitance, inductance and frequency measurements. Calibration of alternating current meters. Rectifier and thermocouple meters. Instrument transformers. Lab. fee.

148. Electrical Measurements. *2 credits (1-1)*

Prerequisite, 147. Study of graphic meters. Calibration of watthour, vacuum tube and special meters. Transmission line and audio frequency measurements. Lab. fee.

149. Industrial Instrumentation. *2½ credits (2-½)*

Prerequisite, 131 or 141. Principles of electric indicating, recording and control instruments as applied to temperature, pressure and fluid flow. Detailed analysis of measuring characteristics of such instruments. Lab. fee.

*Rec.-Lab. credit.

151. INDUSTRIAL ELECTRONICS. *2 credits (2-0)*
Prerequisite, 131. (For M.E. students) Principles of vacuum and gas tubes and photocells. Analysis and application of industrial electronic circuits.

152. INDUSTRIAL ELECTRONICS. *2 credits (2-0)*
Prerequisites, 154, 160. Analysis and application of electronics to industrial control circuits. Design of elementary electronic control circuits.

153. ENGINEERING ELECTRONICS. *2 credits (1½-½)*
Prerequisite, 142. Mathematical analysis of vacuum and gas tubes and photocells. Tube circuits. Emphasis on measuring techniques. Lab. fee.

154. ENGINEERING ELECTRONICS. *2 credits (1½-½)*
Prerequisite, 153. Circuit applications. Amplifiers, relays and oscillators. Power conversion, rectifiers and inverters. Lab. fee.

155. ENGINEERING ELECTRONICS. *2 credits (1½-½)*
Prerequisite, 154. Continuation of 154. Radio transmitters and receivers. Modulation. Antennas and radiation. Radio frequency measuring techniques. Lab. fee.

156. ENGINEERING ELECTRONICS. *½ credit (0-½)*
Prerequisite, 155. Continuation of laboratory portion of 155. Lab. fee.

157. ULTRA HIGH FREQUENCIES. *3 credits (2-1)*
Prerequisite, 155. General study of high frequency applications. Ultra high frequency oscillators using klystrons, magnetrons and cavity resonators. Coaxial cables. Wave guides. Lab. fee.

158. COMMUNICATION NETWORKS. *3 credits (3-0)*
Prerequisite, 155. Advanced treatment of transmission lines and filters. General communication problems. Ultra high frequency designs.

159. POWER TRANSMISSION AND DISTRIBUTION. *2 credits (2-0)*
Prerequisites, 143, 164, Math. 112. Power transmission line design, construction and stability. Symmetrical components, circle diagrams, short circuit calculations, lightning, corona, surges.

160. DIRECT CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 31. Armature windings and reactions. Commutation. Analysis of generators and motors, their characteristics and design features. Control equipment. Machine applications. Lab. fee.

161. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisites, 141, 160. Principles and operation of alternators and transformers. Predetermination of characteristics. Transformer connections. Lab. fee.

162. ALTERNATING CURRENT MACHINES. *2½ credits (1½-1)*
Prerequisite, 161. Principles and operation of polyphase induction motors. Predetermination and analysis of characteristics. Lab. fee.

163. ALTERNATING CURRENT MACHINES. *2½ credits (1½-1)*
Prerequisite, 162. Principles and operation of polyphase synchronous motors. Predetermination and analysis of characteristics. Special types of synchronous and asynchronous machines. Power rectifiers. Lab. fee.

164. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 163. Principles and applications of power and fractional horsepower single-phase motors. Lab. fee.

165. ELECTRICAL CONTROLS. *3 credits (2-1)*
Prerequisite, 163. Principles and applications of important types of electromagnetic controls. Specifications and designs. Lab. fee.

166. ADVANCED ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 164. Detailed study of alternating current machine characteristics and problems such as alternator wave shapes, inrush currents to transformers and motors, harmonics, unbalanced circuits, heating and insulation design. Lab. fee.

167. ELECTRICAL ENGINEERING PROBLEMS. *1 credit (0-1)*
Prerequisite, Senior standing. Selected comprehensive problems. Supervised discussion and computation periods.

168. ELECTRICAL MACHINE DESIGN. *3 credits (1-2)*
Prerequisites, 160, 164. Individual student problems involving designs and estimates for direct current and alternating current machines to meet definite specifications. Designs must be based on fundamental considerations.

301. SERVO-MECHANISMS. *3 credits (3-0)*
Prerequisites, Physics 42, 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 Professor Wilson, Assistant Professors Bezbatchenko and 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 & B)*

Subject	Rec.	Lab.	Cr.
Strength of Materials CE 101	6	3	3½
Engineering Chemistry 131	6	6	4
A.C. Machines EE 131	4	6	3
	16	15	10½

SECOND SEMESTER
(Spring)
(Sections A & B)*

Subject	Rec.	Lab.	Cr.
Advanced Strength of Materials CE 102	6	0	3
Engineering Chemistry 132	6	6	4
Industrial Electronics EE 151	4	0	2
	16	6	9

THIRD TERM (Half Semester)
(Summer)
(Section A Only)

Subject	Rec.	Lab.	Cr.
Thermodynamics ME 175	6	0	3
Mechanism ME 172	6	0	3
Technical Report Writing 151	4	0	2
Machine Drawing ME 171	0	12	2
	16	12	10

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)
(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Thermodynamics ME 175	6	0	3
Mechanism ME 172	6	0	3
Technical Report Writing 151	4	0	2
Machine Drawing ME 171	0	12	2
	16	12	10

(Section A—Second Half)

Thermodynamics ME 176	4	0	2
Hydraulics 118	6	0	3
Mechanism Drawing ME 174	0	6	1
Machine Design ME 178	6	0	3
Shop Practice ME 169	0	6	1
	16	12	10

SECOND SEMESTER
(Spring)
(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Thermodynamics ME 176	4	0	2
Hydraulics 118	6	0	3
Mechanism Drawing ME 174	0	6	1
Machine Design ME 178	6	0	3
Shop Practice ME 169	0	6	1
	16	12	10

(Section A—Second Half)

Steam Power Plants ME 185	6	0	3
Engineering Mathematics 112	6	0	3
M.E. Laboratory ME 182	0	12	2
Shop Practice ME 170	0	6	1
	12	18	9

THIRD TERM (Half Semester)
(Summer)
(Section B Only)

Subject	Rec.	Lab.	Cr.
Steam Power Plants ME 185	6	0	3
Engineering Mathematics 112	6	0	3
M.E. Laboratory ME 182	0	12	2
Shop Practice ME 170	0	6	1
	12	18	9

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)
(Sections A & B)*

Subject	Rec.	Lab.	Cr.
Heat Transfer ME 186	4	0	2
Internal Combustion Engines ME 190	6	0	3
Hydraulics Laboratory 119	0	6	1
M.E. Laboratory ME 183	0	15	3
	10	21	9

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Heating and Air Conditioning ME 187	3	0	3
M.E. Problems ME 194	1	6	3
Machine Design ME 179	3	6	5
Inspection Trips ME 196	0	3	1
Non-technical Elective**	3	0	3
Production Management 62	3	0	3
	13	15	18

*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 electing the Industrial Option will substitute five courses in Industrial Management for ME 183, 185, 186, 187 and 194. Courses selected must be approved by Department Head.

DESCRIPTION OF MECHANICAL ENGINEERING COURSES

GENERAL COLLEGE

46. HEAT POWER ENGINEERING. *3 credits (3-0)**

Prerequisite, Physics 41. Principles of production of energy and power by means of heat engines. Study of fuels, properties of steam, steam boilers, steam engines and turbines, internal combustion engines, gas turbines and power plant auxiliaries.

UPPER COLLEGE

169. SHOP PRACTICE. *1 credit (0-1)*

Study of various types of machine tools and operations that can be performed on them. Assigned projects include use of hand tools, drill press, grinder, lathe, shaper and milling machine. Emphasis on accuracy and shop safety. Lab. fee.

170. SHOP PRACTICE. *1 credit (0-1)*

Prerequisite, 169. Continuation of 169 and heat treatment. Lab. fee.

171. MACHINE DRAWING. *2 credits (0-2)*

Prerequisite, Engineering Drawing 22. Detailed drawings of machine parts and assemblies of complete machines. Technical sketching. Notes and specifications. Shop terms and methods. Drafting room practice. Piping diagrams. Tire and mold drawings. Welding practice and symbols applied to machine parts construction. Lab. fee.

172. MECHANISM. *3 credits (3-0)*

Prerequisite, Applied Mechanics 49. Motion, velocity and acceleration of machine parts and various devices for producing desired motions. Development and action of spur, bevel, helical and worm gears.

174. MECHANISM DRAWING. *1 credit (0-1)*

Prerequisite or corequisite, 172. Problems of conventional mechanisms solved by accurate graphical methods. Lab. fee.

175. THERMODYNAMICS. *3 credits (3-0)*

Prerequisites, Math. 46, Physics 41. Reversible transformation of heat and work. Energy equations. Heat properties of liquids, gases and vapors. Heat cycles. Entropy. Available and unavailable energy. Air vapor mixtures. Flow through nozzles. Refrigeration cycles. Ideal and actual engines, including gas turbines and jet propulsion.

176. THERMODYNAMICS. *2 credits (2-0)*

Prerequisite, 175. Application of thermodynamic principles. Problems covering thermodynamic equations, heat transfer, heat exchange, heat engines, refrigeration and steam power plant cycles.

178. MACHINE DESIGN. *3 credits (3-0)*

Prerequisites, 172, CE 102. Functions of various machine elements. Selection of materials. Construction methods. Design of parts for strength and balance.

179. MACHINE DESIGN. *5 credits (3-2)*

Prerequisite, 178. Continuation of 178. Assigned design problems involving all calculations, sketches and drawings of a machine. Lab. fee.

*Rec.-Lab. credit.

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.

