THE UNIVERSITY OF AKRON

CATALOG—1953-1954

ANNOUNCEMENTS—1954-1955

Published By
THE UNIVERSITY OF AKRON
AKRON • OHIO

The University of Akron

Annual Catalog 1953-1954
With Announcements For 1954-1955

Buchtel Hall

Published By
The University of Akron
Akron, Ohio

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UNIVERSITY CALENDAR

1954

January 4, Monday ..... Classes resumed
January 15, Friday ..... Founders Day
January 30, Saturday ..... Termination of semester final examinations
February 1-3, Monday through Wednesday ..... Orientation program
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.; February 12, Saturday until noon ..... Registration for evening session
February 15, Monday ..... Evening classes begin
February 22, Monday ..... Washington's birthday—a holiday
April 5, Monday ..... Mid-semester grades due
April 12-17 Inclusive ..... Spring recess
April 19, Monday ..... Classes resumed
May 8, Saturday ..... Examination for graduate degrees, 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

SUMMER SESSION 1954

June 18, Friday and 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 ends
August 13, Friday ..... Eight-week session ends

FALL SEMESTER 1954-55

August 30, Monday to September 10, Friday, Inclusive ..... Pre-registration of entering freshmen
September 13, Monday ..... Orientation program begins
September 16, 17, 18, Thursday, Friday, Saturday until noon .. Final registration for day session
September 20, Monday ..... Classes begin for day session
September 20-24, Monday through Friday, 6-8:30 p.m. and September 25, Saturday until noon. Registration for evening session
September 27, Monday ..... Evening classes begin
November 15, Monday ..... Mid-semester grades due
November 25-27, Thursday through Saturday ..... Thanksgiving recess
December 17, Friday, 5 p.m. ..... Christmas recess begins

1955

January 3, Monday ..... Classes resumed
January 14, Friday ..... Founders Day
January 29, Saturday ..... Termination of semester final examinations

SPRING SEMESTER 1954-55

January 31, Monday ..... Orientation program begins
February 3, 4, Thursday and Friday, February 5, Saturday until noon ..... Final registration for day session
February 7, Monday ..... Classes begin for day session
February 7-11, Monday through Friday, 6-8:30 p.m.; February 12, Saturday until noon..... Registration for evening session
February 14, Monday ..... Evening classes begin
February 22, Tuesday ..... Washington's birthday—a holiday
April 4-9, Inclusive ..... Spring recess
April 11, Monday ..... Mid-semester grades due.
May 7, Saturday ..... Examinations for candidates for graduate degrees with a major or minor in education and psychology
May 26, Thursday ..... May Day
May 30, Monday ..... Memorial Day—a holiday
June 10, Friday ..... Termination of semester final examinations
June 12, Sunday ..... Baccalaureate
June 14, Tuesday ..... Commencement

SUMMER SESSION 1955

June 17, Friday; June 18, Saturday until noon ..... Final registration for summer session
June 20, Monday ..... Summer session classes begin
July 4, Monday ..... Independence Day—a holiday
July 29, Friday ..... Six-week session ends
August 12, Friday ..... Eight-week session ends

BOARD OF DIRECTORS

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*

TERM EXPIRES DECEMBER 31, 1959

KURT ARNOLD ..... *999 E. Market Street*
H. L. BESSHARDT ..... *88 Casterton Avenue*
MRS. W. A. HOYT ..... *175 Merriman Road*

OFFICERS FOR 1954

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 and Director of the Summer Session*
R. D. LANDON, C.E., M.S. ..... *Dean of the College of Engineering*
WARREN W. LEIGH, PH.D. ..... *Dean of the College of Business Administration*
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.ED. ..... *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.ED. ..... *Assistant to the Adviser of Women*

UNIVERSITY FACULTY AND ASSISTANTS
1953-54

FULL-TIME FACULTY

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

NORMAN P. AUBURN, *President of the University* (1951)
A.B., University of Cincinnati, 1927; LL.D., Parsons College, 1945; University of Cincinnati, 1952.

*HEZZLETON E. SIMMONS, *President Emeritus of the University* (1910)
B.S., Buchtel College; M.S., University of Pennsylvania, 1912; D.Sc., College of Wooster, 1934; LL.D., University of Toledo, 1937; University of Akron, 1953.

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, *Associate Professor of Psychology* (1945)
Th.B., Northern Baptist Theological Seminary; Ph.B., Loyola University; M.A.Ed., 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.

**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. in Bus. Adm., 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.

MRS. AILEEN F. BOGGS, *Assistant to the Adviser of Women* (July, 1951)
B.A.Ed., 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; Litt.D., University of Akron, 1953.

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

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*Retired September, 1951.
**Retired June, 1947.
†Resigned February, 1954.
***Retired June, 1951.
****Retired June, 1953.

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

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

GILBERT C. H. CHANG, *Instructor in Biology* (1953)
B.S., University of Nanking; M.S., Ph.D., University of Wisconsin, 1953.

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.

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

WALTER A. COOK, *Buchtel Professor of Chemistry* (1926)
B.A., M.A., Ph.D., University of Cincinnati, 1924.

GERALD CORSARO, *Assistant Professor of Chemistry* (1948)
B.S., Fenn College; M.S., Ph.D., Western Reserve University, 1944.

MALCOLM J. DASHIELL, *Instructor in Art* (1953)
B.F.A., John Herron Art School; M.F.A., State University of Iowa, 1953.

EMILY DAVIS, *Professor of Art* (1945)
B.A., Ohio State University; M.A., Columbia University, Teachers College; Ph.D., Ohio State University, 1936.

RICHARD C. DAVIS, *Assistant Professor of Mathematics* (1946)
B.S.Ed., 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, *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 and Director of the Summer Session* (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.

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 and Director of General Studies* (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.Ed., University of Akron, 1951.

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

IRENE HORNING, *Assistant Professor of Biology* (1946)
B.S., Western Reserve University, 1934.

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

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.

HELEN JOSEPHINE ILLICK, *Instructor in Biology* (February, 1954)
B.S., M.S., Syracuse University; Ph.D., Cornell University, 1953.

DONATO INTERNOSCIA, *Associate Professor of Modern Languages* (1938)
B.A., Broadview College; M.A., Ph.D., Northwestern University, 1938.

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

MRS. EMMA D. JOHNSON, *Assistant Professor of Physics* (1950)
M.A., University of Edinburgh; M.A., Ohio State University, 1950.

EDWARD W. JONES, *Associate Professor of Geography* (January, 1944)
B.S., Western Reserve University; M.A., Kent State University, 1940.

*Retired June, 1951.
**Retired June, 1950.

MRS. MARY KEATING, *Adviser of Women* (1936) (1949)
B.S. in Sec.Sc., University of Akron, 1936.

DON A. KEISTER, *Professor of English* (1931)
B.A., M.A., University of Akron; Ph.D., Western Reserve University, 1947.

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 J. LAFLEUR, *Associate Professor of Philosophy* (February, 1952)
B.A., Princeton University; Ph.D., Cornell University, 1931.

R. D. LANDON, *Dean of the College of Engineering and Professor of Civil Engineering* (February, 1946)
C.E., M.S., University of Cincinnati, 1927; P.E., Ohio.

EBBA LARSON, *Assistant Registrar* (August, 1926)
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.A., M.A., Syracuse University, 1948.

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

GEORGE LEUCA, JR., *Assistant Professor of Modern Languages* (1951)
B.A., University of Akron; M.A., Ph.D., Harvard University, 1951.

MO CHIH LI, *Assistant Professor of Civil Engineering* (1951)
B.S.C.E., C.E., Purdue University; M.S.S.E., Massachusetts Institute of Technology; M.S.E., Sc.D.C.E., University of Michigan, 1944.

CLARENZ LIGHTFRITZ, *Special Teacher of Piano* (November, 1941)
Bowling Green State University; private instruction with Ernest White and Miss Rena Wills.

WILL LIPSCOMBE, *Associate Professor of Mathematics* (1921)
B.S., Florida State College; M.S., Ohio State University, 1926.

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

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

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

ROBERT MAXSON, *Assistant to the Adviser of Men* (July, 1953)
The University of Akron.

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

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

SAMUEL C. NEWMAN, *Associate Professor of Sociology* (1951)
B.A., University of Pittsburgh; M.A., Oberlin College; Ph.D., Ohio State University, 1939.

JAY L. O'HARA, *Professor of Economics* (January, 1934)
B.A., University of Michigan; Ph.D., University of Minnesota, 1927.

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

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

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

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.

ROLLIN PATTON, *Instructor in Psychology* (1953)
B.A., Texas Christian University; M.A., Ph.D., Indiana University, 1953.

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

FRANK T. PHIPPS, *Instructor in English* (1953)
B.A., M.A., Miami University; Ph.D., Ohio State University, 1953.

JOHN J. POTTINGER, *Instructor in Education* (1949)
B.S., University of Edinburgh; B.A.Ed., M.S.Ed., 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; LL.B., Western Reserve University, 1949.

MABEL RIEDINGER, *Professor of Education* (February, 1947)
B.A., Mt. Union College; M.A., University of Chicago; Ed.D., Columbia University, Teachers College, 1946.

EDGAR C. ROBERTS, *Assistant Professor of English* (1926)
B.S.Ed., M.A., Ohio State University, 1924.

CLARA G. ROE, *Associate Professor of History* (1947)
B.A., University of Michigan; M.A., University of Chicago; Ph.D., University of Michigan, 1943.

CECIL ROGERS, *Treasurer* (1932)
B.S. in Bus. Adm., University of Akron, 1932.

CHARLES ROGLER, *Professor of Sociology* (1949)
B.A., M.A., University of Michigan; Ph.D., University of Kansas, 1935.

MRS. MARGARET F. ROGLER, *Assistant Professor of Marketing* (1948)
B.S., University of Nebraska; M.S., University of Denver, 1944.

LOUIS ROSS, *Assistant Professor of Mathematics* (February, 1946)
B.S., B.A., M.A.Ed., University of Akron, 1939.

RAY H. SANDEFUR, *Professor of Speech* (1950)
B.A., B.S.Ed., Emporia State Teachers College; M.A., University of Colorado; Ph.D., State University of Iowa, 1950.

GABE SANDERS, *Assistant Professor of Education* (1951)
B.S.Ed., Milwaukee State Teachers College; M.A., Ed.D., Columbia University, Teachers College, 1952.

RICHARD H. SCHMIDT, *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 Sciences* (1927)
B.A., M.A., University of Manitoba; Ph.D., University of Chicago, 1929.

MRS. LUCY T. SELF, *Assistant Professor of Secretarial Science* (February, 1933)
B.A., Ohio Wesleyan University, 1920.

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

ROY V. SHERMAN, *Professor of Political 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.

HENRY SMITH, *Assistant Professor of Music Education* (1947)
B.M., Illinois Wesleyan; M.A., Carnegie Institute of Technology; Ed.D., Columbia University, Teachers College, 1949.

PAUL C. SMITH, *Associate Professor of Electrical Engineering* (1925)
B.S.E.E., Purdue University, 1917; P.E., Ohio.

*ALBERT I. SPANTON, *Dean Emeritus of Buchtel College of Liberal Arts* (1900)
Ph.B., Buchtel College; M.A., Harvard University; Litt.D., University of Akron, 1938.

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

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

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

THOMAS SUMNER, *Associate Professor of Chemistry* (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* (1949)
B.A., M.A., University of Saskatchewan; Ph.D., University of Wisconsin, 1948.

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

*Retired June, 1943.

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.

BERNARD M. WEINER, *Instructor in Art* (1953)
B.S., Cleveland Institute of Art and Western Reserve University; M.A., Western Reserve University, 1951.

GEORGE STAFFORD WHITBY, *Professor Emeritus of Rubber Chemistry 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, 1932.

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

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

EARL R. WILSON, *Associate Professor of Mechanical Engineering* (1929)
B.M.E., Ohio State University, 1916; P.E., Ohio.

MARY H. WILSON, *Assistant Professor of Home Economics* (April, 1943)
B.S., Iowa State College, 1932.

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

ALVIN C. WOLFE, *Associate Professor of Chemistry* (October, 1942)
B.A., M.S., Ph.D., Ohio State University, 1941.

WINNIGENE WOOD, *Assistant Professor of Home Economics* (1944)
B.S., Miami University; M.A., Columbia University, Teachers College, 1939.

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.

RAYMOND J. ZIEGLER, *Assistant Professor of Industrial Management* (1954)
B.B.A., M.B.A., University of Toledo, 1948.

LIBRARY

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

MRS. HELEN ARNETT, *Library Assistant and Instructor in Bibliography* (1953)
A.B., University of Akron; B.S.L.S., Western Reserve University, 1941; M.A., San Jose State College (Cal.), 1952.

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

MRS. BARBARA CLARK, *Library Assistant in Catalog Department* (September, 1948)
B.A., University of Akron, 1950.

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*Retired June, 1950.
**Retired June, 1953.

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

MRS. RUTH CLINEFELTER, *Library Assistant in charge of Reserve Room* (June, 1952)
B.A., M.A., University of Akron, 1953.

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

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

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

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

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

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

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, R.N., *University Nurse* (1952)
W.C.A. Hospital, Jamestown, New York, 1931.

UNIVERSITY MEASUREMENT SERVICE AND COMMUNITY PSYCHOLOGICAL SERVICES

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

MRS. EVANGELINE B. WITZEMAN, *Associate Director* (1942-51) (March, 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.