182. MECHANICAL ENGINEERING LABORATORY. *2 credits (0-2)*

Prerequisite, 46. Calibration and use of instruments including thermometers, gages, planimeters, engine indicators, Orsat apparatus and oil testing equipment. Basic tests on internal combustion engines. Lab. fee.

183. MECHANICAL ENGINEERING LABORATORY. *3 credits (0-3)*

Prerequisite, 182. Economy and performance tests on steam engines and turbines, condensers, auxiliaries, centrifugal fans and air compressors. Measurement of air flow in ducts. Standard S.A.E. tests on gas, gasoline and diesel engines. Lab. fee.

185. STEAM POWER PLANTS. *3 credits (3-0)*

Prerequisite, 176. Adaptation of fuels, boilers, engines, turbines and auxiliaries. Calculations involve principles of combustion, thermodynamics and heat transfer.

186. HEAT TRANSFER. *2 credits (2-0)*

Prerequisite, 176. Fundamentals of heat transfer by conduction, radiation and convection. Properties of fluids and solids affecting heat transfer. Use of combined heat transfer coefficients. Analyses of cycles by means of heat balances. Application of principles to design problems.

187. HEATING AND AIR CONDITIONING. *3 credits (3-0)*

Prerequisite, 176. 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.

188. MECHANICAL ENGINEERING LABORATORY. *½ credit (0-½)*

Prerequisite, 175. (For Electrical Engineering students) A shorter course, similar to 182, with emphasis on internal combustion engines. Lab. fee.

189. MECHANICAL ENGINEERING LABORATORY. *½ credit (0-½)*

Prerequisite, 175. (For Electrical Engineering students) A shorter course, similar to 183, with emphasis on steam prime movers. Lab. fee.

190. INTERNAL COMBUSTION ENGINES. *3 credits (3-0)*

Prerequisite, 176. Fuels, combustion, heat cycles, carburetors, injection and ignition systems. Comparison of ideal and actual performance of stationary, automotive and aircraft engines. Characteristics of gas turbines and jet engines.

194. MECHANICAL ENGINEERING PROBLEMS. *3 credits (1-2)*

Prerequisite, Senior standing. Investigation of design projects selected by student and approved by supervising staff member. Requirements include complete engineering report covering descriptive material, data, calculations and drawings.

196. INSPECTION TRIPS. *1 credit (0-1)*

Prerequisite, Senior standing. Trips through power stations and industrial plants in northern Ohio. Written reports required.

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, Saturday 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, and all grades of the elementary school.

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 or 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 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 three subjects, one major and two minors. The teaching majors and minors are defined on the next page.

5. Each prospective high school teacher must be prepared to enter upper college courses in at least two teaching fields.

BASIC REQUIREMENTS FOR ALL DEGREES

1. *General Education and prerequisite pre-professional requirements:*

	Cr. Hrs.
English 1-2	6
Physical Education 3-4	2
Introduction to Social Science 5-6	6
Introduction to Humanities 7-8	6
Introduction to Natural Science 9-10	6
Hygiene, Mental and Physical 15-16	4
General Psychology 41	3
Educational Psychology 52	3
Introduction to Education 55	3
Fundamentals of Speech 76	3
Mathematics, Foreign Language, Accounting or *Elective	6-8
Military Science and Tactics (Men)	6

2. *Professional courses:*

Tests and Measurements 105	2
School Management 115	2
Student Teaching 124	6
Methods	Varies with the teaching field
Principles of Education 201	3

3. *Major field plus one or two minors, depending upon field.*

A student who has a major in either of the special fields Music or Art does not need a teaching minor. In the other special fields or in an academic field where the major requirement is 40 semester hours or more, only one minor teaching field is required. In the academic fields where the major is 24-30 semester hours, two minor teaching fields are required.

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.)

*For Elementary and Dual Curricula.

STATEMENT OF NUMBER OF HOURS REQUIRED IN VARIOUS FIELDS FOR THE COMPLETION OF MAJORS AND MINORS

In High School and Special Areas.

Field	H. S. Units as Prerequisites	Major	Minor	Special
Art	—	—	24	60
Biological Science	1	24	15	—
Business Education	—	—	—	45
Bookkeeping—Social Business	—	40	20	—
Salesmanship—Merchandising	—	40	20	—
Stenography—Typing	—	40	20	—
Typing	—	—	5	—
Earth Science	1	—	15	—
English	3	*30	18	—
†French	2	24	15	—
General Science	—	40—comprehensive major	18	—
†German	2	24	15	—
History	2	24	15	—
Home Economics	—	—	20	38
†Latin	2	18	15	—
Mathematics	2	20	15	—
Music—Instrumental	—	—	24	53
Vocal	—	—	24	53
Physical Education	—	—	24	46
Physical Science	1	24	15	—
Psychology	—	24	15	—
Social Studies (comprehensive major)	—	40	—	—
†Spanish	2	24	15	—
Speech	—	24	15	40

For selection of required courses for a teaching field, consult the Dean of the College of Education or appropriate adviser.

Each student expecting to receive the Bachelor of Arts in Education degree is required to have one major and two minors according to the definitions above, in addition to the requirements for promotion to the upper college and the following courses in education:

‡Methods	3 hours
Tests and Measurements 105	2
Principles of Education 201	3
Student Teaching 124	6
School Management 115	2

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.

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*General courses are *not* included in the total hours listed above.

†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, 23 hours would be required if the study of the language is begun in college.

‡Varies with the major and minors. In some cases the methods requirements is included as a part of the major.

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.

The need for secondary school teachers will diminish in the next three years but the need for elementary school teachers will continue to increase.

Students should avail themselves of better placement opportunities by selecting this program or a curriculum designed for kindergarten-primary or elementary grades.

In addition to basic requirements, the following courses are required for this program:

	Cr. Hrs.
Geography	6
Fundamentals of Speech 76	3
Children's Literature 86	3
Tests & Measurements 105	2
Child & Adol. Psych. 107	3
High School Methods 113	3
School Management 115	2
Pr. El. Music Ed. 121	2
Art for the Grades 121	2
Student Teaching 124	
Elementary	4
High School	4
Science for Elem. Gr. 133	3
Teaching of Reading 135	3
Arith. in the El. Gr. 136	3
Tchg. of Soc. Stud. 138	2
Health & Phys. Educ. Act. for Elem. Gr. 138	3
Principles of Educ. 201	3
TEACHING FIELDS	
Two academic fields for secondary school teaching. (Vary with fields) General College courses, in most instances, will apply on major field.	
Plus electives	38
Total	128

TWO YEAR ELEMENTARY PROGRAM

Acute shortage of teachers in the elementary school has resulted in establishing a two-year program. Students who complete this program can 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 PROVISIONAL ELEMENTARY CERTIFICATE

	Cr. Hrs.
English 1-2	6
Physical Education 3-4	2
Int. to Soc. Science 5-6	6
Int. to Nat. Science 9-10	6
Design 21	2
Fund. of Music 23	2
Educ. Psychology 52	3
Prin. of Geography 71	3
Fund. of Speech 76	3
Children's Literature 86	3
School Management 115	2
Prim.-Elem. Music Ed. 121	2
Art for the Grades 121	2
Student Teaching 124	6
Teaching of Reading 135	3
Arith. in the Elem. Gr. 136	3
Teaching of Lang. Arts 137	3
Teaching of Soc. Studies 138	2
Health & Phys. Educ. Act. for Elem. Grades 138	3
Principles of Education 201	3
Total	65

ELEMENTARY EDUCATION

The following curricula for preparation of elementary school teachers lead to the B.S. degree in Education.

Electives should be chosen in consultation with advisers.

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.

In addition to basic requirements, the following courses are required for these programs:

KINDERGARTEN—PRIMARY

	Cr. Hrs.
Design 21	2
Fund. of Music 23	2
Handicrafts 41	2
Elem. Sch. Music Lit. & App. 62	2
Geography	6
Children's Lit. 86	3
Tests & Measurements 105	2
Child & Adolescent Psych. 107	3
School Management 115	2
Prim. Elem. Music. Education 121	2
Art for the Grades 121	2
Student Teaching 124	6
Primary Educ. 131-132	6
Science for the Elem. Grades 133	3
Teaching of Reading 135	3
Arith. in the Elem. Grades 136	3
Health & Physical Educ. Act. for Elem. Grades 138	3
Principles of Education 201	3
Economics, History, Political Science or Sociology	6
Electives	19
Total	128

ELEMENTARY

	Cr. Hrs.
Design 21	2
Fund. of Music 23	2
Handicrafts 41	2
Elem. Sch. Music Lit. & App. 62	2
Geography	6
Children's Lit. 86	3
Tests & Measurements 105	2
Child & Adolescent Psych. 107	3
School Management 115	2
Prim. Elem. Music Education 121	2
Art for the Grades 121	2
Student Teaching 124	6
Science for the Elem. Grades 133	3
Teaching of Reading 135	3
Arith. in the Elem. Grades 136	3
Tchg. of Lang. Arts 137	3
Tchg. of Soc. Studies 138	3
Health & Physical Educ. Act. for Elem. Grades 138	3
Principles of Education 201	3
Economics, History, Political Science or Sociology	6
Electives	20
Total	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.

CONVERSION

Courses Required to Convert Secondary School Certificate to Elementary Certificate—Retraining (4 year Provisional.)

	Cr. Hrs.
Teaching of Reading 135	3
Arithmetic in the Elementary Grades 136	3
Child & Adolescent Psychology 107	3
Purposes and Practices of the Elementary School	3
Total	12

Additional work to complete approximately one year in the field of Elementary Education will be required to obtain the regular 4-year provisional certificate.

COOPERATIVE TEACHER EDUCATION PROGRAM

Education on a cooperative basis is not new in several fields of education, particularly in engineering. The University of Akron offers a program of cooperative education for teachers in the elementary grades. This is a four-year program and requires attendance in at least two, and perhaps three, summer sessions. The student, therefore, has an opportunity to work in the schools for a full day for each of two semesters and is paid for this work experience and receives college credit.

An outline of this program will be sent upon request.

ART

To obtain the B.S. in Education degree with a major in Art, one must fulfill the basic requirements plus the following courses in Art.

	Cr. Hrs.
Drawing:	
Drawing and Rendering 45-46	4
Illustration 179	2
Graphic Arts 104-105	4
Figure Drawing 175-176	4
Methods, etc.:	
Methods in Teaching Art 191	3
Art for the Grades 121	2
Design, Painting, Sculpture:	
Design 21-22	4
Industrial Design 43	2
Design, Painting, Sculpture:	
Still Life Painting 115-116	4
Ceramics 59-60	4
Weaving 106	2
Crafts 70	2
Crafts 102	2
Costume 151-152 or Interior Decoration 171-172	6
Appreciation and History:	
Appreciation 29-30	4
History of Art 200-201	6

Suggested courses for minor in Art. Minimum requirements in teaching of Art for the Provisional High School Certificate.

	Cr. Hrs.
Design 21-22	4
Drawing and Rendering 45-46	4
Ceramics 59	2
Painting 115-116	4
Figure Drawing 175	2
History of Art 200-201	6
Methods of Teaching Art 121	3

COMMERCIAL TEACHER TRAINING

The general field of Business Education is divided into three specific fields. The requirements for each follow:

Business Education—Valid for teaching all subjects in the secretarial and commercial field, 45 semester hours distributed over all three fields and including second-semester Dictation, third-semester Accounting, Special Methods, High School Methods and one minor.

Stenography-Typing—Valid for teaching Shorthand, Typewriting, Business English, Clerical Practice, and Secretarial Practice. The course must include fourth-semester Dictation, preparation for other valid teaching subjects, Special Methods, and pertinent electives to total 40 hours; also one minor, and High School Methods.

A minor in this field includes Shorthand, Typewriting, and Dictation, 14 hrs.; Special Methods, 2 hrs.; and Secretarial Training, 2 hrs.

Bookkeeping-Social Business—Valid for teaching Bookkeeping, Business Law, Economic Geography, Business Economics, Business Organization and Management. The course must include fourth-semester Accounting, preparation for the other valid teaching subjects, Special Methods, and pertinent electives to total 40 hours; also one minor and High School Methods. A minor in this field includes Accounting, 9 hrs.; Business Law, 3 hrs.; Economic Geography, 3 hrs.; Business Administration, 3 hrs.; and Special Methods, 1 hr.

Salesmanship-Merchandising—Valid for teaching Merchandising, Retail Store Selling, Salesmanship, Advertising, and Economic Geography. The course must include Marketing, 3 hrs.; Salesmanship, 3 hrs.; preparation for the other valid teaching subjects; Special Methods; and pertinent electives to total 40 hours; also one minor and High School Methods.

A minor in this field includes Marketing Principles, 3 hrs.; Salesmanship, 3 hrs.; Advertising; Retailing; Merchandising; Economic Geography and pertinent electives to total 20 hours.

CURRICULUM IN COMMERCIAL TEACHER TRAINING

First Year, General College

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
English 1	3	English 2	3
Introduction to Social Science 5	3	Introduction to Soc. Sc. 6	3
Hygiene, Mental 15	2	Hygiene, Physical 16	2
Physical Education 3	1	Physical Educ. 4	1
Military Training (Men)	1½	Military Training (Men)	1½
Mathematics, Accounting, or Foreign Language	3 or 4	Mathematics, Accounting, or Foreign Language	3 or 4
Introduction to Humanities 7 or Elective	3	Introduction to Humanities 8 or Elective	3

Second Year, General College

Introduction to Natural Science 9	3	Introduction to Natural Science 10	3
General Psychology 41	3	Educational Psychology 52	3
Military Training (Men)	1½	Military Training (Men)	1½
Fundamentals of Speech 76 or Major	3	Typewriting (Major) 52	2
Typewriting (Major) 51	2	Major	3
Introduction to Education 55	3		

Major subjects to be selected from Accounting, Business Administration, Business Law, Consumer Economics, Economic Geography, Filing and Machine Calculation, Secretarial Procedure, Selling and Advertising, and Shorthand.

Third Year, College of Education

Special Methods	3	High School Methods 113	3
Economics 41	3	Special Methods or Major	2 to 3
Tests and Measurements 105	2	Economics	3
Major or Minor	6 or 9	Major or Minor	6 to 9

Additional major subjects: Advertising, Business Correspondence, Dictation, Marketing, Purchasing.

Fourth Year, College of Education

Student Teaching 124	6	Principles of Education 201	3
School Management 115	2	Major, Minor, or Elective	13
Major, Minor, or Elective	8		

Additional major subjects: advanced work in any field for which prerequisites have been taken.

HEALTH AND PHYSICAL EDUCATION

To obtain the B.S. in Education degree with a major in Physical Education, one must fulfill the basic requirements plus the following courses:

MEN

	Cr. Hrs.		Cr. Hrs.
Physical Education 45-46	4	Anatomy 127	3
Organization and Administration of Community Recreation 70	2	Physiology 128	3
Theory and Practice 103-104	4	Org. and Adm. of Phyc. Ed. 121-122	4
Theory and Practice 105-106	4	School Health Problems 118	3
Child and Adolescent Psychology 107	3	Org. and Adm. of Health Ed. 123	2
Normal Diagnosis and C. E. 115	2	Mat'ls. and Meth. in Tchg. Health Ed. 133	3
Red Cross First Aid 111	1	Games and Rhythms for El. Gr. 134	2
Swimming 114	2	Minor and Electives	15
Athletic Injuries and Massage 112	1	*H. S. Methods 113	3

*Required if student wishes to teach the academic minor as well as in the major field.

WOMEN

	Cr. Hrs.
Physical Education 45-46	4
Organization and Administration of Community Recreation 70	2
Theory and Practice 103-105	4
Theory and Practice 106-108	4
Child and Adolescent Psychology 107	3
Normal Diagnosis and C. E. 115	2
First Aid 111	1
Swimming 114	2
Anatomy 127	3
Physiology 128	3
Org. and Adm. of Phys. Ed. 121-122	4
School Health Problems 118	3
Org. and Adm. of Health Ed. 123	2
Mat'ls. and Meth. in Tchg. Health Ed. 133	3
Games and Rhythms for El. Gr. 134	2
Minor and Elective	18
*H. S. Methods 113	3

HOME ECONOMICS

To obtain the B.S. in Education degree with a major in home economics one must fulfill the basic requirements listed plus the home economics major plus one minor.

MAJOR IN HOME ECONOMICS

Foods	Cr. Hrs.
General Foods 45-46	6
Nutrition 119 or 42	3
Experimental Foods 115	3
Clothing	
Textiles 21	3
Clothing 22-23	6
Advanced Clothing 105	3
14 Hrs. additional from the following:	
General	
Child Development 65	3
Home Management 62	3
Home Eco. Survey 53	2
Selection of Home Furnishings 58	3

MAJOR IN HOME ECONOMICS Cont'd

Foods	Cr. Hrs.
Household Equipment 215	3
Home Econ. Educ.	3
*H. S. Methods	3
MINOR IN HOME ECONOMICS	
Foods	
General Foods 45-46	6
Clothing	
Textiles 21	3
Clothing 22	3
General	
Child Development 65	3
Home Management 62	3
Methods	
Home Economics Education 151	3

MUSIC

To obtain the B.S. in Education degree with a major in Music one must complete the basic requirements and courses given below.

	Cr. Hrs.
Fund. of Music 23	2
El. Sch. Music Lit. & App. 62	2
Theory I 41	5
Theory II 42	5
Theory III 103	3
History of Music 101-102	4
Conducting 110	2
Orchestration 114	2
Primary El. Music Ed. 121	2
Secondary Music Ed. 123	2
Applied Music (Individual)	
Piano (Req. of all)	4
Voice (Req. of all)	4
A Major Instr. or Voice	8
Voice Class 50	2
String Class 55-56	2
Brass Class 57	1
Woodwind Class 58	1
Ensemble	4

STATE REQUIREMENTS FOR A MINOR IN MUSIC

Subject	Cr. Hrs.
Fundamentals of Music 23	2
Art of Music 22	2
Theory 1, 41	5
Theory 11, 42	5
History of Music 101 or 102	2
Music Education 123	2
Conducting 110	2
Applied Music	4

DEPARTMENT OF MUSIC REQUIREMENTS

MUSIC ORGANIZATIONS

University Chorus
University Band
University Singers
University Symphony Orchestra

*Required if student wishes to teach the academic minor as well as in the major field.

ADDITIONAL REQUIREMENTS FOR MAJORS IN MUSIC

(1) To major in School Music, a student must have reached a satisfactory degree of achievement in Voice, or in some instrument, before entering college. A musical aptitude test will be given each student near the beginning of the first year of study.

(2) Sixteen credits are necessary in individual instruction and must include 4 credits in Piano and 4 credits in Voice.

(3) Class instruction may not be substituted for individual instruction.

(4) Presentation of both Junior and Senior recitals is recommended.

(5) Continuous enrollment in any one of the music organizations is required.

Public school music majors may not count more than six hours of this credit toward the degree.

BASIC NURSING PROGRAM LEADING TO A DIPLOMA IN NURSING

The University offers a pre-clinical program for students in the School of Nursing at City and Peoples hospitals in Akron and the 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.
Anatomy & Physiology 47	3	Anatomy & Physiology 48	3
Chemistry 27	2	Chemistry 28	2
Psychology 21 or Sociology 23	3	Psychology 21 or Sociology 23	3
Foods 43 or Microbiology 33	3	Foods 43 or Microbiology 33	3
History of Nursing 59	2	Intro. to Medical Sci. 58	2
	13		13

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.