RUBBER RESEARCH STAFF

G. 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, 1932.

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

JOSEPH A. CALA, *Research Chemist* (1951)
B.A., Alfred University; M.S., University of Akron, 1952.

MARVIN DEISZ, *Research Chemist* (1953)
B.S., University of Akron, 1953.

WILLIAM E. GIBBS, *Research Chemist* (1953)
University of Akron.

†Resigned March 4, 1954.

P. K. KAPUR, *Research Chemist* (October, 1953)
B.S., M.S.C., University of Allahbad, India; Ph.D., D.I.C., Imperial College, London, 1950.

MRS. IRJA PIIRMA, *Research Chemist* (December, 1952)
Diploma in Chemistry, Technische Hochschule of Darmstadt, 1949.

BERNARD ROSEN, *Research Chemist* (1953)
B.S., Queens College; M.S., Ph.D., Brooklyn Polytechnic Institute, 1952.

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

MRS. BERTHA YELLIN, *Research Chemist* (November, 1953)
B.S., McGill University, 1939.

RESERVE OFFICERS' TRAINING CORPS

DEAN D. H. GARDNER, *Civilian Coordinator*

ARMY

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

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

ALBERT L. DECHARLEROY, *Associate Professor of Military Science and Tactics* (1952)
B.S., University of Georgia, 1940; Major, Infantry.

FRED A. DUGAN, *Assistant Instructor in Military Science and Tactics* (1951)
Sergeant First Class, Unassigned.

THOMAS H. FARRINGTON, JR., *Assistant Professor of Military Science and Tactics* (1952)
University of California (Berkeley); University of Maryland; Captain, Infantry.

WILLIAM B. HUFFMASTER, *Assistant Military Property Custodian* (1952)
Sergeant, Quartermaster.

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

FRANK C. LONG, *Administrative Assistant* (1953)
Chief Warrant Officer, AUS.

EDWARD P. LUCAS, *Assistant Instructor in Military Science and Tactics* (February, 1954)
Master Sergeant, Infantry.

ARTHUR NEWELL, *Assistant Professor of Military Science and Tactics* (1953)
B.S., West Virginia Wesleyan College, 1949; First Lieutenant, Infantry.

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

AIR FORCE

ROBERT C. PATRICK, *Professor of Air Science and Tactics* (August, 1953)
B.S., Butler University, 1940; Lieutenant Colonel, USAF.

CHARLES W. BARKINS, *Supply Sergeant* (1953)
West Virginia Institute of Technology; Master Sergeant, USAF.

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

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

JOSEPH ROBT. FRESHNOCK, *Administrative Assistant* (December, 1953)
Technical Sergeant, USAF.

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

GEORGE HUGHES, JR., *Administrative Assistant* (June, 1953)
University of Kentucky; Staff Sergeant, USAF.

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

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

THOMAS H. MASTERSON, *Assistant Professor of Air Science and Tactics* (1951)
B.A., Hiram College, 1949; Captain, USAF.

PART-TIME FACULTY

(Day Session)

HOLLIS ALLAN, *Instructor in General Business* (1953)
B.A., University of Akron; LL.B., University of Michigan, 1949.

MRS. EDNA ARCHER, *Instructor in Art for the Grades* (1947)
B.E., University of Akron; M.A., Columbia, 1939.

PAUL BECKER, *Instructor in Psychology* (1948)
B.S.Ed., M.S.Ed., University of Akron, 1948.

MRS. CHERYDAL W. BLACK, *Instructor in Home Economics* (February, 1954)
B.A., University of Akron, 1944.

NORRIS BROOMALL, *Instructor in Oboe and Bassoon* (1953)
Dana Music Institute.

THOMAS BROWNELL, M.D., *Instructor in Medical Science* (1952)
B.S., M.D., University of Kansas, 1940.

RAYMOND BROWN, *Instructor in Sociology* (February, 1950)
B.S., University of Akron, 1929.

PHILLIP J. DIETRICH, *Instructor in Journalism* (1947)
B.J., Northwestern University, 1931.

P. G. GUNNETT, *Instructor in Education* (1951)
B.A., Ohio University; M.A., Ohio State University, 1935.

MARTIN HEYLMAN, *Instructor in Flute* (1952)
B.S., M.A. in Musicology, Western Reserve University, 1951.

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

JOHN HULL, *Instructor in English* (1946)
A.B., University of Akron; M.A., Western Reserve University, 1953.

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

S. F. JAMESON, *Instructor in Education* (1952)
B.A., Ohio Northern; M.A., Columbia University, Teachers College, 1935.

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

MRS. JAMES MITCHELL, *Instructor in Voice* (1947)
B.M., University of Michigan, 1932; Juilliard School of Music.

FRED OST, *Instructor in Physical Education* (February, 1954)
University of Akron.

ROBERT PAOLUCCI, *Instructor in Brass Instruments* (February, 1954)
Juilliard School of Music.

LAWRENCE SCARPITTI, *Instructor in Violin* (1953)
University of Akron.

ALFRED HALL SMITH, *Instructor in Physical Education* (1953)
B.S.Ed., University of Akron, 1951.

MRS. MARY THORNHILL, *Instructor in French* (November, 1953)
B.S., Middlebury College; M.A., Western Reserve University, 1954.

PUBLIC SCHOOL FACULTIES COOPERATING WITH THE COLLEGE OF EDUCATION

Officers of Akron Public Schools

OTIS C. HATTON, M.A. ..... *Superintendent of Schools*

S. F. JAMESON, B.A., M.A. ..... *First Assistant Superintendent*
A. J. DILLEHAY, B.Ed., M.A. ..... *Assistant Superintendent*
GEORGE F. WEBER, M.A.Ed. ..... *Executive Director*
MRS. MARY LOUISE BEVERLY, B.S.Ed. M.S.Ed. ..... *Principal of Spicer School*

Officers of Other Cooperating Schools

CARL COFFEEN, B.S., M.A.Ed. .....*Superintendent of Schools, Summit County*

FRED H. BODE, B.S.Ed., M.A.....*Superintendent of Schools, Cuyahoga Falls*
ROBERT S. BROWN, A.B., M.A. .....*Supt. of Schools, Springfield Township*
GORDON M. DEWITT, B.A., M.A. .....*Principal, Cuyahoga Falls High School*
SISTER M. DOMINICA, B.S.Ed., M.A. .....*Principal, St. Vincent's High School*
ROBERT M. ERWINE, B.A., M.A.....*Supt. of Schools, Coventry Township*
PAUL G. GUNNETT, B.A,. M.A. .....*Superintendent of Schools, Barberton*
E. R. MALONE, B.S., M.S. .....*Superintendent of Schools, Copley*
THOMAS O. MORGAN, B.S.Ed., M.A.Ed. .....*Superintendent of Schools, Tallmadge*
H. A. PEIFFER, B.S., M.A. .....*Principal, Barberton High School*

TEACHERS IN SPICER DEMONSTRATION LABORATORY SCHOOL, 1953-1954

James Arnett (*7th Grade*), Mrs. Mildred Collis (*1st Grade*), Adelyn Dwyer (*L.S.S.*), Mrs. Caroline French (*4th Grade*), Mrs. Virginia Gillooly (*6th Grade*), Grace Ion (*5th Grade*), Rose Mary Kraus (*3rd Grade*), Bess Levenson (*2nd Grade*), Jeanette Marsh (*4th & 5th Grades*), Mrs. Bessie Miller (*1st Grade*), Lila Neal (*2nd Grade*), Catherine Redinger (*Kgn.*), Katherine Rephann (*7th Grade*), Maude Rumsey (*6th Grade*), Eulalie Sauve (*5th Grade*), Dorothy Schorle (*2nd Grade*), Anna Seruch (*4th Grade*), Fan Walcott (*8th Grade*), Mrs. Naida Worthen (*U.S.S.*), Olga Zemlansky (*8th Grade*).

DIRECTING TEACHERS, SUMMER 1953 THROUGH JUNE 1954

Rose Ahern (*Portage Path*), James Appleby (*Central*), Mrs. Lillian Artola (*East*), DeWitt Asher (*Firestone Park*), Mrs. Grace Bacher (*David Hill*), Aline Baclawski (*South*), Jean Bartlett (*North*), Mrs. Edna Bauch (*Schumacher*), Louis Bauman (*Kenmore*), Mrs. Marguerite Baumgardner (*Crosby*), Mrs. Florence Benson (*Bryan*), Frances Biondo (*Glover*), Vincent Biondo (*Buchtel*), Helen Blateric (*Harris*), Mrs. Dorothy Boesche (*Spicer*), Mary Helen Bowers (*Rankin*), Mrs. Loudell Boyes (*Garfield*), Jerome Brown (*Kenmore*), Mrs. Anita Cahill (*East*), George Capes (*Central*), Lillian Christenson (*Seiberling*), Betty Cole (*Schumacher*), Robert Cole (*Garfield*), Donna Cooper (*Margaret Park*), Helen Corl (*Kenmore*), Harry Daitch (*Kenmore*), Neal Davis (*Springfield*), Rita DeSantis (*Lincoln*), Mrs. Mary K. Dittemore (*Rankin*), Mrs. Florence Dougherty (*Schumacher*), Mrs. Lola Douglas (*Allen*), Emil D'Zurik (*Barberton*), Hazel Easterday (*Lane*), Mrs. Effie Engerrand (*Margaret Park*), Mrs. Adda Erwine (*Thomastown*), John Eshack (*Garfield*), L. L. Everett (*Barberton High*), Helen Fairbanks (*Seiberling*), Mrs. Eliz. Fisher (*Central*), Helen Fisher (*Rankin*), E. N. Geisler (*Barberton Lincoln*), Mrs. Belle Grensler (*Lincoln*), John Griffith (*Garfield*), Mrs. Thelma Grimes (*Miller*), Ruth Haines (*Central*), Mrs. Eloise Halliburton (*McEbright*), Mrs. Bonnie Hankammer (*Hillwood*), Mrs. Gladys Hardman (*Rankin*), Mrs. Laurette Harrison (*Central*), Betty Heepe (*Schumacher*), Ralph Herron (*Coventry*), Elmer Hoffman (*Board of Education*), Mrs. Alma Hose (*Goodrich*).

Mrs. Vivian Hostettler (*Norton Ctr.*), Mrs. Florence Howiler (*Crouse*), Mrs. Iva James (*Betty Jane*), Janie Kennedy (*Perkins*), Mrs. Evelyn Kirk (*Firestone Park*), Edwin Kirkpatrick (*Jennings Jr. H. S.*), Mrs. Marian Kline (*Leggett*), Mrs. Bess Krahl (*Fairlawn*), Iva Leatherman (*Lincoln*), Mrs. Lois Lewis (*Allen*), Robert F. Lewis (*St. Vincent's*), Mrs. Ruth Mahoney (*Lincoln*), Mrs. Audrey Marriott (*Robinson*), Mrs. Lucy McMurtrey (*Fraunfelter*), Ruth Meier (*East*), Mrs. Wilma Merold (*Robinson*), Albert Messmore (*Coventry*), Nancy Mettler (*Central*), Josephine Milani (*Forest Hill*), Mrs. Belle Monahan (*Seiberling*), William Mooney (*Ellet*), James Moore (*Springfield*), Mary Mostenic (*East*), Eldon Motz (*Ellet*), Frank Nelson (*Copley*), John Nicholas (*Firestone Park*), Donald Owens (*Tallmadge*), Jane Parshall (*Ellet*), Dominic Patella (*East*), Barbara Patton (*Seiberling*), Anne Petry (*Heminger*), H. A. Pieffer (*Barberton H. S.*), Sylvia Pierce (*Barber*), Willimas Pitts (*Allen*), Mary Pusateri (*South*).

Mrs. Leona Rains (*Fraunfelter*), Mrs. Jane Rapp (*Mason*), Mrs. Helen M. Reid (*Forest Hill*), Mrs. Ethel Robertson (*Leggett*), Mary Robinson (*South*), Barbara Rohrbaugh (*Lincoln*), Mrs. Lois Rook (*Cuyahoga Falls*), William Satterlee (*South*), Harry Schaller (*Buchtel*), Mrs. Rose Schroeder (*Seiberling*), Geraldine Schumacher (*Mason*), Helen Schurr (*Itinerant*), Mrs. Fanny Severns (*Mason*), William Shaw (*East*), Mercedes Sheibley (*Henry*), Mrs. Freda Sherbondy (*Simon Perkins*), Mrs. Maryellen Simonson (*Hower*), Mrs. Louise Snodgrass (*Central*), Leonard Snyder (*Ellet*), Arlene Spahr (*Ellet*), Mrs. Grace Speck (*Kenmore*), Beatrice Sprague (*Central*), Mrs. Josephine Stanley (*Barberton H. S.*), Jane Steiner (*West*), William Sudeck (*Robinson*), Sister M. Aloysius (*St. Vincent's*), Sister M. Dominica (*St. Vincent's*), Mrs. Burnise Taylor (*Jennings*), Mrs. Ruth Thomas (*South*), Mrs. Alberta Thompson (*Cuyahoga Falls*), Loretta Tische (*East*), Dominick Trifero (*Ellet*), Mrs. Isa Udell (*Central*), John Van Sickle (*North*), Robert Vernon (*Garfield*), William Waggoner (*Garfield*), Blanche Walker (*Rankin*), Fred Weber (*West*), Dorothy Whittington (*Buchtel*), Parker Wilcox (*North*), Mardis Williams (*Allen*), Mrs. Marie Wilson (*Bryan*), Mrs. Mary Witwer (*Coventry*), Edna Wolfe (*South*), Sara Wood (*Schumacher*), Arden Yockey (*Norton Center*), George Zienka (*North*), Paul Zimmerman (*North*).