CURRICULUM FOR FIVE-YEAR BASIC NURSING PROGRAM

FIRST YEAR

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
English 1	3	English 2	3
Int. to Soc. Sci. 5	3	Int. to Soc. Sci. 6	3
Anatomy and Physiology 47	3	Anatomy and Physiology 48	3
Chemistry 21 or 23	4-3	Chemistry 22 or 24	4-3
Physical Education 3	1	Physical Education 4	1
Basic Mathematics B-3	3	Psychology 21 or 41	3

SECOND YEAR

Int. to Humanities 7	3	Int. to Humanities 8	3
Bacteriology 107	4	Bacteriology 108	4
Educational Psychology 52	3	General Sociology 41	3
Hist. of Nursing 59 or 71	2-3	Int. to Medical Sci. 58	2
Foods and Nutrition 43	3	Diet Therapy 44	3
Pharmacology I 54	2	Nursing Arts I 52	2

FIFTH YEAR

Second Semester

	Cr. Hrs.
Professional Adjustments II 57	2
Nursing Elective	3
General electives to meet graduation requirements.	

Clinical portion of the program begins in the Summer Session of the second year and continues through the first semester of the fifth year. Public Health Nursing 112 and Public Health Nursing Practice 113 are to be taken during the clinical portion of the program.

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

	Cr. Hrs.
English	6
Intro. to Humanities 7, 8	6
Economics 41	3
American National Government 41	3
Mathematics or Accounting	6-8
Chemistry, Physics, Bacteriology or Physiology	6-8
Educational Psychology	3
Psychology 62 or 115	3
Educational Tests and Measurements	2

PROFESSIONAL COURSES

	Cr. Hrs.
Nursing Trends 100	3
Principles and Methods of Teaching Nursing 105	3
Ward Management and Teaching 106	3
Curriculum Construction 107	3
Public Health Nursing 112	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

To obtain the B. S. in Education degree with a major in Speech one must fulfill the basic requirements, the following courses, and one minor.

	Cr. Hrs.		Cr. Hrs.
Public Speaking 41	3	Speech Correction 271, 272	4
Reading Aloud 51	3	History of Speech 291, 292	4
Fundamentals of Speech 76	3	Seminar 293	2
Play Production 161	3	Teaching of Speech 114	2
Elective			16

The B.A. in Education with a major in Speech may be obtained by completing 24 hours of Speech including the courses listed above with the exception of Teaching of Speech 114. The minor requirement is 15 hours and includes the courses listed above with the exception of History of Speech 291-292, Seminar 293 and Teaching of Speech 114.

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
Two-Year and Four-Year Elementary ..... Mr. Distad
High School ..... Miss Riedinger
Home Economics ..... Miss Bear
Kindergarten-Primary ..... Miss Becker
Music ..... Mr. Parman
Physical Education ..... Miss Scott, Mr. Sefton
Primary-Elementary ..... Miss Becker
Speech ..... Mr. Sandefur
Graduate Students ..... Dean Evans

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.

CONVERSION FROM SECONDARY TO ELEMENTARY CERTIFICATE

The holder of a high school certificate may be certified for elementary teaching. See Dean of the College of Education.

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. Under such supervision the student teacher really assumes full teaching responsibility.

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), and Master 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 Dean of the College of Education will advise the student regarding his program. An adviser for the student's thesis investigation or educational problem will be appointed by the Dean. The adviser will serve as chairman of a committee which will approve the completed work. The student will be expected to obtain the approval of his problem and the entire plan of study before beginning his research or investigation. 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. History and Systems of Psychology 317
3. Statistics in Psychology and Education 311
4. Techniques of Research 425
5. Philosophy of Education 323-324

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
Contemporary Philosophies of Education 324	2
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

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
Contemporary Philosophies of Education 324	2
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

A minor of twelve hours in an academic field is recommended for teachers of academic subjects.

ELEMENTARY SCHOOL PRINCIPAL

	Cr. Hrs.
Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Contemporary Philosophies of Education 324	2
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 Elementry 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
History of Educational Thought 323	2
Comparative Education 433-434	4
Principles and Techniques in Personnel Counseling 208	2
Psychological Testing in Personnel 207	3

SECONDARY SCHOOL PRINCIPAL

	Cr. Hrs.
Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Contemporary Philosophies of Education 324	2
Public School Administration 345-346	4
Secondary School Administration 320	2
Supervision of Instruction 322	2
Secondary School Curriculum and Teaching 319	2

SECONDARY SCHOOL PRINCIPAL (Continued)

	Cr. Hrs.
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
History of Educational Thought 323	2
Comparative Education 433-434	4
Adult Education 211	2

SCHOOL SUPERINTENDENT

	Cr. Hrs.
Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Contemporary Philosophies of Education 324	2
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 for 310	2
History of Educational Thought 323	2
Comparative Education 433-434	4
Adult Education 211	2

GUIDANCE COUNSELOR

Required Courses:

	Cr. Hrs.
Statistics in Psychology and Education 311	2
Techniques of Research 425	2
Contemporary Philosophies of Education 324	2
Elementary School Curriculum and Teaching 330	2
or	
Secondary School Curriculum and Teaching 319	2
Advanced Child and Adolescent Psychology 308	2
Diagnostic Testing and Remedial Teaching 313	2
Elementary School Administration 331	2
or	
Secondary School Administration 320	2
Principles and Techniques in Personnel Counseling 208	2
Principles of Psychotherapy 310	2
Psychological Testing in Personnel 207	3
Principles of Guidance 302	2
Techniques of Guidance 304	2
Vocational Guidance and Occupational Information	2
Recommended—Optional:	
Public School Administration 345-346	4
Labor Problems 206	3
Community Organization 206	3

SCHOOL PSYCHOLOGIST

Please consult Head of Department of Psychology.

SUBJECTS OF INSTRUCTION

ART

Professor Davis, Assistant Professors Cable and Thompson

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.

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 Doutt, Associate Professor Flint

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.

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.

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, Professor Distad, Associate Professors Becker, W. I. Painter and Riedinger; Assistant Professors Jones, H. W. Painter, and Sanders; Mr. Campbell, Mr. Pottinger.

GENERAL COLLEGE

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. Lab. fee.

45. HISTORY OF EDUCATION. *3 credits.*

A study of the development of civilization with particular reference to the role of education.

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.

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.

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.

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

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.

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. Fee.

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.

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.

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.

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.

132. PRIMARY 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.

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.

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.

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.

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 modern practice.

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.

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.

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 which include the social, economic, and civic importance of a well-planned program of Adult Education in a Democracy.

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.

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.

251-252. ELEMENTARY EDUCATION. *Evening and summer sessions. 3 credits each semester.*

An evaluation of recent trends and newer practices in elementary education.

GRADUATE COURSES IN EDUCATION

Dean Evans, Professor Distad, Associate Professors W. I. Painter and Riedinger, Assistant Professor H. W. Painter

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.

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.

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.

*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.

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. Fee.

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*Required graduate course.

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. Fee.

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.

320. SECONDARY SCHOOL ADMINISTRATION. *2 credits.*
A treatment of the problems, procedures, and principles of organization and administration in secondary schools.

322. SUPERVISION OF INSTRUCTION. *2 credits.*
A study of the principles, organization, and techniques of supervision with a view to the improvement of instruction.

*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.

*324. CONTEMPORARY PHILOSOPHIES OF EDUCATION. *2 credits.*
An appraisal of conflicting philosophies which are most important in present school practice.

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.

331. ELEMENTARY SCHOOL ADMINISTRATION. *2 credits.*
A study of the problems, procedures, and principles of organization, administration, and supervision in elementary schools.

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.

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.

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. Also includes school law, organization, administration, finance, pupil accounting, planning and completion of school buildings.

*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.

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.

433-434. COMPARATIVE EDUCATION. *2 credits each semester.*
Educational philosophy and organization in foreign countries.

436. SEMINAR IN ELEMENTARY EDUCATION. *2 credits.*

437. SEMINAR IN SECONDARY EDUCATION. *2 credits.*

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.

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*Required graduate courses.

GEOGRAPHY

Assistant Professor Jones

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.

*72. GEOGRAPHY OF NORTH AMERICA. *3 credits.*
A study of the natural regions, climate, natural resources, work patterns and industries of the continent.

*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.

*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.

*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.

*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-geographic 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

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 Professor Ende, Assistant Professors Smith and Witters; Mr. Stein, Mr. Lightfritz, Miss Whittaker

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.

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.

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*Prerequisite, Geography 71.

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.

57. WOODWIND CLASS. *1 credit.*

Actual playing of woodwind instruments with special emphasis on clarinet. Study of material and teaching techniques.

58. BRASS CLASS. *1 credit.*

Actual playing of brass instruments with emphasis on the cornet. Materials and teaching techniques; rudimentary drumming.

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.

110. CONDUCTING. *2 credits.*

The fundamentals of conducting technique, and individual practice in conducting.

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.

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

52. NURSING ARTS I. *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.

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.

56. PROFESSIONAL ADJUSTMENTS I. *1 credit.*

Consideration of the underlying principles of nursing ethics, and guidance in making personal and professional adjustments to nursing.

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.

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.

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. Fee.

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.

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.

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.

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 interdepartmental relations.

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.

112. PUBLIC HEALTH NURSING. *3 credits.*

Open to graduates 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.

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.

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.

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.

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 Sefton, Associate Professors Smith, and Cochrane; Assistant Professors Beichly, Maluke and Scott; Mr. Evans, and Miss Hilbish

GENERAL COLLEGE

15-16. HYGIENE, MENTAL AND PHYSICAL. *For description see Section on Required Courses in General Education.*
One lecture, one discussion period a week.

3-4. PHYSICAL EDUCATION. *1 credit each semester.*
Required course in physical education activity planned for freshman year.

MEN

I. Tumbling, apparatus and stunts (each semester).
II. Minor sports, soccer, volleyball, basketball.
III. Calisthenics (each semester).
IV. Leisure time sports.
V. Swimming—beginning. Fee, $2.50.
VI. Swimming—intermediate. Fee $2.50.
VII. Swimming—advanced. Fee, $2.50.

Tests will be given in physical efficiency, knowledge of games and techniques of skills.

Intercollegiate sports are substituted for required gym classes.