PART-TIME FACULTY

(Evening Session)

EINAR G. ANDERSON, *Instructor in General Business*
B.S., B.A., University of Akron, 1942.

WENDALL WILSON ARMSTRONG, *Instructor in Industrial Management*
B.S., Mount Union College, 1934.

ROBERT E. BAKER, *Instructor in Engineering*
B.M.E., University of Akron, 1944.

EUGENE BELL, *Instructor in Art*
B.S.Ed., University of Akron; Art Students League, New York.

PAUL BECKER, *Instructor in Psychology*
B.S.Ed.; M.S.Ed., University of Akron, 1948.

NORMAN BILLS, *Instructor in Psychology*
B.S., PhD., Western Reserve University, 1953.

MRS. ELIZABETH BUEHL, *Instructor in General Business*
Ohio State University.

L. E. BUNTZ, *Instructor in Engineering*
B.M.E., University of Akron, 1935.

JOSEPH A. CALA, *Instructor in Chemistry*
B.A., Alfred University; M.S., University of Akron, 1952.

CHESTER F. CONNER, *Instructor in General Business*
Ph.B., Buchtel College, 1906.

GLEN COWAN, *Instructor in Industrial Management*
B.S.Ed., Kent State University, 1935.

M. L. DANNIS, *Instructor in Chemistry*
B.S., Armour Institute; M.A., University of Pennsylvania, 1946.

HARMON O. DEGRAFF, *Instructor in Sociology*
B.A., M.A., State University of Iowa; Ph.D., University of Chicago, 1926.

WILLIAM C. DETWILER, *Instructor in General Business*
B.S. in Bus. Adm., University of Akron, 1947.

STEPHEN H. FINLEY, *Instructor in Engineering*
B.S., Pennsylvania State College, 1951.

ANNA MAE FLINT, *Instructor in Secretarial Science*
B.S. in Sec. Sc., University of Akron; M.S., Northwestern University, 1951.

SAMUEL GOLDMAN, *Instructor in General Business*
A.B., Miami University; LL.B., Harvard Law School, 1948.

CARL W. GRONCY, *Instructor in Industrial Management*
B.M.E., University of Akron, 1938.

MRS. ADENA HANDWERK, *Instructor in Secretarial Science*
B.A.Ed., University of Akron, 1941.

RUTH HOFFMASTER, *Instructor in Modern Languages*
A.B., University of Akron; M.A., Middlebury College, 1942; Swiss Fellowship, University of Geneva, 1952-53.

VICTOR H. HASSELQUIST, *Instructor in Engineering*
B.M.E., Ohio State University, 1925.

ROBERT W. HERBERICH, *Instructor in General Business*
B.A., Harvard University, 1943.

H. B. HORTON, *Instructor in Accounting*
B.B.A., Western Reserve University; M.A., Kent State University, 1938.

JOHN HULL, *Instructor in English*
A.B., University of Akron; M.A., Western Reserve University, 1953.

T. DONALD JOHN, *Instructor in Journalism*
Copy Editor, Akron Beacon Journal.

CYRIL JONES, *Instructor in Speech*
B.A., M.D.Ed., University of Akron, 1934.

JOHN T. KIDNEY, *Instructor in Industrial Management*
Manager, Employees Service Division, The Goodyear Tire and Rubber Company.

WILLIAM LANTZ, *Instructor in General Business*
University of Akron.

LEONARD LEWIS, *Instructor in Accounting*
B.S., B.A., University of Florida, 1937.

WALTER LIPPS, *Instruction in Education*
B.E., University of Akron, 1928.

DONALD MORRIS, *Instructor in General Business*
B.S. in Bus. Adm., University of Akron; LL.B., Akron Law School, 1942.

MARY MOSTENIC, *Instructor in English*
B.S.Ed., B.A., M.A., University of Akron, 1951.

MRS. VERNA NELSON, *Instructor in Secretarial Science*
B.S., University of Akron, 1937.

MRS. KATHERINE OANA, *Instructor in Secretarial Science*
B.S.Ed., University of Akron, 1941.

SARAH ORLINOFF, *Instructor in Mathematics*
B.A., University of Akron, 1935.

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

DEAN M. PEEBLES, *Instructor in General Business*
B.A., Washington State College, 1951.

THOMAS POWERS, *Instructor in General Business*
A.B., Cornell University; LL.B., Cleveland Law School, 1927.

H. TAYLOR PROTHEROE, *Instructor in Art*
B.S. in Art, University of Akron, 1941.

FOREST PYLE, *Instructor in Engineering*
B.M.E., University of Akron, 1949.

K. L. REYNOLDS, *Instructor in General Business*
B.S., University of Illinois, 1927.

ROBERT S. ROSS, *Instructor in Engineering*
B.S., M.S., Ph.D., Case Institute of Technology, 1945.

EARL ROTTMAYER, *Instructor in Engineering*
B.S.M.E., University of Akron; M.S.Ae., University of Michigan, 1941.

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

JANE STEINER, *Instructor in English*
B.A., University of Akron, 1938.

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

ROBERT TENER, *Instructor in English*
B.A., University of Akron; M.A., Western Reserve University, 1949.

L. C. TURNER, *Instructor in Speech*
B.S., Hiram College; M.A., University of Akron, 1929.

WAYNE TYLER, *Instructor in English*
B.A., M.A., University of Wisconsin, 1936.

CLARENCE R. UPP, *Instructor in Engineering*
M.E., Ohio State University, 1910; P.E., Ohio.

P. R. VANCE, *Instructor in Engineering*
B.S., Rose Polytechnic Institute; M.S.E.E., Massachusetts Institute of Technology, 1950.

SUMNER VANICA, *Instructor in Education*
B.A., M.A.Ed., University of Akron, 1944.

C. W. VOBBE, *Instructor in Industrial Management*
B.B.A., University of Toledo, 1935.

DWITE A. WALKER, *Instructor in Engineering*
B.M.E., University of Akron, 1949.

STANLEY I. WEISS, *Instructor in Engineering*
B.Aero.E., M.S., Rensselaer Polytechnic Institute; Ph.D., University of Illinois, 1949.

MRS. BETTY WETTSTYNE, *Instructor in Secretarial Science*
B.S. in Sec. Sc., University of Akron; M.B.A., University of Chicago, 1944.

GENERAL INFORMATION AND REGULATIONS

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 established in 1870 by the Ohio Universalist Convention, and took its name from its most generous benefactor, Hon. John R. Buchtel. Today, Buchtel College retains its name and identity in the Buchtel College of Liberal Arts.

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, A.B., LL.D. 1951-

ACCREDITATION

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

The North Central Association of Colleges and Secondary Schools, Ohio College Association, 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.

*Deceased.

GENERAL OBJECTIVES OF THE UNIVERSITY

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

The University of Akron has as its aims:

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

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

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

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

The University has further aims:

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

ORGANIZATION OF THE UNIVERSITY

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

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

I. THE GENERAL COLLEGE

The purpose of the General College is two-fold: (1) to furnish a general cultural education for (a) students who plan to enter an Upper College and obtain an academic degree, and (b) students who desire

approximately two years of general education; (2) to furnish pre-professional or terminal courses of an occupational nature for students who do not plan to enter an Upper College.

II. THE UPPER COLLEGES

BUCHTEL COLLEGE OF LIBERAL ARTS

The departments are grouped in three divisions as follows:

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

Majors are also offered in Psychology, and in Journalism.

THE COLLEGE OF ENGINEERING

Civil Engineering — Electrical Engineering — Mechanical Engineering

THE COLLEGE OF EDUCATION

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

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

THE COLLEGE OF BUSINESS ADMINISTRATION

Accounting — General Business — Industrial Management — Secretarial Science

DIVISION OF ADULT EDUCATION

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

EVENING SESSION

All colleges of the University offer courses in the evening. Work toward a degree, diploma, or certificate is possible 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.

GRADUATE STUDY

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

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

BUILDINGS

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

The principal buildings include:

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

Simmons Hall, including the Colleges of Liberal Arts and Business Administration, some laboratories of the College of Engineering, and the City Testing Laboratory.

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

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

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

Olin Hall, accommodating the Department of Biology, with laboratories and classrooms.

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

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

Memorial Hall, the new physical and health education building, opening September 1954; besides the large and small gymnasiums, it includes a swimming pool, the University Health Service, and departmental offices.

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

Speech Building, a temporary frame structure, containing the Speech and Hearing Clinic and a broadcasting studio; in September 1955 on completion of the new Arts and Sciences Building at the corner of Brown and Buchtel, this department will be moved there and will have among its facilities a little theatre, and television and radio studios.

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

Old *Crouse Gymnasium,* the *R. O. T. C. Armory,* the central heating plant, and a frame structure for temporary offices, also on the campus.

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

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

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

UNIVERSITY LIBRARY

The University Library, known as Bierce Library, occupies Carl F. Kolbe Hall and its modern annex. The total book collection is 96,168 volumes, with periodicals totaling 592 titles, including the unique Rubber Research Library. The Art Department has its specialized facilities on one floor of the annex; the Audio-Visual Aids Department is also located in Kolbe Hall.

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.

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 must 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 taking examinations. The fee is the same as for regular credit enrollment. Designation as an Auditor must be made at the time of registration.

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 the General College. *The initiative for change of status rests with the adult student.*

REGISTRATION AND CLASSIFICATION

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

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

The week preceding the opening of the regular session is devoted to general assembly, tests, physical examination, lectures, and payment of fees. Entering freshmen are required to report Monday, Sept. 13, 1954, for the fall session, and to 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 February 1 of their senior year.

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

GRADUATION "WITH DISTINCTION"

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

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

PROBATION AND FAILURE

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

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

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

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

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

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

CHANGES OF SCHEDULES

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

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

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

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

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

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

REPEATING COURSES

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

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

STUDENT LOAD

Sixteen hours a semester are considered a full program. The Dean of the College may permit a student to take more than 17 hours. A fee is charged for work in excess of 18 hours, except in the case of definitely prescribed curricula.

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

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

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

CREDIT BY EXAMINATION

Qualified students may obtain credit for subjects not taken in course by passing special examinations. The grade obtained is recorded on the student's permanent record. The fee for such examination is $5 per credit hour. Students should apply at the Registrar's office.

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 AND INTERCOLLEGIATE ATHLETICS

STATEMENT OF POLICY ON ATHLETICS

The University of Akron is aware that it must be concerned for the physical well-being in addition to the mental development of its students. Accordingly, it provides physical and health education for both men and women students. Intercollegiate and intramural sports are important features of this physical education program. The program also serves as

a laboratory for students preparing for careers as elementary and secondary school teachers in this field, or as leaders in recreation and health activities.

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

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

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

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

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

ATHLETIC INJURIES

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

THE UNIVERSITY HEALTH SERVICE

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

STUDENT EMPLOYMENT

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

DISCIPLINE

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

ABSENCE

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

THE SEMESTER HOUR

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

GRADING SYSTEM

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

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

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

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

SYSTEM OF COURSE NUMBERING

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.

COMMUNITY COOPERATION

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

Of significance are the following special services:

THE TESTING LABORATORY OF THE CITY OF AKRON

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

GOVERNMENT LABORATORIES

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

OFFICE OF RUBBER RESEARCH

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

RUBBER RESEARCH LIBRARY

Under the sponsorship of the Rubber Division of the American Chemical Society, this collection, housed in Kolbe Hall, provides a com-

plete and current clearing house on all data related to developments in rubber, natural and synthetic, and serves industry as well as universities.

COMMUNITY PSYCHOLOGICAL SERVICES

Psychological testing, with evaluation and counselling by trained psychologists, is available to anyone at the University's offices of Community Psychological Services, located in Buchtel Hall.

THE SPEECH AND HEARING CLINIC

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

MISCELLANEOUS

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

FEES AND EXPENSES

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

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

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
Physical Education Building Fee	5.00	5.00
Total for residents of Akron	103.00	83.00
Additional fee for non-residents of Akron	90.00	90.00
Total for non-residents of Akron	$193.00	$173.00

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
Physical Education Building Fee	5.00	5.00	5.00
Total—Residents	73.00	63.00	56.00
*Additional fee for non-residents of Akron	60.00	60.00	60.00
Total—Non-Residents	$133.00	$123.00	$116.00

* 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 shall be judged to be a sum equal to the tuition plus such other fees as are applicable to the curriculum in which 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

PHYSICAL EDUCATION BUILDING FEE

Payable by all day students, per semester ..... $ 5.00
Payable by all evening session students desiring to use the building, per semester 5.00
This fee makes available the use of facilities including swimming pool and the furnishing of towels.

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 1954-55 are:

First Semester: Monday, September 20, for Day Session and September 27, for Evening Session.

Second Semester: Monday, February 7, for Day Session and February 14, for Evening Session.

1954 Summer Session: Day Session, June 21, Evening Session, June 22.

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 1954 SUMMER SESSION

DAY SESSION

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

Matriculation	$ 5.00
Non-resident Tuition per credit hour in excess of six	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 19)	5.00
Excess Load Fee per credit hour in excess of six	8.50

College of Engineering

Cooperative Basis (9 to 10½ hours)

	Residents	Non-Residents
**Non-resident Tuition		$ 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 per credit hour in excess of 10½	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 Tuition per credit hour in excess of six	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 21)	1.00
Excess Load Fee per credit hour in excess of six	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

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 127	5.00
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, 330, 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 151, 152	8.00
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)	2.50
Physics 24, 31, 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) Late Registration
(2) Excess Load
(3) Special Examination and Test
(4) Matriculation and Transfer
(5) Change of Schedule
(6) Incomplete Removal
(7) Swimming
(8) 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 which he is still in the General College:

THE HUMANITIES DIVISION

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

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

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

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

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

PHILOSOPHY—*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.