WOMEN

I. Folk and Square Dancing (each semester) 1 credit.
II. Team Sports (Field Hockey-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. Fee, $6.
Intermediate Swimming (each semester) 1 credit. Fee, $6.
VI. Advanced Swimming and Diving (each semester) 1 credit. Fee, $6.
Advanced Swimming and Life Saving (second semester) 1 credit. Fee, $6.
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.

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.

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.

UPPER COLLEGE

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).

103-104. 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.

105-106. THEORY AND PRACTICE OF ATHLETICS. *2 credits.*

Interpretation of rules, techniques and practice in officiating in team and individual sports.

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.

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.

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.

114. THEORY AND PRACTICE OF SWIMMING. *Second semester. 2 credits.*

Analysis of strokes and dives; methods and practice in the teaching of swimming. Fee (men), $2.50; (women), $6.00.

115. NORMAL DIAGNOSIS AND INDIVIDUAL CORRECTIVE GYMNASTICS AND CORRECTIVE EXERCISE. *2 credits.*

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.

118. SCHOOL HEALTH PROBLEMS. *3 credits.*

This subject emphasizes work units of Health Teaching based upon structural and functional facts as a basis for developing good health habits. A precise knowledge of the WHY in healthful living. There is strong emphasis upon visual aid units and planned field **trips.**

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 education programs.

123. ORGANIZATION AND ADMINISTRATION OF HEALTH EDUCATION. *2 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.

127. 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.

128. 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.

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.

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 grades with emphasis on materials and methods for the various age groups. For Majors in Physical Education.

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 Professor Clayton, Assistant Professors Alven, Meyer; Mr. Hartz, Mr. Ireland, Mr. Karon, Miss Schoonover and Mr. Thompson

GENERAL COLLEGE

21. ELEMENTARY PSYCHOLOGY.

An introduction to the field of psychology with emphasis on the basic facts and principles found in the behavior 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.

41. GENERAL PSYCHOLOGY. *3 credits.*

A study of the basic facts and principles involved in normal human behavior. Lectures, demonstrations, and discussions.

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.

45. INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY. *2 credits.*

(Required of majors) Prerequisite, 41. An introduction to laboratory procedures and quantitative methods in psychology. Lecture demonstrations, reference reading, and direct experience in doing experiments, including the quantitative treatment of the data obtained. One lecture and two one-hour laboratory periods a week. Fee.

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.

62. HUMAN RELATIONS IN BUSINESS AND INDUSTRY. *3 credits.*

Prerequisite 41. Principles and techniques for improving labor management relationships; psychological factors in supervision which affect results in training, adjustment, and morale; psychological factors in marketing, advertising, and selling which have effects upon producers, distributors and consumers.

Only two of the three courses numbered 43, 52, and 62 may be presented for credit.

UPPER COLLEGE

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.

108. 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.

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. Fee.

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.

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.)

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.

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. Fee.

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. Fee.

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.

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.

‡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

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.

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.

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.

*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.

305. PSYCHOLOGY OF LEARNING 305. *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.

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.

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.

308. ADVANCED CHILD AND ADOLESCENT PSYCHOLOGY. *2 credits.*

Analysis and evaluation of methods and conclusion of current major researches in child and adolescent development.

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.

*Required graduate course.
‡Required for senior majors.

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.

*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.

320. PRACTICUM IN CLINICAL PSYCHOLOGY. *1-3 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 School Child Study Department, County School Psychological Services, Psychological Services in Akron, University Measurement Service, and Massillon State Hospital.

402. PSYCHOLOGY RESEARCH PROBLEM. *2-4 credits.*

This is the reading and experimental research course which fills the problem or thesis requirement for the Master's degree.

SPEECH

Associate Professor Sandefur

76. FUNDAMENTALS OF SPEECH. *Either semester. 3 credits.*

A course designed especially for major in the College of Education. Effective speaking for the classroom teacher with emphasis upon organization, delivery, voice, and articulation.

*Required graduate course.

COLLEGE OF BUSINESS ADMINISTRATION

DEAN (To Be Announced)

A College of Business Administration was established at The University of Akron, February 18, 1953, effective September 1, 1953. It embodies curricula previously taught in the Departments of Commerce, Industrial Management, and Secretarial Science of the Liberal Arts College.

This college is for men and women who plan to enter or advance in the fields of business administration, accounting, marketing and advertising, industrial management or secretarial science.

The programs of the college affect a balance between liberal education and specialized training in the field of business. Lectures, problems and inspection trips integrate theory and practice, and keep the student in touch with actual developments in various fields of business.

In addition to the four-year curricula, terminal courses and short-term educational programs are available. Degree work and short-term programs are offered in the day and evening sessions.

INTERNATIONAL BUSINESS MAJOR

For those interested in business with or in other countries, a special curriculum in International Business is provided, leading to a bachelor's degree. It includes fundamental business subjects as well as courses in Language, History, and Geography.

Students majoring in International Business are under the supervision of Professor H. M. Doutt. An outline of this curriculum is available in his office.

DEGREES

The following degrees are granted by the College of Business Administration.

Bachelor of Science in Business Administration

Bachelor of Science in Industrial Management

Bachelor of Science in Secretarial Science

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 listed in the University Regulations section.

COMMERCE

Professor Leigh, Associate Professors Gordon and Simonetti, Assistant Professors Rogler, Bray, McKinnon, Zeigler, Riddle, Clark, Mr. Anderson, Mr. Gruber, Mr. Powers, Mr. Lantz, Mr. Smucker, Mr. Vobbe, Mr. Reynolds, Mr. Kidney, Mr. Groncy, Mr. Smith, Mr. Armstrong, Mr. Goldman

The curricula in Commerce develop and apply those principles and techniques of economics, administration, and operation which are common to business and industrial organizations.

The new Sales and Merchandising Laboratory brings the latest developments and practices in the marketing field into the classroom. The problems presented are utilized as problem material in the marketing, retailing, advertising, accounting, and selling classes.

The Department provides courses for those students majoring in Art and seeking careers in Merchandising and Advertising; also to students majoring in textiles and seeking careers in Retailing and Selling. Through its evening courses, institutes, and special lectures, the Department also is especially adapted to give specialized training to men and women in Akron industry and business.

BUSINESS ADMINISTRATION

This program is adapted to students preparing for careers in the fields of business management, accounting, marketing and merchandising, advertising, sales, finance, or transportation. 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 BUSINESS ADMINISTRATION

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
English 1	3	English 2	3
Hygiene 15	2	Hygiene 16	2
Introduction to Social Science 5	3	Introduction to Social Science 6	3
Introduction to Natural Science 9	3	Introduction to Natural Science 10	3
ROTC 11	1½	ROTC 12	1½
Accounting 21	3	Accounting 22	3
Physical Education 3	1	Physical Education 4	1

Second Year

Selling 81 or Typewriting 31	2	Typewriting 31 or Selling 81	2
Economics 41	3	Money and Banking 48	3
Introduction to Humanities 7	3	Introduction to Humanities 8	3
Business Organization and Mgt. 61	3	Economic Geography 54	3
ROTC 43	1½	ROTC 44	1½
†Accounting 27, 43, or 124	3	Production Management 62 (Accounting majors take Accounting 44 here)	3

Third Year

Business Law 141	3	Business Law 142	3
Marketing 183	3	Advertising 185 (Accounting majors take Production Management 62 here)	3
Business Finance 171	3	Elective	4-7
Elective	3	"Major" course	3-6
Statistics 148	4		

The courses specified above are common to all curricula in the Business Administration field. 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.

† Non-accounting majors should take 27 or wait to take 124 in the junior year.

Fourth Year

Major	6-9	Major	3-6
Elective	9-12	Business Policy 268	3
		Elective	6-9

Four fields of specialization are available: Accounting; 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.

ACCOUNTING

Courses	Cr. Hrs.	Courses	Cr. Hrs.
*Accounting 44	3	Advanced Accounting 231-232	6
*Cost Accounting 27	3	Federal Taxation 233-234	6
Advanced Cost Accounting 228	3	Accounting Systems 230	3
*Auditing 229	3	Budgeting 123	3
Accounting Problems 236	3		

FINANCE

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

***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 are studied. Lab. fee.

***27. COST ACCOUNTING.** *3 credits.*

Prerequisite, 22 or 121. Required of accounting majors. Theory and practice of accounting for material, labor, and overhead expenses with particular reference to manufacturing. Practice sets for job order and process cost industries.

41. SECRETARIAL ACCOUNTING. *3 credits.*

This course is identical with Accounting 21, except that the approach and materials are directed toward the needs of the secretarial student.

42. SECRETARIAL ACCOUNTING. *3 credits.*

An elementary course in accounting to meet the needs of secretarial science students. Such students may take either 42 or 22.

43-44. INTERMEDIATE ACCOUNTING. *3 credits each semester.*

Prerequisite, 22. Required of accounting majors. Working papers, financial statements, advanced corporation and partnership problems, basic accounting theory, intensive analysis of balance sheet accounts, financial statement analysis.

*Accounting 121 and 123, if offered, may be taken in place of 21, 22 and 27.

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.

54. ECONOMIC GEOGRAPHY. *3 credits.*

Climate, land forms, soils, mineral resources, and vegetation and their influence upon economic activity. Required of all commerce students.

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.

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.

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.

82. CONSUMER ECONOMICS. *3 credits.*

84. PUBLIC RELATIONS. *2 credits.*

General course in Public Relations covering newspaper publicity, industrial publications, and other types of organizational publicity and public activities.

94. *MERCHANDISING. *Evening session. 2 credits.*

This basic course covers the subjects of merchandise buying, inventory and merchandise control, pricing, store layout, merchandise display, etc.

121. ACCOUNTING SURVEY. *3 credits.*

Organized for engineers and other non-Business-Administration majors who want an understanding of the uses of accounting. Clerical work is minimized. Students in industrial management may meet the full accounting requirements in commerce by registering for Accounting 121 and 123.

123. BUDGETING. *3 credits.*

Prerequisite, 27, or 124. Sales, production, and distribution budgets; comparison of budget with financial statements; and accounting problems involved.