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

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

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

MATHEMATICS—*Required:* Mathematics 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.

NOT IN ANY DIVISION

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

PSYCHOLOGY—See under Psychology in the Liberal Arts section.

THE COLLEGE OF ENGINEERING

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

THE COLLEGE OF EDUCATION

The suggested curriculum for the first two years for students desiring to enter the College of Education is given below. Differences will occur, depending upon the teaching fields for which preparation is being made.

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

THE COLLEGE OF BUSINESS ADMINISTRATION

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

BASIC COURSES

B-1. Basic Language Skills. *3 credits.**

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

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 laboratory each week.

B-5. Family Living. *3 credits.**

B-7. Business Records. *3 credits.**

B-9. Survey of Business. *3 credits.**

These three courses not offered 1954-55.

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.

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

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 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.

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 each in Biology, Chemistry, Mathematics, and Physics.

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 and medical technology curriculums, completion of the second year of a foreign language on the university level.

4. Other requirements set forth in the section on University Regulations.

DEGREES

The following degrees are granted in the divisions:

The Humanities: Bachelor of Arts.

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

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

The Applied Arts: Bachelor of Arts.

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 or in one of the social 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, Mr. Dashiell, Mr. Weiner, Mrs. Archer, Mr. Bell, Mr. Protheroe

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. ART APPRECIATION. *2 credits each semester.*
The basic principles of design as applied to our surroundings. A foundation for a critical evaluation of the visual arts. Particular attention to materials, their possibilities and limitations.

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. *Second 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 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 and glazes. 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 and wood engraving. 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 composition, and expression.

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 Park and Horning; Mr. Chang, Miss Illick, Mr. Allman

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

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

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

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

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

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

PRE-MEDICAL MAJOR COURSE

First Year

	Cr. Hrs.
English 1-2	6
Hygiene 15-16	4
Introd. to Soc. Science 5-6	6
Mathematics 24	4
Inorganic Chemistry 21-22	8
Military Training 11-12	3
Physical Education 3-4	2

Second Year

	Cr. Hrs.
Zoology 61-62	8
Qualitative Analysis 43	5
Organic Chemistry 44 (El.)	4
Introd. to Humanities 7-8	6
German 21-22	8
Military Training 43-44	3
Elective	2

Third Year

Vertebrate Anatomy 155	4
Embryology 256	4
Organic Chemistry (Int.) 107	4
Physics 51-52	8
German 43-44	6
Psychology 41	3

Fourth Year

General Physiology 235-6	6
Physics 53 (Optics)	4
Human Genetics 148	2
Quantitative Analysis 105-6	8
Electives, Humanities or Social Science Division	8-12
Applied Psychology 43	3

Women students must take six more hours elective in Humanities or Social Science division 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.

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

MEDICAL TECHNOLOGY COURSE

3 Years at The University of Akron

First Year

	Cr. Hrs.
English 1-2	6
Hygiene 15-16	4
Introd. to Soc. Science 5-6	6
Inorganic Chemistry 23-24	6
Gen. Zoology 61-62	8
Physical Education 3-4	2

Second Year

	Cr. Hrs.
Introd. to Humanities 7-8	6
Introd. to Human Phys. 91	4
Organic Chemistry 55	3
General Psychology 41	3
Physiological Chemistry 56	3
Histology 128	3
Algebra 17*	1
(Elective)	9 or 10

Third Year

Bacteriology 107-8	8
Analytical Chemistry 47-8	8
Physics 51-2	8
Histological Technique 127	2
(Elective)	7

Since chemistry courses 55-56 and 47-48 are given alternate years the student may get these as listed above, or reversed, that is, 47-48 in second year and 55-56 in third year.

* Algebra 17, 1 credit must be taken, if less than one and a half years of high school algebra is presented.

PROFESSIONAL TRAINING

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

The hospital period is completed by taking an examination of the Registry of Medical Technologists, which grants the certificate M.T. (A.S.C.P.). The University grants the B.S. in Medical Technology.

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.*

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

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

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

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

The study of animal tissues. Two lectures and one 3-hour laboratory period a week. Prerequisite 62. 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. 1954-1955 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.

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. Not offered 1954-55.

CHEMISTRY

Associate Professor Sumner, Professors Cook, Whitby, Schmidt and Morton, Associate Professors Flouts and Wolfe, Assistant Professors Anderson 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.

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

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

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

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

COURSES IN RUBBER AND POLYMERS

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

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

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

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

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. 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, accelerators, synthetic rubber, reclaimed rubber. Students are expected to register for the laboratory course 329-330 unless excused by 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. EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS. *1 credit recitation, 1 credit laboratory each semester.*

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

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

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

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

Open to properly qualified students. Supervised original research in the fields or 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 or 45-46 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.

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

A survey course covering both the elements of economic analysis, and a description of the structure and functioning of the American economy. Aimed at an understanding of the economic world in which we live with a view to more intelligent participation in the solution of today's problems of maintaining high levels of production, employment, and income. Not open for credit to students who have had Economics 41-42.

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 College of Business Administration. See that section of the catalog 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 Putman, Raw, Roberts, H. Thackaberry and Julia Hull; Mr. Stevens, Mr. Hull, Mr. Paul, Mr. Tener, Mr. Phipps

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. *First semester. 2 credits.*
Further training in description and narration.

44. ADVANCED WRITING. *Second semester. 2 credits.*
Similar to English 43; further training in exposition.

45. APPRECIATION OF FICTION. *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 semester: the Wisdom Books and the New Testament.

143-144. WRITING WORKSHOP. *2 credits each semester.*
Prerequisite, 43 or 44, or permission.

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. CONTEMPORARY 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. *3 credits each semester.*

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

231-232. SEMINAR. *Maximum 2 credits each semester.*

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

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 from 1300 to 1648. 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 and Laubacher, Mrs. Hostetler, Mrs. Black

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, Mr. Dietrich

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

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, Miss Orlinoff

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

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

Students majoring in Mathematics must take at least 24 hours of Mathematics. Included in these hours must be course 204, and at least two other 3-hour upper college courses. Algebra 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.

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

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

27. SPHERICAL TRIGONOMETRY. *2 credits.*

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

66. ASTRONOMY. *3 credits.*

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

43. ANALYTIC GEOMETRY. *4 credits.*

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

45. DIFFERENTIAL CALCULUS. *4 credits.*

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

46. INTEGRAL CALCULUS. *4 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, 17. Interest procedures, annuities, amortization, sinking funds, bonds, stocks, depreciation.

UPPER COLLEGE

104. HISTORY OF MATHEMATICS. *3 credits.*

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

121. MATHEMATICS OF INSURANCE. *2 credits.*

Prerequisite, 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 Professors Chalfant and Leuca, Miss Hoffmaster, Mrs. Thornhill

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, 44. 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. Prerequisite, permission.

MUSIC

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

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

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

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)
Conducting 110	2

Fourth Year

	Cr. Hrs.
Music Composition 111	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.

UNIVERSITY SINGERS. *3 hours a week. 1 credit per semester.*

A mixed chorus, membership by appointment through audition. Numerous public performances are made throughout the year at various civic organizations, churches, broadcasting stations, and social groups, as well as public concerts.

UNIVERSITY SYMPHONY ORCHESTRA. *2 hours a week. 1 credit per semester.*

An organization devoted to the advanced study of orchestral literature. This organization gives a fall and spring concert and performs at special programs such as Christmas, Easter, and Commencement.

UNIVERSITY BAND. *1 credit per semester.*

The University Football Band is organized in the first semester and plays for all games. Rehearsals are on Monday, Wednesday, and Friday, from 4 to 6 p. m. at Buchtel Field. The University Concert Band functions only in the second semester 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.*
Prerequisite, 23. Actual playing of string instruments with emphasis on the violin. Study of material and teaching techniques.

57. WOODWIND CLASS. *1 credit.*
Prerequisite, 23. Actual playing of woodwind instruments with emphasis on the clarinet. Study of material and teaching techniques.

58. BRASS CLASS. *1 credit.*
Prerequisite, 23. Actual playing of brass instruments with emphasis on the cornet. Material and teaching techniques; also rudimentary drumming.

*UPPER COLLEGE

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 111. 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 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. *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. Open to sophomores with approval of adviser.

111. AESTHETICS. *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, Assistant Professor Johnson

Work in the Physics department gives students who wish to major in Physics a general knowledge of the fundamentals in Physics 51, 52, 53 with a series of advanced courses to follow, such as 201, 202, 204, 205, 209-210. Courses 51, 52, 53 will supply the information needed for a minor for students in Chemistry, Mathematics and Education. These courses require no mathematics beyond the Freshman year. Courses 31, 32 are for Engineering students or others who are interested primarily in the applications of Physics.

The major requirements are a minimum of 28 credits in Physics, Mathematics through calculus and at least three semesters of Chemistry, in addition to the general requirements of all students who plan to take the Bachelor's degree. Those students who do not plan to go beyond the Bachelor's degree but are preparing for laboratory work in industry may, on consultation with the Dean and the Head of the Department, substitute Engineering courses for the foreign language. All majors will be required to elect one course in Organic Chemistry, if the schedule permits.

GENERAL COLLEGE

31. MECHANICS, HEAT AND SOUND. *5 credits.**

This is the first course in physics for engineering students. The course covers the fundamental principles of mechanics, heat and sound from an engineering point of view. Engineering units will be emphasized and the problems will deal with engineering applications. Calculus 45 must be taken concurrently. Four recitation and one laboratory period each week. 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.

32. ELECTRICITY, MAGNETISM, LIGHT AND MODERN PHYSICS. *5 credits.**

This is the second course in physics for engineering students. It covers the fundamental principles of electricity, magnetism, light and modern physics from an engineering point of view. Physics 31 is a prerequisite and Calculus 46 is to be taken concurrently. Four recitation and one laboratory period each week. 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. It 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

150. MODERN PHYSICS. *2 credits recitation.*

The developments in physics since 1890 with special reference to the atom and its nucleus. The course will emphasize the nucleus as a source of energy. This course is not open to physics majors. Prerequisites: Physics 32 or 53 and Math 46.

201. ELECTRICITY AND MAGNETISM. *4 credits.*

Magnetostatics, electrostatics, dielectrics, electrical images, atmospheric electricity, the electric circuit, the effects, measurement and production of the steady unidirectional electric currents, and the measurement of electrical quantities. Laboratory work is primarily concerned with the theory and use of electrical measuring instruments. Three recitations and one laboratory period per week. Lab. fee. Prerequisite, 53 and calculus.

202. ELECTRICITY AND MAGNETISM. *4 credits.*

Continuation of 201, beginning with currents in inductive circuits. Inductance and capacitance and their effect on alternating and intermittent currents, transmission of power, generators, transformers, motors form the principle part of the work. Electromagnetic waves and thermoelectric phenomena complete the course. Prerequisite, Physics 201. Three recitations and one laboratory period per week. Lab. fee.

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

A review of the revolutionary discoveries in physics made since 1890. Prerequisites, calculus and optics.

205. MECHANICS AND SOUND. *3 credits.*

An intermediate course in mechanics and sound. Prerequisites, calculus and Physics 52.

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

A laboratory course in advanced physics measurements involving advanced laboratory technics. 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. 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. Interference, diffraction, and polarization are 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.

111. INTERNATIONAL ORGANIZATION. *3 credits.*
A study of the United Nations, including previous institutions in world government.

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 Professors Alven and Clayton, Assistant Professor Meyer, Mr. Becker, Mr. Bills, Mr. Ireland, Mr. Werner

The courses are described under Psychology in the College of Education section of the catalog. Students majoring in Psychology are expected to take at least 24 credits in Psychology. Psychology 41 is required in the General College. Psychology 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

Professor Rogler, Associate Professor Newman, Mr. DeGraff, Mr. Brown

Sociology 41 is prerequisite to all Upper College courses in the department, but in exceptional cases this requirement may be waived by the department head.

A course in statistics is required of all majors (Mathematics 57 meets this requirement).

Majors are required to take 24 hours in Sociology, which must include 41 and 42 in the General College, and the following Upper College courses: 109-110, 206, 215, 216. Additional courses for the requirement are selected with special reference to the needs of the individual student.

Students emphasizing social welfare work as their field of concentration are required to take 111-112 and other courses to be selected in consultation with the department head.

GENERAL COLLEGE

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 ATTITUDES. *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.

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.

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.

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 INSTITUTIONS. *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.

SPEECH

Professor Sandefur, Associate Professor Varian, Assistant Professor Hittle, Mr. Balanoff, 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 and television speaking, and speech correction. Since Upper College work in speech embraces these fields, the student should elect a program in General College that will apply directly to the specific interests in the field of speech which he proposes to follow in Upper College.

Major: A minimum of 24 hours in speech. The following courses are required: 41, 51, 271, 272, 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 available to all citizens of Akron, provides guidance and assistance in the diagnosis and treatment of all kinds of voice and speech disorders. Remedial treatment is offered to a limited number. Advanced students assist with the work of the clinic.

Radio Broadcasting Studio: Training is provided in announcing, writing, and performing for the radio and television. Practical training is offered through the facilities of local radio and television stations.

Speakers' Bureau: The Speech Department supervises a Speakers' Bureau for the convenience of the residents of Akron and for training of its students. Speakers, debaters, readers, and discussion panels are available to local groups. Occasionally a one-act play can be provided.

Ashton Public Speaking Contests: Several prizes are available each year to the winners of the public speaking contests and the interpretation contest. The contests are open to all students in the University.

GENERAL COLLEGE

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.

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. *3 credits each semester.*

First semester: etiology of speech disorders; second semester: principles of speech therapy. 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.

290. DEVELOPMENT OF RHETORICAL THEORY. *2 credits.*

A study of the principles of spech making from the time of Plato and Aristotle to the present.

291-292. SPEECH CRITICISM. *2 credits each semester.*

In the first semester, a rhetorical criticism of speeches by Fox, Pitt, Burke, and contemporary British speakers; second semester, a rhetorical criticism of speeches by Webster, Clay, Calhoun, and contemporary American speakers.

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.

*See page 105.

ADMISSION FROM OTHER COLLEGES

Applicants with college credits earned at other accredited colleges may be eligible for admission to the College of Engineering provided the quality of work completed meets the scholastic requirements of the University and such applicants are eligible to re-enter the institution of last attendance.

Because of the nature of the cooperative course, applicants from other colleges should plan to enter the College of Engineering not later than the beginning of the sophomore year.

REQUIREMENTS FOR GRADUATION

A candidate for the Bachelor's degree must fulfill the following requirements: (1) earn credit in all of the required courses listed in the schedule, (2) accumulate at least 159 credits, (3) earn a quality point ratio of at least 2 in his departmental courses as well as in total credits and (4) complete six cooperative work periods satisfactorily.

FEES AND OTHER EXPENSES

Information on all expenses is listed in the General Information section of the catalog.

SCHEDULE OF REQUIRED COURSES*

FRESHMAN YEAR

(Full Time)

FIRST SEMESTER (Fall)

Subject	Rec.	Lab.	Cr.
Algebra-Trigonometry 24	4	0	4
Chemistry 27	3	3	4
English, Oral and Written 1	3	0	3
Engineering Drawing 21	0	6	2
Survey of Engineering 23	1	0	0
ROTC 11 or 13	2	1	1.5
Physical Education 3	0	2	1
	13	12	15.5

SECOND SEMESTER (Spring)

Subject	Rec.	Lab.	Cr.
Analytic Geometry 43	4	0	4
Chemistry 28	3	3	4
English, Oral and Written 2	3	0	3
Engineering Drawing 22	0	6	2
Intro. to Social Sciences 6	3	0	3
ROTC 12 or 14	2	1	1.5
Physical Education 4	0	2	1
	15	12	18.5

SOPHOMORE YEAR

(Full Time)

FIRST SEMESTER (Fall)

Subject	Rec.	Lab.	Cr.
Differential Calculus 45	4	0	4
Physics 31	4	2	5
Intro. to Humanities 7	3	0	3
Descriptive Geometry 43	1	5	3
Economics 41	3	0	3
ROTC 43 or 53	2	1	1.5
	17	8	19.5

SECOND SEMESTER (Spring)

Subject	Rec.	Lab.	Cr.
Integral Calculus 46	4	0	4
Physics 32	4	2	5
Intro. to Humanities 8	3	0	3
Engineering Materials 36	3	0	3
Applied Mechanics 48	3	0	3
ROTC 44 or 54	2	1	1.5
	19	3	19.5

*Students enrolled prior to June, 1953 will follow schedule in previous catalog.

THIRD TERM (Half Semester)
(Summer)

Subject	Rec.	Lab.	Cr.
Applied Mechanics 49	6	0	3
Elementary Surveying CE 47	2	6	2
(1) D. C. and A. C. Principles EE 30	3	3	2
(2) E.E. Fundamentals EE 31	4	0	2
(3) Heat Power Principles ME 41	5	3	3
(4) Production Management 62	6	0	3
For C.E. Students	16	12	10
For E.E. Students	17	9	10
For M.E. Students	17	9	10

(1) For C.E. and M.E. students.
(2) For E.E. students.
(3) For C.E. and E.E. students.
(4) For M.E. students.

BASIC ENGINEERING COURSES

GENERAL COLLEGE

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)*

Lettering and proper use of drawing instruments. Geometric drawing. Orthographic projection. Freehand sketching. 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. *0 credit (1-0)*

Engineering as a profession, including personal aptitudes, educational requirements, scope of the various branches, professional duties, responsibilities and ethics. Lectures by staff members and practicing engineers.

36. ENGINEERING MATERIALS. *3 credits (3-0)*

Prerequisite, Physics 31. Manufacture, physical properties and uses of ferrous and non-ferrous metals, wood, clay products, concrete and plastics. Alloys and the equilibrium diagram. Heat treatment.

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 31. Prerequisite or corequisite, Math. 46. Forces. Resultants. Couples. Equilibrium of force systems. Friction. First moments and centroids. Second moments of areas. Moments of inertia of bodies.

49. APPLIED MECHANICS (DYNAMICS). *3 credits (3-0)*

Prerequisite, Applied Mechanics 48. Motion of particles and of rigid bodies. Force, mass and acceleration. Translation, rotation and plane motion. Work. Potential and kinetic energy. Efficiency. Impulse, momentum and impact.

*Rec.-Lab. credit.

UPPER COLLEGE

111. SHOP PRACTICE. *2 credits (½-1½)*

Prerequisite, Upper College standing. Foundry methods. Selection and performance of machine tools. Inspection methods. Types of welding. Shop safety. Assigned projects requiring use of hand and machine tools. Emphasis on accuracy and safety. Lab. fee.

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.

113. TECHNICAL DISCOURSE. *1 credit (1-0)*

114. TECHNICAL DISCOURSE. *1 credit (1-0)*

115. TECHNICAL DISCOURSE. *1 credit (1-0)*

116. TECHNICAL DISCOURSE. *1 credit (1-0)*

117. TECHNICAL DISCOURSE. *1 credit (1-0)*

Prerequisites, Upper College standing and credit in all previous courses of this sequence. Development of oral and written expression with emphasis on correct and effective use of words and graphic aids. Preparation of technical reports and papers for oral presentation or publication.

128. ENGINEERING ECONOMY. *2½ credits (2½-0)*

Prerequisite, Pre-Junior standing. Principles of engineering economy including equivalence, alternatives, costs, depreciation, valuation and selected project studies.

133. NON-FERROUS METALLURGY. *3 credits (3-0). Evening session*

Prerequisite, Chemistry 22 or 28 or permission of instructor. Physical properties of non-ferrous metals. Principles of alloying. Phase diagrams. White metals, light alloys, copper alloys. Die castings.

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.

135. PHYSICAL METALLURGY. *2½ credits (2-½)*

Prerequisites, Chemistry 28, Engineering Materials 36. Principles of alloying. Alloy phase diagrams. Effects of alloying on physical properties. Crystal mechanism of metal processing. Powder metallurgy. Verification of principles by laboratory experiment. Lab. fee.

137. ENGINEERING MATERIALS LABORATORY. *½ credit (0-½)*

Prerequisite, Engineering Materials 36. Testing machines and techniques. Verification of physical properties as determined by tests of materials in tension, compression, bending and torsion. Lab. fee.

138. ENGINEERING MATERIALS LABORATORY. *½ credit (0-½)*

Prerequisite, Engineering Materials Laboratory 137. Continuation of 137. Lab. fee.

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 and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
Engineering Materials Laboratory 137	0	3	0.5
A. C. Machines EE 131	4	6	3
Graphic Statics CE 103	0	6	1
Technical Discourse 113	2	0	1
	12	15	8.5

SECOND SEMESTER

(Spring)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 102	3	0	1.5
Mechanics of Materials Laboratory CE 104	0	3	0.5
Engineering Economy 128	5	0	2.5
Engineering Materials Laboratory 138	0	3	0.5
Route Surveying CE 108	2	12	3
Technical Discourse 114	2	0	1
	12	18	9

THIRD TERM (Half Semester)

(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109	2	12	3
Fluid Mechanics ME 171	6	0	3
Technical Discourse 115	2	0	1
	16	12	10

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

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Stress Analysis CE 105	6	0	3
Advanced Surveying CE 109	2	12	3
Fluid Mechanics ME 171	6	0	3
Technical Discourse 115	2	0	1
	16	12	10

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Statically Indeterminate Structures CE 106	6	0	3
Highway Design and Construction CE 110	4	6	3
Hydrology CE 107	4	0	2
Concrete Laboratory CE 112	0	6	1
Technical Discourse 116	2	0	1
	16	12	10

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Statically Indeterminate Structures CE 106	6	0	3
Highway Design and Construction CE 110	4	6	3
Hydrology CE 107	4	0	2
Concrete Laboratory CE 112	0	6	1
Technical Discourse 116	2	0	1
	16	12	10

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 114	6	0	3
Engineering Mathematics 112	6	0	3
Water Supply CE 121	5	0	2.5
Sanitary Laboratory CE 123	0	6	1
Technical Discourse 117	2	0	1
	19	6	10.5

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 114	6	0	3
Engineering Mathematics 112	6	0	3
Water Supply CE 121	5	0	2.5
Sanitary Laboratory CE 123	0	6	1
Technical Discourse 117	2	0	1
	19	6	10.5

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Structural Steel Design CE 115	2	12	3
Reinforced Concrete Design CE 117	6	0	3
Sewerage CE 122	5	0	2.5
Fluid Mechanics Laboratory ME 174	0	6	1
C.E. Problems CE 127	2	0	1
	15	18	10.5

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Reinforced Concrete Design CE 118	1	6	3
Soil Mechanics and Foundations CE 120	2	3	3
Sanitary Design CE 124	0	3	1
Community Planning CE 126	3	0	3
C.E. Problems CE 130	0	6	2
Modern Physics 150	2	0	2
Non-Technical Elective**	3	0	3
	11	18	17

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

**In Field of Social Sciences or Humanities.

DESCRIPTION OF CIVIL ENGINEERING COURSES

GENERAL COLLEGE

47. ELEMENTARY SURVEYING. *2 credits (1-1)*†

Prerequisite, Math. 24. Principles of plane surveying. Use of tape, level and transit. Computation of areas. Field problems involving measurement of horizontal and vertical distances and angles. Lab. fee.

UPPER COLLEGE

101. MECHANICS OF MATERIALS. *3 credits (3-0)*

Prerequisite, Applied Mechanics 48. Stress and strain caused by tension, compression, torsion and flexure. Riveted and welded joints. Shear and moment diagrams. Beams of two materials. Deflection of beams by integration. Combined direct and flexural stresses. Axially loaded columns.

102. MECHANICS OF MATERIALS. *1½ credits (1½-0)*

Prerequisite, 101. Deflection of beams by moment-area. Elastic energy. Impact. Combined stresses. Mohr's circle. Eccentrically loaded columns.

103. GRAPHIC STATICS. *1 credit (0-1)*

Prerequisite, Aplied Mechanics 48. Corequisite, 101. Graphical solution of problems involving forces, bending moments, second moments of areas. Graphical determination of forces and deflections in truss members.

104. MECHANICS OF MATERIALS LABORATORY. *½ credit (0-½)*

Prerequisite, 101. Experimental verification of stress and deformation in beams, columns and shafts. Lab. fee.

105. STRESS ANALYSIS. *3 credits (3-0)*

Prerequisite, 101. Types of loads. Reactions, shears and moments due to fixed and moving loads. Stresses in trusses due to fixed and moving loads. Influence lines.

106. STATICALLY INDETERMINATE STRUCTURES. *3 credits (3-0)*

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

107. HYDROLOGY. *2 credits (2-0)*

Prerequisite, Fluid Mechanics ME 171. Factors affecting ground water and stream flow. Application of principles to problems of water supply and flood routing.

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. *3 credits (1-2)*

Prerequisite, 47. Adjustment of instruments. Precise leveling and triangulation. Topographic survey by plane table-stadia, including map drafting. Subdivision and platting. Astronomical observations to determine azimuth, latitude, longitude and time. Lab. fee.

110. HIGHWAY DESIGN AND CONSTRUCTION. *3 credits (2-1)*

Prerequisites, 101, 108. Administration, planning, economics and finance. Geometric design. Selection of soils. Stabilization. Drainage. Structural design of rigid and flexible pavements. Surfaces. Design project. Selected soil and asphalt tests. Lab. fee.

112. CONCRETE LABORATORY. *1 credit (0-1)*

Prerequisite, Junior standing. Tests of cement, aggregates and concrete in accordance with A.S.T.M. Standards. Design of concrete mixes. Lab. fee.

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†Rec.-Lab. credit.

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. Beams. Shear, bond, diagonal tension, anchorage. Columns. Footings. Floor systems.

118. REINFORCED CONCRETE DESIGN. *3 credits (1-2)*

Prerequisite, 117. Floor systems continued. Detailed design of multi-story building. Prestressed concrete.

120. SOIL MECHANICS AND FOUNDATINOS. *3 credits (2-1)*

Prerequisites, 102, Fluid Mechanics ME 171. Soil structure, properties, classification and behavior. Methods of treatment in design of foundations, embankments and earth fill dams. Selected laboratory tests for determining properties and predicting behavior in structural units. Lab. fee.

121. WATER SUPPLY. *2½ credits (2½-0)*

Prerequisite, 107. Quality and quantity requirements. Development of surface and ground water supplies. Treatment of domestic and industrial supplies. Distribution systems, including reservoirs and pumping stations. Principles of water works finance.