124. MANAGERIAL ACCOUNTING. *3 credits.*

Prerequisite, Accounting 22. Emphasis is on the interpretation of accounting data in effecting necessary control of costs and operations of business and in formulating business policy.

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.

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.

146. REAL ESTATE LAW. *2 credits.*

Directs attention to the legal problems connected with property transfer and acquisition, landlord and tenant relationships, trusts, etc.

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.

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*Credit not given for this course toward the Business Administration Degree.

151. TRANSPORTATION. *3 credits.*

Prerequisite, Economics 41. A basic course in the economics of transportation, the requirements of an effective transportation system, rate-setting, etc.

152. TRAFFIC MANAGEMENT. *2 credits.*

Prerequisite, 151. The classification of commodities, setting tariffs, routing, traffic claims, etc.

153-154. INTERNATIONAL COMMERCE. *2 credits each semester.*

Prerequisite, Econ. 41. Principles of international trade, balances, distribution machinery, and examines the characteristics and potentials of various foreign markets. Credit not given for both Foreign Trade and International Commerce.

156. FOREIGN TRADE. *3 credits.*

Prerequisite, Econ. 41 and 48. Economics and practices of foreign trade with emphasis on world trade from the standpoint of the United States.

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.

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.

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.

165. JOB EVALUATION AND MERIT RATING. *2 credits.*

Prerequisite, 163 or its equivalent. This course considers job evaluation as a basis for sound wage and salary administration; various evaluation systems and their value; wage surveys; merit rating and salary administration as a management control.

171. BUSINESS FINANCE. *3 credits.*

Prerequisite, 22 and Economics 48. 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.

174. CREDITS AND COLLECTIONS. *2 credits.*

Prerequisite, 61 and Economics 48, or experience. The nature and fundamentals of credit, credit investigation and analysis, credit and collection operations, collection aids and problems.

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.

183. MARKETING. *3 credits.*

Prerequisite, Economics 41 and 48. 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.

185. PRINCIPLES OF ADVERTISING. *3 credits.*

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.

186. ADVANCED ADVERTISING. *3 credits.*

Prerequisite, 185. Emphasis is placed upon advertising problem analysis and creation of layouts and copy.

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.

189. PURCHASING. *2 credits.*

Includes the industrial phase of purchasing, its significance, scope, procedure, and such topics as buying the right quality, inspection, quantity control, sources and assurance of supply, together with recent priority regulations.

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.

228. ADVANCED COST ACCOUNTING. *3 credits.*

Prerequisite, 27. Emphasis is given to standard cost procedure and application of cost accounting to complex factory and field problems.

229. AUDITING. *3 credits.*

Prerequisite, 44. Required of accounting majors. Theory and practice of auditing, working papers and the report.

230. ACCOUNTING SYSTEMS. *3 credits.*

Prerequisite, 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.

231-232. ADVANCED ACCOUNTING. *3 credits each semester.*

Prerequisite, 44. The first semester deals with the correction of statements and books, partnerships, consignments, installment sales, insurance, estates and trusts, and receiverships. The second semester deals with branch accounting and consolidated statements. Accounting 232 may be taken before Accounting 231.

233-234. FEDERAL TAXATION. *3 credits each semester.*

Prerequisite, 44. The current federal income tax law as it applies to the individual and to the proprietorship, partnership, and corporate business enterprise. The second semester includes a survey of state and local taxes. Lab. fee.

236. ACCOUNTING PROBLEMS. *3 credits.*

248. ADVANCED STATISTICS. *3 credits.*

Prerequisite, 148. Emphasis is placed upon the analysis of time series, digressions, correlations and projections. Application of statistics to such fields as quality control is also emphasized.

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

Prerequisite 164, 206 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.

268. BUSINESS POLICY. *3 credits.*

Prerequisite, final semester senior standing. Required of all commerce 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.

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.

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.

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.

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.

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.

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.

296. MARKET ANALYSIS. *3 credits.*

Prerequisite, 183 or 185 plus a minimum of three hours in other advanced courses in commerce.

297-298. SEMINAR. *1 credit each semester.*

Required of all senior commerce majors.

299. CPA PROBLEMS. *4 credits.*

Prerequisites, 229, 231, 232, 233 and approval of instructor. The study of selected problems provide a thorough application of accounting and auditing theory in the light of current tax laws. CPA examination techniques and procedures.

INDUSTRIAL MANAGEMENT

This curriculum gives those persons with the ability and desire to advance to managerial positions in industry, training in basic management skills and knowledge. The content of the courses will center on fundamental principles with application to practical problems. Satisfactory completion of the 128 hours of required course work leads to a degree of Bachelor of Science in Industrial Management.

The following outline of the Industrial Management program is for your guidance. It should be followed as nearly as possible to provide a proper sequence of courses.

First Year

	Cr. Hrs.
English 1-2	6
Hygiene 15-16	4
Int. to Soc. Sci. 5-6	6
Int. to Nat. Sci. 9-10	6
Acctg. 21-22	6
ROTC	3
Physical Educ. 3-4	2

Second Year

	Cr. Hrs.
Drawing Interp. & Sketching 20	1
Cost Accounting 27	3
Int. to Humanities 7-8	6
Economics 41	3
Bus. Org. & Mgt. 61	3
Prod. Mgt. 62	3
Money & Banking 48	3
Psychology 41-62	6
ROTC	3

Third Year

	Cr. Hrs.
Business Law 141-142	6
Marketing 183	3
Prod. Planning & Control 103	3
Industrial Plants 101	3
Motion Study 167	2
Time Study 168	2
Personnel Mgt. 163	2
Statistics 148	4
Personnel Relations 164	2
Elective	5

Fourth Year

	Cr. Hrs.
Quality Control 105	2
Industrial Safety 107	2
Plant Maintenance 109	2
Purchasing 189	2
Economics 206	3
Ind. Mgt. Probs. 256 or Business Policy 268	3
Elective	18

101. INDUSTRIAL PLANTS. *First semester. 3 credits.*

Prerequisite, 62. Principles, practices, and economics in plant location, building, layout, physical conditions, and materials handling.

103. PRODUCTION PLANNING AND CONTROL. *Second semester. 3 credits.*

Prerequisite, 101. Principles and practices in process and product design, production planning and control, inventory control, warehousing, stores and salvage functions.

105. QUALITY CONTROL. *2 credits.*

Prerequisite, 101 and 148. Inspecting, testing, correcting and controlling quality of product or service.

107. INDUSTRIAL SAFETY. *2 credits.*

Prerequisite, 62. Industrial safety as effected by engineering, education, equipment, and enforcement.

109. MAINTENANCE OF PLANTS AND EQUIPMENT. *2 credits.*

Prerequisite, 101. Maintenance, selection and procurement; stores; power metering; inspection, cleaning, lubrication, and repair; supervision; planning and scheduling; recording analysis, estimating, and control of maintenance costs.

167. MOTION STUDY AND MICRO-MOTION STUDY. *Either semester. 2 credits.*

Prerequisite, 62. One recitation alternating with laboratory period. Principles and practices applied to reducing time and effort waste. Lab. fee.

168. TIME STUDY. *Either semester. 2 credits.*

Prerequisite, 62. Principles and practices in analyzing, timing, and setting standards for job performance and wage payment. Lab. fee.

256. INDUSTRIAL MANAGEMENT PROBLEMS. *Either semester. 3 credits.*

Prerequisite, 103 and 105 and senior standing. Modern practices and principles applied to an actual problem from industry.

SECRETARIAL SCIENCE

Professor Doutt, Associate Professors Flint and Tucker, Assistant Professor Self, Miss Anna Mae Flint, Miss Sterley, Mrs. Wettstyne, Mrs. Handwerk, Mrs. Oana

Students preparing for executive secretarial and office positions may choose between two programs offered in Secretarial Science: a two-year certificate course, listed in the General College, and a degree program which is essentially a combination of skill courses and Liberal Arts subjects, with an opportunity to concentrate in 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.

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.

Graduation: (1) In addition to the regular requirements of the University for graduation, students must pass a general final examination (field of specialization only) in the senior year. (2) At least 60 semester hours must be in academic subjects.

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 introductory courses in the General College, the following subjects are required, although the arrangement may be varied:

First Year	Cr. Hrs.
Typewriting 51-52	4
Filing Practices 27	2
Machine & Slide Rule Calculation 25	1
Secretarial Procedure 23	2

Second Year	Cr. Hrs.
Shorthand 61-62	7
Accounting 41-42 or 21-22	6
Secretarial Training 74	2
Bus. Org. and Mgt. 61	3

Third Year	Cr. Hrs.
Intermediate dictation 163-164	8
Business Law 51 or 141	3
Business Correspondence 133	3
Economics	6

Fourth Year	Cr. Hrs.
Advanced Dictation 165-166	8
Office Practice 293-294	6
Office Org. and Mgt. 296	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
Advanced Shorthand and Transcription 63	4
Secretarial Procedure 23	2
Business Org. and Mgt. 61	3
Accounting 41 or 21	3
Business Correspondence 133	3

Spring Semester	Semester Hours
Advanced Shorthand and Transcription 64	4
Filing Practices 27	2
Office Org. and Mgt. 296	3
Accounting 42 or 22	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	Cr. Hrs.	Second Year	Cr. Hrs.
English 1-2	6	Shorthand & Transcription 63-64	8
Int. to Soc. Sci. 5-6	6	Secretarial Procedure 23	2
Hygiene, Mental and Physical 15-16	4	Secretarial Training 74	2
Typewriting 51-52	4	Business Letters 93	2
Shorthand 61	3	Accounting 21-22 or 41-42	6
Shorthand & Transcription 62	4	Int. to Nat. Sci. 9-10	6
Filing Practice 27	2	Int. to Humanities 7-8	6
Machine and Slide Rule Calc. 25	1		
Physical Education 3-4	2		

GENERAL COLLEGE

23. SECRETARIAL PROCEDURE. *Either semester. 2 credits.*

The fundamental principles and procedures which relate to the secretarial position.