122. SEWERAGE. *2½ credits (2½-0)*

Prerequisite, 121. Hydraulics of sewers. Quantity of domestic sewage and storm water. Collection by separate and combined systems. Treatment of domestic sewage.

123. SANITARY LABORATORY. *1 credit (0-1)*

Corequisite, 121. Selected physical, chemical and bacteriological tests on raw and treated water and sewage. Lab. fee.

124. SANITARY DESIGN. *1 credit (0-1)*

Prerequisite, 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.

127. CIVIL ENGINEERING PROBLEMS. *1 credit (1-0)*

Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group.

130. CIVIL ENGINEERING PROBLEMS. *2 credits (0-2)*

Prerequisite, 127. Completion of project including a detailed formal report. Lab. fee.

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

The many branches of electrical engineering include production and distribution of electrical energy; development and manufacture of electrical equipment and products ranging in size from huge generators to miniature electric bulbs; design, installation and operation of communication systems including telephone, telegraph, radio and television; adaptation of electronic principles to industrial needs such as indicating and control mechanisms; design of modern lighting, both indoors and out; design of electrical systems for vehicles, ships and aircraft and cooperation in such fields as electro-chemistry, metallurgy and medicine.

The growth of the electrical industry has been steady and rapid. In the two decades from 1918 to 1938, the total use of electrical energy in the United States increased threefold. Electrical manufacturing is one of the leading American industries and includes organizations of all sizes from the privately owned shop employing a few workers to the huge corporation manufacturing hundreds of items and employing thousands of men and women.

The large majority of electrical engineers are employed by utility companies and manufacturers of electrical equipment. Other employment opportunities may be found with large industrial firms and with electrical contractors and consultants.

SCHEDULE OF REQUIRED COURSES

PRE-JUNIOR YEAR

(Cooperative)

FIRST SEMESTER

(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
Engineering Materials Laboratory 137	0	3	0.5
A. C. Circuits EE 133	5	0	2.5
D. C. Machines EE 141	3	3	2
Technical Discourse 113	2	0	1
	16	6	9

SECOND SEMESTER

(Spring)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials Laboratory CE 104	0	3	0.5
A. C. Circuits EE 134	5	0	2.5
Electrical Measurements EE 136	4	3	2.5
Shop Practice 111	1	9	2
Technical Discourse 114	2	0	1
Engineering Materials Laboratory 138	0	3	0.5
	12	18	9

THIRD TERM (Half Semester)

(Summer)

(Section A Only)

Subject	Rec.	Lab.	Cr.
Electrical Measurements EE 137	3	6	2.5
Electronics EE 161	3	3	2
A. C. Machines EE 143	3	3	2
Technical Discourse 115	2	0	1
Fluid Mechanics ME 171	6	0	3
	17	12	10.5

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

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Electrical Measurements EE 137	3	6	2.5
Electronics EE 161	3	3	2
A. C. Machines EE 143	3	3	2
Technical Discourse 115	2	0	1
Fluid Mechanics ME 171	6	0	3
	17	12	10.5

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 144	4	6	3
Electronics EE 162	4	3	2.5
Electrical Measurements EE 138	2	3	1.5
Technical Discourse 116	2	0	1
Illumination EE 135	4	3	2.5
	16	15	10.5

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 144	4	6	3
Electronics EE 162	4	3	2.5
Electrical Measurements EE 138	2	3	1.5
Technical Discourse 116	2	0	1
Illumination EE 135	4	3	2.5
	16	15	10.5

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112.	6	0	3
A. C. Machines EE 146	4	6	3
Electronics EE 164	3	6	2.5
Technical Discourse 117	2	0	1
	15	12	9.5

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112.	6	0	3
A. C. Machines EE 146	4	6	3
Electronics EE 164	3	6	2.5
Technical Discourse 117	2	0	1
	15	12	9.5

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
A. C. Machines EE 147	3	3	2
Industrial Instrumentation EE 149	4	3	2.5
Electrical Transients EE 140	4	0	2
Industrial Electronics EE 152.	4	0	2
Electrical Controls EE 139	2	0	1
Senior Thesis EE 165	0	3	0.5
	17	9	10

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
E. E. Problems EE 167	0	3	1
Ultra High Frequencies EE 168	3	3	4
Communication Networks EE 158	3	0	3
Senior Thesis EE 166	0	3	1
Modern Physics 150	2	0	2
Computers and Servo-Mechanisms EE 160	3	0	3
Electrical Controls Laboratory EE 156	0	3	1
Non-Technical Elective**	3	0	3
	14	12	18

DESCRIPTION OF ELECTRICAL ENGINEERING COURSES

GENERAL COLLEGE

30. Direct Current and Alternating Current Principles. *2 credits (1½-½)†*

Prerequisite, Physics 32. (For C.E. and M.E. students) Principles of direct current circuits, generators and motors. Principles of alternating current circuits and instruments. Lab. fee.

31. Electrical Engineering Fundamentals. *2 credits (2-0)*

Prerequisite, Physics 32. Fundamental units of electricity. Ohm's Law. Kirchhoff's Laws. Power. Analysis of series and parallel circuits. Magnetic properties and circuits. Induced and generated electromotive forces. Inductance. Force on a conductor. Electrostatics. Direct current instruments.

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.
**In field of Social Sciences or Humanities.
†Rec.-Lab. credit.

UPPER COLLEGE

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.

133. ALTERNATING CURRENT CIRCUITS. *2½ credits (2½-0)*
Prerequisite, 31. Vector analysis of alternating current, voltage and power. Complex operator. Real and apparent power. Series and parallel circuits. Network theorems. Coupled circuits.

134. ALTERNATING CURRENT CIRCUITS. *2½ credits (2½-0)*
Prerequisite, 133. Balanced and unbalanced polyphase circuits. Metering polyphase power. Non-sinusoidal waves.

135. ILLUMINATION. *2½ credits (2-½)*
Prerequisite, Physics 32. Fundamentals of illumination and principles underlying specifications and designs for adequate electrical lighting. Lab. fee.

136. ELECTRICAL MEASUREMENTS. *2½ credits (2-½)*
Prerequisite, 31. Measurement of high and low resistance. Galvanometer fundamentals. Magnetic tests. D. C. meters. Potentiometers. Lab. fee.

137. ELECTRICAL MEASUREMENTS. *2½ credits (1½-1)*
Prerequisites, 134, 136. Alternating current bridges. Reliability and probability error in measurements. Lab. fee.

138. ELECTRICAL MEASUREMENTS. *1½ credits (1-½)*
Prerequisite, 137. Alternating current instruments and instrument transformers. Watthour meters. Lab. fee.

139. ELECTRICAL CONTROLS. *1 credit (1-0)*
Prerequisite, 146. Principles and applications of important types of electromagnetic controls.

140. ELECTRICAL TRANSIENTS. *2 credits (2-0)*
Prerequisite, 133. Solution of the general impedance function equation to establish steady state and transient responses of complex circuits. Use of operational methods.

141. DIRECT CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 31. Armature windings and reaction. Commutation. Analysis of generators and motors, their characteristics and design features. Lab. fee.

143. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisites, 133, 141. Principles and operating characteristics of alternators and transformers. Lab. fee.

144. ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 143. Principles and operating characteristics of polyphase induction motors. Lab. fee.

146. ALTERNATING CURRENT MACHINES. *3 credits (2-1)*
Prerequisite, 144. Principles and operating characteristics of polyphase synchronous motors. Special types of synchronous and asynchronous machines. Lab. fee.

147. ALTERNATING CURRENT MACHINES. *2 credits (1½-½)*
Prerequisite, 146. Principles and applications of power and fractional horsepower single-phase motors. Lab. fee.

149. INDUSTRIAL INSTRUMENTATION. *2½ credits (2-½)*
Prerequisite, 131 or 143. Principles of electric indicating, recording and control instruments as applied to temperature, pressure and fluid flow. Detailed analysis of measuring characteristics of such instruments. Lab. fee.

152. INDUSTRIAL ELECTRONICS. *2 credits (2-0)*
Prerequisites, 141, 164. Analysis and application of electronics to industrial control circuits. Design of elementary electronic control circuits.

154. ELECTRONIC FUNDAMENTALS. *2½ credits (2-½)*
Prerequisite, 131. (For M.E. students.) Characteristics of vacuum and gas tubes. Amplifiers, power supplies, oscillators, polyphase rectifiers. Industrial electronic control circuits. Lab. fee.

156. ELECTRICAL CONTROLS LABORATORY. *1 credit (0-1)*
Prerequisites, 139, 152. Corequisite, 160. Experiments covering motor controls, industrial electronics, computers and servo-mechanisms. Lab. fee.

158. COMMUNICATION NETWORKS. *3 credits (3-0)*
Prerequisite, 164. Advanced treatment of transmission lines and filters. General communication problems. Ultra high frequency designs.

160. COMPUTERS AND SERVO-MECHANISMS. *3 credits (3-0)*
Prerequisites, 140, 152. Fundamentals underlying the use, construction and operation of computers. Feedback circuits as applied to electrical and mechanical systems.

161. ELECTRONICS. *2 credits (1½-½)*
Prerequisite, 134. Characteristics of vacuum and gas tubes and photocells. Rectifiers and power supplies. Lab. fee.

162. ELECTRONICS. *2½ credits (2-½)*
Prerequisite, 161. Amplifiers, including audio, radio frequency and band pass. Lab. fee.

164. ELECTRONICS. *2½ credits (1½-1)*
Prerequisite, 162. Oscillators. Modulation. Demodulation. Transistors. Lab. fee.

165. SENIOR THESIS. *½ credit (0-½)*
Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group. Lab. fee.

166. SENIOR THESIS. *1 credit (0-1)*
Prerequisite, 165. Completion of project including a detailed formal report. Lab. fee.

167. ELECTRICAL ENGINEERING PROBLEMS. *1 credit (0-1)*
Prerequisite, Senior standing. Selected comprehensive problems. Supervised discussion and computation periods.

168. ULTRA HIGH FREQUENCIES. *4 credits (3-1)*
Prerequisite, 164. Study of high frequency applications. Ultra high frequency oscillators using klystrons, magnetrons and cavity resonators. Coaxial cables. Wave guides. Lab. fee.

301. SERVO-MECHANISMS. *3 credits (3-0)*
Prerequisites, Physics 32, Applied Mechanics 49, Differential Equations 204 or Engineering Mathematics 112. Formulation of integro-differential equations of linear electrical and mechanical systems, the LaPlace transform, dynamics of closed loop systems, the K G locus, representation of the G function, the stability problem and Nyquist criterion.

MECHANICAL ENGINEERING

Professor Petry, Associate 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 and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 101	6	0	3
A. C. Machines EE 131	4	6	3
Engineering Materials Laboratory 137	0	3	0.5
Physical Metallurgy 135	4	3	2.5
Technical Discourse 113	2	0	1
	16	12	10

SECOND SEMESTER
(Spring)
(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Mechanics of Materials CE 102	3	0	1.5
Mechanics of Materials Laboratory CE 104	0	3	0.5
Electronic Fundamentals EE 154	4	3	2.5
Shop Practice 111	1	9	2
Engineering Materials Laboratory 138	0	3	0.5
Engineering Economy 128	5	0	2.5
Technical Discourse 114	2	0	1
	15	18	10.5

THIRD TERM (Half Semester)
(Summer)
(Section A Only)

Subject	Rec.	Lab.	Cr.
Mechanisms ME 173	4	9	3.5
Fluid Mechanics ME 171	6	0	3
Thermodynamics ME 177	4	3	2.5
Technical Discourse 115	2	0	1
	16	12	10

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

JUNIOR YEAR
(Cooperative)

FIRST SEMESTER
(Fall)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Mechanisms ME 173	4	9	3.5
Fluid Mechanics ME 171	6	0	3
Thermodynamics ME 177	4	3	2.5
Technical Discourse 115	2	0	1
	16	12	10

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Administration ME 169	6	0	3
Machine Design ME 182	4	6	3
Thermodynamics ME 181	4	3	2.5
Technical Discourse 116	2	0	1
	16	9	9.5

SECOND SEMESTER
(Spring)

(Section B—First Half)

Subject	Rec.	Lab.	Cr.
Engineering Administration ME 169	6	0	3
Machine Design ME 182	4	6	3
Thermodynamics ME 181	4	3	2.5
Technical Discourse 116	2	0	1
	16	9	9.5

(Section A—Second Half)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
Machine Design ME 183	2	9	2.5
Heat Transfer ME 184	4	3	2.5
Engineering Administration ME 170	3	0	1.5
Technical Discourse 117	2	0	1
	17	12	10.5

THIRD TERM (Half Semester)
(Summer)

(Section B Only)

Subject	Rec.	Lab.	Cr.
Engineering Mathematics 112	6	0	3
Machine Design ME 183	2	9	2.5
Heat Transfer ME 184	4	3	2.5
Engineering Administration ME 170	3	0	1.5
Technical Discourse 117	2	0	1
	17	12	10.5

SENIOR YEAR

FIRST SEMESTER (Cooperative)
(Fall)

(Sections A and B)*

Subject	Rec.	Lab.	Cr.
Industrial Instrumentation EE 149	4	3	2.5
Machine Design ME 198	3	3	2
Thermodynamics ME 191	3	3	2
Fluid Mechanics Laboratory ME 174	0	6	1
M. E. Problems ME 195	1	3	1
	11	18	8.5

SECOND SEMESTER (Full Time)
(Spring)

Subject	Rec.	Lab.	Cr.
Inspection Trips ME 196	0	3	1
Machine Design Problems ME 199	0	3	1
Heating and Air Conditioning ME 187	3	0	3
Heat Machines ME 192	3	0	3
Heat Machines Laboratory ME 193	0	6	2
M. E. Problems ME 197	0	6	2
Modern Physics 150	2	0	2
Non-Technical Elective**	3	0	3
	11	18	17

*Section A attends classes for first half of semester.
Section B attends classes for second half of semester.
**In Field of Social Sciences or Humanities.

INDUSTRIAL OPTION

Mechanical Engineering students may elect an Industrial Option by substituting specifically approved courses in the field of Industrial Management for certain Mechanical Engineering courses.

DESCRIPTION OF MECHANICAL ENGINEERING COURSES

GENERAL COLLEGE

41. HEAT POWER PRINCIPLES. *3 credits (2½-½)**

Prerequisites, Physics 31, Calculus 46. (For C.E. and E.E. students.) Thermodynamic principles including the first and second laws. Study of cycles involving gases, vapors and mixtures. Applications in I. C. engines, compressors, steam plants, refrigeration and air conditioning. Lab. fee.

UPPER COLLEGE

169. ENGINEERING ADMINISTRATION. *3 credits (3-0)*

Prerequisite, Production Management 62. Organization and coordinated administration of functional engineering groups required in research, development, production and distribution.

170. ENGINEERING ADMINISTRATION. *1½ credits (1½-0)*

Prerequisite, 169. Legal phases of engineering, including contracts, specifications, patents and copyrights. Professional ethics.

171. FLUID MECHANICS. *3 credits (3-0)*

Prerequisite, Applied Mechanics 49. Properties and behavior of gases and liquids at rest and in motion. The energy equation. Flow in conduits. Forces on body submerged in moving fluid. Characteristics of turbines, pumps and fluid couplings.

173. MECHANISMS. *3½ credits (2-1½)*

Prerequisite, Applied Mechanics 49. Displacement, velocity and acceleration of machine parts and devices for producing desired motions. Development of gear elements. Action of gear trains. Concurrent use of analytical and graphical methods.

174. FLUID MECHANICS LARORATORY. *1 credit (0-1)*

Prerequisite, 171. Verification of fluid flow through orifices and conduits and around submerged bodies. Metering devices. Performance tests of fluid machinery. Lab. fee.

177. THERMODYNAMICS. *2½ credits (2-½)*

Prerequisites, Physics 31, Calculus 46. Fundamental concepts, including the first and second laws, fluid properties and gas characteristics. Instrumentation. Lab. fee.

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.

181. THERMODYNAMICS. *2½ credits (2-½)*

Prerequisite, 177. Study of real gases, mixtures and combustion, including flow of fluids. Lab. fee.

*Rec.-Lab. credit.

182. MACHINE DESIGN. *3 credits (2-1)*

Prerequisites, 173, Engineering Materials Laboratory 138, C.E. 102. Functions of machine elements. Selection of materials. Design of parts for strength with consideration of fatigue and stress concentration. Fits and tolerances.

183. MACHINE DESIGN. *2½ credits (1-1½)*

Prerequisite, 182. Dynamic and combined stresses in machine elements.

184. HEAT TRANSFER. *2½ credits (2-½)*

Prerequisite, 181. Fundamentals of heat transfer by conduction, convection and radiation. Properties of fluids and solids affecting heat transfer in engineering structures. Lab. fee.

187. HEATING AND AIR CONDITIONING. *3 credits (3-0)*

Prerequisite, 191. Heat transfer, heat losses in buildings. Types of heating equipment and methods used to calculate required capacities. Properties of air, cooling, the cooling load, humidifying, dehumidifying and air circulation. Methods used to design and select equipment to satisfy given requirements.

191. THERMODYNAMICS. *2 credits (1½-½)*

Prerequisite, 181. Study of thermodynamic cycles. Lab. fee.

192. HEAT MACHINES. *3 credits (3-0)*

Prerequisite, 191. Study of actual heat cycles and machines. Performance characteristics of pumps, fans and conduits.

193. HEAT MACHINES LABORATORY. *2 credits (0-2)*

Corequisites, 187, 192. Experimental verification of principles and performance of heat engines and heating and air conditioning components. Lab. fee.

195. MECHANICAL ENGINEERING PROBLEMS. *1 credit (½-½)*

Prerequisite, Senior standing. Selection and preliminary investigation of project for solution by individual or small student group. Lab. fee.

196. INSPECTION TRIPS. *1 credit (0-1)*

Prerequisite, Senior standing. Trips through power stations and industrial plants in northern Ohio. Written reports required.

197. MECHANICAL ENGINEERING PROBLEMS. *2 credits (0-2)*

Prerequisite, 195. Completion of project including detailed formal report. Lab. fee.

198. MACHINE DESIGN. *2 credits (1½-½)*

Prerequisite, 183. Vibrations. Preliminary design of an assigned project.

199. MACHINE DESIGN PROBLEMS. *1 credit (0-1)*

Prerequisite, 198. Final design of an assigned project.

PRE-ENGINEERING CURRICULA

Beginning in September, 1954, the College of Engineering will offer two-year pre-engineering curricula in the fields of Aeronautical, Chemical, and Metallurgical Engineering. Individual programs will be developed in order to prepare the student to enter the degree granting college of his choice.

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, all grades of the elementary school; nursing and nursing education.

The Department of Psychology is open to the students in the Liberal Arts College or the College of Education who wish to major in psychology.

The State of Ohio will grant a Cadet provisional elementary school certificate upon completion of a two-year program. Such a program is provided by the College of Education.

Any student in the University who is not enrolled in the College of Education and who wishes to teach should register with the Dean of the College of Education at least two years prior to the time he expects to be eligible to teach.

Students who complete a prescribed four-year curriculum 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 Pre-requisites	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
Early Elementary 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	2
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.

By taking the following particular courses, students in the Kindergarten-Primary program may also receive University recommendation as Director or Teacher in Nursery Schools:

	Cr. Hrs.		Cr. Hrs.
General Sociology 41	3	Child Development 65	3
Child Welfare 117	3	Red Cross First Aid 111	1
General Foods 45-46	6		

Student Teaching 124 (in nursery school) (after 4 sem. hrs. in kindergarten-primary program) 4

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
Woodwind Class 57	1
Brass 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 I, 41	5
Theory II, 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 25	2	Chemistry 26	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	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

See last page of College of Education section for requirements.

STUDENT TEACHING

Student teaching is done in the public schools under the supervision of critic teachers and a representative of the College of Education faculty. Each student must teach for a semester under regular assignment. When arranging his University schedule for this semester, the student must leave either the morning or afternoon free for Student Teaching.

GRADUATE STUDY

The College of Education offers graduate courses leading to the following degrees: Master of Arts in Education (to candidates holding the B.A. degree), Master of Science in Education (to candidates holding the B.S. degree, the B. S. in Education or the B. E. degree), 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, Mr. Dashiell, Mr. Weiner

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, Professors Distad and Riedinger; Associate Professors Becker, Jones and W. I. Painter; Assistant Professors 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. EARLY ELEMENTARY EDUCATION. *Second semester. 3 credits.*

Prerequisite, Education 131. A continuation of course 131 with emphasis on the teaching of the language arts, science, and social studies at the primary level.

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, Professors Distad and Riedinger, Associate Professor W. I. Painter, 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.

317. SUPERVISION OF STUDENT TEACHING. *2 credits.*

Primarily for directing teachers in the guidance of student teachers. Topics include: readiness for student teaching; student teacher, directing teacher, and college supervisor relationships; the use of the conference, demonstration, and observation; helping student teachers through evaluation.

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. It 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.

*Required graduate courses.

GEOGRAPHY

Associate 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 Professor 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.
VIII. Apparatus and Sports.

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 (Speedball-Basketball) (first semester) 1 credit.
III. Team Sports (Basketball-Softball) (second semester) 1 credit.
IV. Individual Sports (Archery-Badminton) (each semester) 1 credit.
V. Beginning Swimming (each semester) 1 credit. 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.*

Prerequisite 127 and 128. 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.*

Prerequisite 127. 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 Professors Alven and Clayton, Assistant Professor Meyer; Mr. Becker, Mr. Patton, Mr. Bills and Mr. Ireland

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 *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 to 3 credits.*

Prerequisite, permission. The practice is in the areas of diagnostic techniques, remedial methods and personal counseling. Includes the 300 hours of practice required by the State Department of Education for certification of the junior school psychologist. Also for those in other areas of clinical psychology. Institutions now cooperating are the Akron School Child Study Department, County School Psychological Services, Psychological Services in Akron, University Measurement Service, and Massillon State Hospital.

401. PSYCHOLOGY READING AND RESEARCH. *1 to 4 credits.*

Prerequisite: 20 hours of graduate work. Designed to permit research by graduate student in fields not hitherto covered by him. Guidance by a staff member and approval of the Head of the Department are required.

402. PSYCHOLOGY RESEARCH PROBLEM. *2 to 4 credits.*

This is the reading and experimental research course which fills the problem or thesis requirement for the Master's degree.

SPEECH

Professor Sandefur

76. FUNDAMENTALS OF SPEECH. *Either semester. 3 credits.*

A course designed especially for majors in the College of Education. Effective speaking for the classroom teacher with emphasis upon organization, delivery, voice, and articulation.

CONVERSION FROM SECONDARY TO ELEMENTARY CERTIFICATE

The holder of a Provisional, Professional, or Permanent High School or Special Certificate may obtain a certificate valid for elementary teaching upon submitting evidence of the satisfactory completion of the following 12 semester hours of credit:

	Cr. Hrs.
Elementary Education 251	3
Teaching of Reading 135	3
Arithmetic in the Elementary Grades 136	3
Child and Adolescent Psychology 107	3

Such certificate shall be designated as a "Retraining" certificate and may be renewed only upon evidence of the completion of 12 semester hours of additional credit applicable to a degree in elementary education.

CERTIFICATION OF NON-PROFESSIONAL DEGREE HOLDERS FOR ELEMENTARY SCHOOL TEACHING IN OHIO

The State Department of Education will, upon the request of the employing city, county or exempted village superintendent, and the recommendation of the institution in which the credit is completed, grant a temporary elementary certificate to the holder of an A.B. degree, who submits evidence of the completion of the above 12 semester hours of additional preparation.

*Required graduate course.

COLLEGE OF BUSINESS ADMINISTRATION

WARREN W. LEIGH, PH.D., *Dean*

The College of Business Administration was established at The University of Akron, February 18, 1953, effective September 1, 1953. It embodies curriculums previously taught in the Departments of Commerce (established in September, 1919), Industrial Management, and Secretarial Science of Buchtel College of Liberal Arts.

The College of Business Administration is for men and women who plan to enter the fields of business administration, accounting, marketing and advertising, industrial management, or secretarial science. In addition to the four-year curriculums, terminal and short-term educational programs are offered in the day and evening sessions.

ADVISORY COMMITTEE

The College maintains an Advisory Committee of prominent leaders from various fields of business and labor who periodically meet to counsel us relative to our objective programs and special community educational efforts. The members of this Committee are:

Mr. L. S. Buckmaster, President, United Rubber, Cork, Linoleum & Plastics Workers of America.

Mr. Fred W. Climer, Vice President, Personnel, Goodyear Tire & Rubber Company.

Mr. George Daverio, C.P.A., Partner, Chilton, Stump & Daverio.

Mr. Ward Keener, Vice President, Personnel, The B. F. Goodrich Co.

Mr. M. S. Richardson, President, Bank of Akron.

Mr. J. E. Trainer, Executive Vice President, Firestone Tire & Rubber Company.

Mr. E. D. Warner, Managing Director, A. Polsky Company.

ADMISSION REQUIREMENTS

The College of Business Administration accepts students after they have completed two years of general college work. The admission of a student will depend upon his preparation, ability to do college work, his interests, moral character, and fitness for an effective business or professional career. The entrance requirements to the College are:

1. Completion of 64 semester hours with an average of "C" on all work taken, or permission of the Dean.
2. A general educational background as indicated by the satisfactory completion of the General College program as specified for the various areas of Business Administration.
3. Evidence of satisfactory competence in oral and written English, applied mathematics and typing.

OBJECTIVES AND POLICY

The management of business enterprise requires a broad social, economic, and political background; a trained mind; an inquiring attitude; a thorough knowledge of business fundamentals and skill in the uses of management tools and techniques. A program of business training directed toward the development of a high degree of intellectual and professional competence is therefore essential.

The primary aim of the College of Business Administration is to provide professional or technical education at the upper university level. The lectures, problems, and inspection trips integrate theory and practice, and assure thorough preparation. A capstone of business experience will provide professional background and bring out qualities of leadership. For those students who plan to teach or pursue advanced study, solid educational foundation is provided.

The College maintains a sound balance between liberal education and professional courses. Students plan their programs so that approximately 50 per cent of their courses fall in the area of liberal education, 25-30 per cent in general business subjects, and not to exceed 25 per cent in the specialized field of interest. An outline of our overall educational plan, except for secretarial science, is presented herewith.