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 for this course nor for Filing and Machine Calculation 26.

27. FILING PRACTICES. *Either semester. 2 credits.*

Thorough treatment of all basic filing systems. Lab. fee.

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 after taking 51. Fee.

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.

41-42. SHORTHAND THEORY. *Evening session. 3 credits each semester.*

Gregg shorthand theory is completed, transcription introduced, and general dictation given. Speed attainment: 60-70 words per minute. No credit given for the first semester only. Typewriting 52 or equivalent must precede or accompany Shorthand 42.

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 after taking 41-42.

51-52. TYPEWRITING. *2 credits each semester.*

Fundamentals of typewriting, including drill, placement, letters, tabulations, preparation of reports, etc. Fee.

56. TYPEWRITING REVIEW. *Second semester. 2 credits.*

A thorough review of typewriting, covering one year's work. Credit not allowed for this course after taking 51-52. Fee.

57. TYPEWRITING. *First semester. Evening session. 1 credit.*

A beginning course which lays the foundation for advanced work in typewriting through fundamental drills covering the keyboard and paragraph writing. Speed attainment: 20-25 words per minute. Fee.

58. TYPEWRITING. *Second semester. Evening session. 1 credit.*

Prerequisite, 57. Continuation of 57, emphasizing letter and manuscript writing. Speed attainment: 35-40 words per minute. Fee.

59. TYPEWRITING. *First semester. Evening session. 1 credit.*

Prerequisite, 58, or equivalent. Continuation of 58, emphasizing tabulation, legal and business forms. Speed attainment: 45-50 words per minute. Fee.

61. SHORTHAND THEORY. *First semester. 3 credits.*

Prerequisite, Typewriting (unless it is taken concurrently). Completion of Gregg shorthand principles. No credit unless the second semester is completed satisfactorily.

62. SHORTHAND AND TRANSCRIPTION. *Second semester. 4 credits.*

Prerequisite, 61 and 51. 52 must accompany or precede. Introduction of transcription and general dictation. Speed attainment: 60-80 words per minute. Fee.

63-64. ADVANCED SHORTHAND AND TRANSCRIPTION. *4 credits each semester.*

Prerequisite, 62 and 52 or equivalent. Vocabulary building; general dictation on letters, articles, and Congressional Record material. Speed attainment: 100-120 words per minute. Fee.

74. SECRETARIAL TRAINING. *Either semester. 2 credits.*

Prerequisite, 62 and 52 or equivalent. Advanced typewriting, transcription, business forms, duplicating processes, dictating and transcribing machines. Fee.

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. Fee.

85. INTERMEDIATE DICTATION. *First semester. Evening session. 3 credits.*

Prerequisite, 84. Vocabulary building; dictation on letters, articles and Congressional Record material. Speed attainment: 100-120 words per minute. Fee.

93. BUSINESS LETTERS. *Either semester. 2 credits.*

Principles and practice in the writing of business letters.

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 after taking 296.

UPPER COLLEGE

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 after taking 93.

163-164. INTERMEDIATE DICTATION. *4 credits each semester.*

Prerequisite, 62 and 52, or equivalent. Vocabulary and phrase building. Dictation on letters, articles and Congressional Record material. Speed attainment: 100-120 words per minute. Fee.

165-166. ADVANCED DICTATION. *4 credits each semester.*

Prerequisite, 64 or 164, or equivalent. Letters, articles, Congressional Record material, and lectures. Speed attainment: 130-150 words per minute. Fee.

186. ADVANCED DICTATION. *Second semester. Evening session. 3 credits.*

Prerequisite, 85. Abbreviated vocabulary, dictation on letters and Congressional Record material. Speed attainment: 110-130 words per minute. Fee.

187-188. ADVANCED DICTATION. *Evening session. 3 credits each semester.*

Prerequisite, 186. Letters, articles, Congressional Record material, and lectures. Speed attainment: 130-150 words per minute. Fee.

293-294. OFFICE PRACTICE. *3 credits each semester.*

Prerequisites, 25, 27, and 64 or 164. 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. Fee.

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.

The thirty-second annual Summer Session is organized as follows:

1. A six-week session. (June 22-July 31)

2. An eight-week term for Engineering Students. (June 22-August 14)

3. Evening Classes. (June 24-August 14)

ADMISSION REQUIREMENTS

Summer Session students are admitted on the same basis as students during the regular academic year.

REGISTRATION FOR DAY CLASSES

Registration for currently enrolled students begins on May 25 in Buchtel Hall. Other students register June 8-12. Students who register after 12 noon, June 20, will be charged a $5 late registration fee. All late registrants for day classes should report to the Registrar.

REGISTRATION FOR EVENING CLASSES

Students enrolled in evening classes only will register Monday, June 22, from 6 to 8:30 p.m. in the lobby of Buchtel Hall.

APPOINTMENT BUREAU

The Dean of the College of Education is chairman of the Appointment Bureau for Teachers. Summer Session students may enroll without fee.

STUDENT TEACHING

Student teaching will be done in the Akron and Barberton public schools from June 15 to August 7. 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.

CERTIFICATION

Teachers may complete courses for state certificates in the summer sessions and at the same time, receive college credit toward a degree. Many subjects taught in the summer session are also credited toward degrees in the other colleges of the University.

DIPLOMA APPLICATION

Students who expect to complete the requirements for diplomas at the close of the 1953 Summer Session should file application in the Registrar's office the first week of the Summer Session.

THE DIVISION OF ADULT EDUCATION

EDWIN D. DURYEA, JR., Ed. D., Director
ERNEST A. TABLER, M.A., Assistant Director

The Division of Adult Education consists of the Evening Session for credit courses, Community College for non-credit subjects, and informal programs, including institutes, special lectures and workshops.

Evening Session students receive credit for courses on a par with Day Session students. They are admitted on the same basis as Day Session students, and are subject to the same University regulations. For definitions of Adult Students, Special Students, Auditors, and additional detailed information see catalog under University Regulations.

See the Office of Adult Education for catalog listings of evening session and community college course offerings.

CONSULTATION

Student programs should be planned carefully with the aid of the Office of Adult Education. Persons in the Upper Colleges should confer as frequently as possible with their advisers in the field of concentration. They should obtain advice prior to the registration period, although members of the faculty will be present on registration days to confer with them.

PLACEMENT

Applicants are scheduled for college in accordance with evidences of preparation. These are (1) quality of work done in the secondary school, (2) standing in guidance tests given by the University, (3) other qualities of the applicant which play a part in indicating ability to do the work in the course desired.

LOAD

For students working full-time, 6 credit hours of work in any semester is the maximum load that should be attempted. Experience and records show that more than 6 hours is an undue burden.

ABSENCE

Attendance information will be found in the General Regulations section.

WITHDRAWALS

A student desiring to withdraw from the University is required to fill out a withdrawal form in the Evening Session Office. Otherwise he may receive an F for the course.

The University reserves the right to cancel courses in which registration is insufficient to warrant continuance. Fees will be refunded.

GRADING SYSTEM

Grading system information will be found in the General Regulations section of this catalog.

STUDENT ACTIVITIES

The Student Council of the Evening Session is organized through election of class representatives who, in turn, select a Student Senate of eight members.

Alpha Sigma Lamba, national honorary scholastic evening fraternity, installed Gamma chapter at The University of Akron on May 28, 1947. Membership is based on 3.5 scholarship record and good moral character.

Gamma Beta, evening local sorority, was organized in 1935 by Evening Session women to promote friendship and extra-curricular activities in the Evening Session.

Gamma Chapter of Chi Sigma Nu was organized by 16 Evening Session men and received its charter from the national organization on June 11, 1932. The organization promotes interest in the Evening Session and helps enlarge social contacts usually associated with university life.

The Evening Theatre is open to all Evening Session students. It presents one or more major productions each year, and numerous one-act plays.

The A E Honorary Fraternity is for students who have met the requirements for an A E Key, awarded for activities and scholarship in the Evening Session.

PRIZES, FELLOWSHIPS, SCHOLARSHIPS, HONORS, AND SPECIAL FUNDS

THE 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. Three contests during the year are held, an Upper College Contest, a General College Contest, and an Interpretative Reading Contest. The amounts of the prizes awarded at each contest depends upon the income available from the fund.

THE 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.

THE 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.

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.

THE 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.

AKRON COLLEGE CLUB

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 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. This is known as the College Club Scholarship.

FRANK PIXLEY MEMORIAL FUND

The Frank Pixley Memorial Fund was established in 1931 by the will of Isabel McRoy Pixley, wife of Frank Pixley, class of 1887. The fund amounts to $50,000, the income from which is used for the establishment of scholarships in speech, music, and literature.

THE PIXLEY SCHOLARSHIPS

In accordance with the terms of the Pixley bequest, 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. Applications for scholarships should be addressed to the Registrar.

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.

THE 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.

THE 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 tuition in his Senior year at the University.

THE ROBINSON CLAY PRODUCT FUND

This fund was established in 1952 by The Robinson Clay Product Company with an initial gift of $2,000. A portion of the income will be used annually for a cash award to the outstanding senior student in the College of Engineering.

THE 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 of demonstrated ability in the field of rubber chemistry.

THE 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 Commerce Department of The University of Akron.

One award of $100 will be made at the end of the junior year with payments made to defray the expenses of the recipient during his senior year, provided the student has had or has registered for the course in Purchasing. A second award of $50 will be made to another outstanding student upon the occasion of his graduation, if he has taken the course in Purchasing. The students shall be selected on the bases of academic excellence, character, and leadership.

THE BEATRICE OFFINEER SCHOLARSHIP

The Akron Automobile Dealers Association, The New Car Dealers of Summit County.

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, the New Car Dealers of Summit County, for the purpose of encouraging skillful, courteous and safe driving among high school students of Summit County. The Association makes this award in honor of the late Beatrice Offineer, former reporter of the Akron Beacon Journal and a graduate of The University of Akron.

THE JULIUS MUEHLSTEIN AWARD

This award amounts to $350 a year and is given to help a promising student to continue his education. It is awarded to a student 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.

THE NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP

In 1951, Tire Town Chapter of the National Secretaries Association established an annual scholarship of $175 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.

THE 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.

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 $200 per year payable at $100 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.

LYNN F. (PINDY) WAGNER SCHOLARSHIPS

These scholarships amount to $200 a year each and are awarded to High School Seniors who are candidates for admission to The University Akron. One is for a young man and one for a young woman; 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 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.

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.

PANHELLENIC COUNCIL SCHOLARSHIP

The Panhellenic Council of The University of Akron has established a scholarship of $125 a year for a woman student for University 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 overall scholarship is required. It shall be applied entirely on the payment of fees.

AKRON SOAP BOX DERBY SCHOLARSHIP

An award of $500 to the winner of the Akron Soap Box Derby. This award 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.

AMERICAN VISCOSE SCHOLARSHIPS

An award of $125 a semester is available for undergraduate and graduate students majoring, or intending to major, in chemistry or physics. The candidate must be in the upper third of his graduation class and become a full time student at the University. Awards are based on scholastic achievement, citizenship, promise and leadership. Renewal for the second semester is contingent upon satisfactory scholarship.

TOUCHDOWN CLUB SCHOLARSHIP

The Touchdown Club Scholarship is an award of $100 a semester for four years. The scholarship is 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 a full-time student at The University of Akron. Scholastic achievement, citizenship, athletic ability, need and leadership will be used as a basis for making the award.

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.

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 Dean of Students well in advance of the beginning of each semester. Loans for emergency purposes will be considered during the academic year.

HARRIET PHILLIPS FUND

The Harriet Phillips Fund was created in 1930 by a bequest of $18,000. The income from this fund is used for the care and maintenance of gifts of paintings, etchings, and other art treasures, together with an Art Library, which was given by Miss Phillips to the University in memory of her family.

THE 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."

THE 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. From it money to pay fees is lent for short periods to upperclassmen who are residents of Akron.

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.

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.

AKRON HOME AND SCHOOL LEAGUE LOAN FUND

This fund was established in 1925. Loans are made from this fund to Juniors and Seniors of the University to be repaid following graduation. The fund is administered by the League. Applications are required to have the approval of the University.

THE HARRIET HALE 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.

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, payable after graduation, to worthy students to finance their education.

EVENING SESSION LOAN FUND

By voluntary contributions each semester 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.

THE AKRON COLLEGE CLUB 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. This fund is administered by a committee of the College Club. Applicants are required to be recommended by the University.

THE 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.

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.

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.

THE 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.

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. This fund amounts to $5000.

THE 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.

BOARD OF TRADE SCHOLARSHIP

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 first each year. The first awards will be made for the Fall Semester 1953-54.

GRANTS IN AID

In 1945 the Board of Directors of the University established a fund to be designated as a Student Aid Fund, to assist worthy and deserving students of recognized talent and ability to finance their education. The President of the University, and such other members of the faculty and staff as he may designate, are authorized to seek contributions to be received through the office of the Treasurer of the University. Grants are made from this fund upon recommendation of a committee to be appointed by the President.

HONORARY FRATERNITIES

PHI SIGMA ALPHA is an honorary fraternity founded in 1910 to encourage high scholarship among the students of the Liberal Arts College. The requirements are as follows:

1. Only such courses as are taken in the Liberal Arts College or such courses as are regularly accredited in that college may be counted for standing in the fraternity.

2. A minimum of 108 hours for three and one-half years for those completing the regular four-year course, or of 77 hours for two and one-half years for students who have spent one year at another institution are required.

3. All seniors who have maintained an average grade of not less than 90% (a quality point ratio of 3.25) during their three and one-half years are eligible for membership, provided that at least two and one-half years have been taken in Buchtel College of Liberal Arts.

4. Juniors who have completed two and one-half years of work in Buchtel College of Liberal Arts with the average grade not less than 92% (a quality point ratio of 3.5) shall be eligible for membership.

5. Those seniors who may have entered the institution at mid-year as freshmen and who have remained three years in the Liberal Arts College are also eligible, the required number of scholarship hours being 96.

6. Average scholarship is reckoned as a whole, not specialization.

SIGMA TAU is a national honorary engineering fraternity. Phi Chapter was established at The University of Akron in December, 1924, the charter being granted to the local honorary fraternity O.H.M. which was founded in 1919. Sigma Tau elects its men on the basis of scholarship, sociability, and practicality. Any engineering student in the upper college is eligible whose scholarship average for all his previous college work ranks him in the upper third of the combined pre-junior, junior, and senior students.

KAPPA DELTA PI, an Honor Society in Education, has for its purpose the encouragement of professional, intellectual, and personal standards. The Society is an international organization composed of a Laureate Chapter, honorary, and institutional and alumni chapters, active. Alpha Theta Chapter was chartered in 1925. Candidates for membership must be juniors, must have earned six semester hours in professional subjects, or eleven hours if of senior rank, and have a quality point average in all work of 3 when A equals 4.

SIGMA PI EPSILON is an honor fraternity established for the purpose of promoting scholarship, citizenship, and artisanship among the students of the College of Education. Students graduated with distinction automatically become members of the fraternity.

PHI ETA SIGMA is a national fraternity for freshman men. Its purpose is to recognize superior scholarship, and to encourage academic achievement. Men are pledged twice each year, in March and in September. To be eligible for pledging, a man must have a quality point ratio of 3.5 or better (half A's, half B's) for his first semester or for his first year.

ALPHA LAMBDA DELTA. Alpha Lambda Delta is a national honorary fraternity for freshman women. Its purpose is to recognize scholastic attainment during the freshman year at college and to encourage academic achievement among freshman women. To be eligible for pledging a woman must make a quality point ratio of 3.5 (half A's, half B's) or better for her first semester or for her first year.

SUMMARY OF STUDENTS IN THE UNIVERSITY

1952-53

BUCHTEL COLLEGE OF LIBERAL ARTS

	Men	Women	Total	
Graduate Students	25	11	36	
Applied Arts Division	113	25	138	
Humanities Division	26	19	45	
Natural Science Division	51	5	56	
Social Science Division	75	16	91	
Part-time Students	44	10	54	
	334	86	420	420

COLLEGE OF ENGINEERING

Graduate Students	1	—	1	
Full-time Students—Upper College	73	—	73	
Full-time Students—General College	92	1	93	
Part-time Students—Upper College	12	—	12	
Part-time Students—General College	10	—	10	
	188	1	189	189

COLLEGE OF EDUCATION

Graduate Students	36	85	121	
Full-time Students—Upper College	82	246	328	
Full-time Students—General College	—	181	181	
Part-time Students—Upper College	9	86	95	
Part-time Students—General College	—	3	3	
	127	601	728	728

THE GENERAL COLLEGE

New Freshmen—Full-time Students	507	189	696	
New Freshmen—Part-time Students	28	13	41	
Others—Full-time Students	344	149	493	
Others—Part-time Students	54	20	74	
	933	371	1304	1304
Total Day Session	1582	1059	2641	2641
Summer Session (1952) included in above	384	432	816	816

SUMMARY OF STUDENTS 1952-53

	Men	Women	Total
Graduate Students	62	96	158
Upper College—Full-time	420	311	731
General College—Full-time	943	520	1463
Upper College—Part-time	65	96	161
General College—Part-time	92	36	128
Total Day Session Enrollment	1582	1059	2641
Total Evening Enrollment	1573	636	2209
Total Individuals during the year	3155	1695	4850

ENROLLMENT BASED ON STUDENT CREDIT HOURS

	Total Student Credit Hours	*Full-time Student Equivalent
Bucbtel College of Liberal Arts	11,004.5	343.9
College of Engineering	6,021.5	188.2
College of Education	11,924.0	372.6
General College	29,755.0	929.8
Evening Session	13,727.0	429.0
	72,432.0	2263.5

*Full-time Student—8 or more credits per semester.
Based on 32 credits per year.

DEGREES CONFERRED JUNE 10, 1952

Graduation with Distinction—Students who have an average grade of 90% (or a quality point ratio of 3.25) or better, for all work taken during the four undergraduate years, shall be graduated with distinction. Students who transfer from another college must maintain a quality point ratio of 3.25 or better at The University of Akron.

BUCHTEL COLLEGE OF LIBERAL ARTS

Bachelor of Arts

Wendell Paxton Allen
Nickolas P. Andreeff
Lucretia Maria Balaj
Richard Dean Ballway
Margaret Elizabeth Bean
Margaret Katherine Body
With Distinction
Charlotte Ruth Boone
With Distinction
James Howard Bosley
With Distinction
Mary L. Breckbill
Alfred John Bujorian
Austin Monroe Bush
Patricia Ann Campbell
Carolyn A. Cappabianco
Elizabeth Ann Chaffee
Ruth Wright Clinefelter
With Distinction
Herbert Larue Cole, Jr.
David Brewer Davis
William Norwood Dixon
Rodger Thomas Ederer
Janet Louise Eiler
Nick Figetakis
Ralph Ellis Fisher
Catherine Fygetakis
Joseph Manuel Genaro
Mary C. Giorgio
John Wilson Griebling
Joyce Elinor Halfen
With Distinction
Harley Myles Hanson
With Distinction
Dolores Elaine Harroun
JoAnn Helmkamp
David Herreshoff
With Distinction
Carol Brown Hineline
Richard David Holmes
Roy Edgar Hope
Alberta Hardesty Johnston
Louise Jones
With Distinction
Ralph Herbert Jusell, Jr.
Mary Katherine Kaylor
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With Distinction
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John Frederick Wittibschlager
With Distinction

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Thelma Jean Hyde
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F. Louise Holt
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William Darold Pitts
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Henning W. Prentis, Jr.
Cletus G. Roetzel

Doctor of Science

William F. O'Neil

Doctor of Letters

Sarah Campbell Caldwell

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