BASIC CURRICULUM PATTERN FOR BUSINESS ADMINISTRATION

Pre-Business Preparation 2 Years		Business Administration Major	
Liberal Education—to Provide:	*Business Foundation Courses*	*Junior Year*	*Senior Year*
1. Facility in use of English — oral and written.	1. Business Organization	1. Principles of business operation: Production, Marketing, Finance, Personnel Relations	Major of 15 hours—sufficient concentration for the student to appreciate and understand one given area of business.
2. Knowledge of basic mathematics — the quantitative measuring tool.	2. Economics		
3. A basic understanding of the physical and biological sciences.	3. Accounting	2. Measurement and control tools: Accounting, Costs-budgets, Statistics, Operating standards	Electives in Liberal Arts in: a. Economics, social sciences, literature, etc. b. Bus. Adm. Courses (limited in quantity)
4. Knowledge of man's moral, social and religious development —the Humanities.	4. Selling, Typing		Business Policy (3 hrs.) integrates, evaluates and applies the materials learned.

DEPARTMENTS AND MAJORS

The College of Business Administration is divided into four departments:

General Business—offering majors in General Business; Advertising, Marketing and Merchandising; and Finance.

Accounting—offering majors in Public Accounting and Private Accounting.

Industrial Management—offering programs in Production Management and Industrial Relations.

Secretarial Science—offering a two-year certificate program and a four-year degree program with optional specialization in such fields as medical secretary, legal secretary, etc.

Majors or programs of concentration permit students to study intensively in the areas of their major interests. The student who does not have a definite specialized interest should take General Business. Before undertaking a major in any area, the student should discuss with the head of that department his capacity and prospects for success in that field.

To undertake a major leading to the Business Administration or the Industrial Management degree, the student must have a "C" average with not more than one "D" in the "pillar" courses.*

DEGREES

Degree programs, as well as short certificate plans, are provided by several of the departments in the evening as well as in the day sessions.

Degrees granted by the College of Business Administration are: Bachelor of Science in Business Administration, Bachelor of Science in Industrial Management, Bachelor of Science in Secretarial Science.

REQUIREMENTS FOR GRADUATION

1. A minimum of 128 semester hours, including the work in the General College. Not more than 2 semester hours of physical education activities, 8 semester hours of applied music, 4 semester hours of typing (except toward a secretarial science degree or program) may be included.

2. Other requirements, including the residence requirement, listed in the General Information section.

3. At least a "C" average in major and for all work undertaken at the University of Akron and transferred from other institutions.

PLACEMENT OF GRADUATES

In the placement of its graduates, the College of Business Administration follows the policy of providing frank and full reports on its students to prospective employers. The College also advises students as frankly and fully as possible concerning alternative job opportunities. The aim of the placement program is to bring together the students and the business community in their employment relationships in such a way as to be of maximum service to all parties concerned.

In addition to the placement activities of the College itself, the University Placement Office is continually active in putting graduates of the college in touch with employment opportunities.

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* These Business Administration "pillar" courses consist of Accounting 22, Economics 41 and 48, Production Management 62, Marketing 183, and Business Finance 171.

GENERAL BUSINESS

Professor Leigh, Assistant Professors Rogler, Bray, McKinnon, Riddle, and Mr. Powers, Mr. Lantz, Mr. Anderson, Mr. Reynolds, Mr. Peebles, Mrs. Buehl, Mr. Detwiler, Mr. Morris, Mr. Connor, Mr. Goldman, Mr. Allan

The General Business curriculums in Business Administration develop and apply those principles and techniques of economics, administration, and operation which are common to all business and industrial organizations.

This program is adapted to students preparing for careers in business operation, marketing and merchandising, advertising, sales, retailing, finance, transportation, or foreign trade.

The Department also provides business training for students majoring in Liberal Arts but seeking careers in business and for students majoring in textiles but seeking positions in merchandising.

The new Sales and Merchandising Laboratory makes it possible for the latest developments and practices in the marketing field to be brought into the retailing, advertising, accounting, and selling classrooms.

The degree of Bachelor of Science in Business Administration will be granted to those students who complete the prescribed work, including a problems course or seminar in the major area.

BASIC CURRICULUM IN GENERAL BUSINESS

First Year

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
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
Elective	3	Production Management 62	3

Third Year

Business Law 141	3	Business Law 142	3
Marketing 183	3	Advertising 185	3
Business Finance 171	3	Elective	4-7
Elective	3	"Major" course	3-6
Statistics 148	4		

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.

Fourth Year

Major	6-9	Major	3-6
Elective	9-12	Business Policy 268	3
		Elective	6-9

Three fields of specialization are available: Finance; Marketing, Merchandising and Advertising; and General Business. The courses designated under each major with an asterisk (*) are required while the others are applicable toward that major. The aim is to permit the major to be shaped to the student's individual needs. The student should select his major courses and have them approved by his adviser.

FINANCE

Courses	Cr. Hrs.	Courses	Cr. Hrs.
Economics 208	3	*Investments 272	3
Insurance and Security 158	3	Economics 204	3
Banking Practice and Management 176.	3	Security Analysis and Markets 277...	3
		*Problems in Finance 279	3

MARKETING, MERCHANDISING AND ADVERTISING

Sales Promotion 287	2	Retailing 192	3
Retail Advertising 187	2	Art 131-132	4
*Sales Administration 291	3	Economics 268	3
Market Analysis 296	3		
*Problems in Marketing 293	3		

GENERAL BUSINESS

*Production Management 62	3	Purchasing 189	2
Accounting 124 or 27	3	Problems in Finance 279	3
Transportation 151	3	*Sales Administration 291	3
Personnel Management and Relations 163-164	4	Economics 291	2
		Advanced Statistics 248	3

GENERAL COLLEGE

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. Credit not given for this course toward the Business Administration Degree.

UPPER COLLEGE

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.

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 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.

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.

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.

ACCOUNTING

Associate Professor Gordon, Assistant Professors J. Ziegler and Clark, and Mr. Gruber, Mr. Smucker, Mr. Lewis, Mr. Horton

Accounting has become so increasingly important that it is now a fundamental subject for every student of business.

Competent acountants are in demand in all fields. Persons trained in accounting are qualified for positions as auditors, income tax accountants, cost accountants, budget officers, controllers and for managerial positions.

The Accounting Department offers professional training to those who (a) plan to engage in public practice (b) wish to serve a single concern exclusively, and (c) expect to enter the general field of business.

The University of Akron Accounting programs have been very successful in providing the educational background and theory essential for passing the examinations required for the C.P.A. certificate.

The C.P.A. certificate is awarded by the boards of accountancy of the various states. In Ohio a candidate is eligible if he is a citizen of the United States, or has duly declared his intention of becoming a citizen; is not less than twenty-one years of age; of good moral character; a graduate of high school or has received an equivalent education; has had at least three years of well-rounded experience in the practice of accounting, and passes the examination administered by the Ohio State Board of Accountancy. Since 1948, this examination has been the uniform one prepared by the American Institute of Accountants.

CURRICULUMS AND MAJORS

The Accounting curriculum of the College of Business Administration is designed to give thorough training in accounting together with a well balanced background in business and cultural fields. It follows the general requirements for the degree of Bachelor of Science in Business Administration, with the exceptions noted during the final two years.

First and Second Years

The program is identical with that for General Business with two exceptions in the second year. Instead of Elective 3 credit hours and Production Management 62, Accounting majors take:

First Semester	Cr. Hrs.	Second Semester	Cr. Hrs.
Accounting 43	3	Accounting 44	3
Third Year			
Business Law 141	3	Business Law 142	3
Marketing 183	3		
Business Finance 171	3		
Production Mgt. 62	3	Statistics 148	4
Cost Accounting 27	3	Auditing 229	3
Fourth Year			
Federal Taxation 233	3	Business Policy	3
Major	3	Major	0-6
Electives	9	Electives	6-12

Students interested in majoring in Accounting should score well in the Level I Achievement test supplied by the American Institute of Accountants. This test is required of all students before passing Accounting 22. Accounting majors also take a Level II Accounting test during the senior year.

In the field of specialization the student must take not less than 24 hours of accounting (including the basic nine hours required of all students) and not more than 30 hours.

The following accounting courses are required of all majors: Accounting 21-22, Cost Accounting 27, Intermediate Accounting 43-44, Auditing 229, Federal Taxation 233.

Students preparing for public practice are advised to take Accounting 231. Accounting majors preparing for careers in industrial cost accounting should take Advanced Cost Accounting 228, Budgeting 123, and some advanced courses in the industrial management area.

GENERAL COLLEGE

***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 for 22.

***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.

42. SECRETARIAL ACCOUNTING. *3 credits.*

Prerequisite, 21. An elementary course in accounting to meet the needs of secretarial science students. Such students may take either 42 or 22.

43-44. INTERMEDIATE ACCOUNTING. *3 credits each semester.*

Prerequisite, 22. Required of accounting majors. Intensive analysis of balance sheet accounts, working papers, financial statements, financial statement analysis.

UPPER COLLEGE

121. ACCOUNTING SURVEY. *3 credits.*

No prerequisite. Organized for engineers and other advanced non-accounting majors who want an understanding of Accounting fundamentals. Clerical work is minimized. Industrial Management students may meet the accounting requirements by registering for Accounting 121 and 123.

123. BUDGETING. *3 credits.*

Prerequisite, 27, or 121. Sales, production, and distribution budgets; comparison of budget with financial statements; accounting problems involved.

*Accounting 121 and 123, if offered, may be taken by advanced and qualified students in place of 21, 22, and 27.

124. MANAGERIAL ACCOUNTING. *3 credits.*

Prerequisite, Accounting 22. For non-accounting majors only. Emphasis is on the interpretation of accounting data in effecting necessary control of business operations and in formulating business policy.

228. ADVANCED COST ACCOUNTING. *3 credits.*

Prerequisite, 27. Emphasis is given to standard cost procedure and other advanced cost accounting 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, 44 and permission of instructor. This course concerns itself with systematizing order, billing, accounts receivable, accounts payable, payrolls, and various distribution procedures. Field trips and term project.

231-232. ADVANCED ACCOUNTING. *3 credits each semester.*

Prerequisite, 44. The first semester deals with partnerships, consignments, installment sales, insurance, estates and trusts, receiverships, and the correction of statements and books. The second semester deals with branch accounting and consolidated statements. Accounting 232 may be taken before Accounting 231.

233-234. TAXATION. *3 credits each semester.*

Prerequisite, 44. The first semester deals with the current tax law as it applies to the individual and the proprietorship. The second semester discusses federal income tax problems of partnerships and corporations and includes a survey of state and local taxes. Lab. fee in Accounting 233. Accounting 233 is a prerequisite for 234.

236. ACCOUNTING PROBLEMS. *3 credits.*

Prerequisite, 44 and permission of instructor.

299. CPA PROBLEMS. *4 credits.*

Prerequisites, 229, 231, 232, 233, and approval of instructor. The application of accounting and auditing theory through the study of selected problems. CPA examination techniques and procedures are stressed.

INDUSTRIAL MANAGEMENT

Associate Professor Simonetti, Assistant Professor R. Ziegler, Mr. Vobbe, Mr. Armstrong, Mr. Kidney, Mr. Groncy, and Mr. Cowan

The University of Akron was one of the first colleges to establish an industrial management curriculum. The location of the University of Akron in a major industrial area and the trend of the times were important factors in the decision to establish such a program.

This emphasis of education for management is the result of several factors: First, management people are becoming increasingly conscious of the nature of their responsibilities. Second, the management job is becoming much more complex in terms of number of activities, volume of work, and the broader impact of managerial decisions and activities. Third, it is more and more recognized that industrial management requires people of specific qualifications and preparation. It is essential that the status of management as a profession, a science and an art be recognized, and that those in management positions possess the requisite skills and tools.

The past decade has brought about a tremendous expansion in industry and business—in the number of enterprises, in facilities, and in the number of management jobs. Graduates with industrial management degrees find many employment opportunities, especially with industrial firms, in staff positions in production control, quality control, time study, personnel, and factory supervision.

The following outline of the Industrial Management program is for your guidance. It should be followed as nearly as possible for 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
Accounting 21-22	6
ROTC	3
Physical Education 3-4	2

Second Year

Drawing Interp. & Sketching 20	1
Cost Accounting 27	3
Int. to Humanities 7-8	6
Economics 41	3
Bus. Org. & Mgt. 61	3
Production Management 62	3
Psychology 41	3
ROTC	3
Mathematics (Effective Sept. 1955)	3-5

Third Year

	Cr. Hrs.
Business Finance 171	3
Business Law 141-142	6
Marketing 183	3
Industrial Plants 101	3
Motion Study 167	2
Time Study 168	2
Personnel Mgt. 163	2
Statistics 148	4

Fourth Year

Production Planning & Control	3
Quality Control 205	2
Ind. Mgt. Problems 256	3
Business Policy 268	3
*Major Elective	9

*For the major elective requirement the student must take a minimum of 3 credit hours from each of the following groups. Six hours of this work must be in courses of 200 level.

Specialized Courses

Industrial Safety 107	2	Job Evaluation 165	2
Purchasing 189	2	Budgeting 123	3
Plant Maintenance 109	2		

Economics and Personnel

Collective Bargaining 260	3	Analytical Economics 241	3
Personnel Relations 164	2	Psychological Testing 207	3
Labor Problems 206	3	Human Relations in Bus. 62	3

Administrative Policy

Sales Administration 268	3	Government and Business 110	3
Business Cycles 291	3		

UPPER COLLEGE

101. INDUSTRIAL PLANTS. *3 credits.*

Prerequisite, 62. The industrial machinery and production flow problems encountered in basic industries, plant location, the factory as a tool of production, production analysis, plant layout and material handling and storage. Problems and projects constitute an integral part of this course.

107. INDUSTRIAL SAFETY. *2 credits.*

Prerequisite, 62. Principles and practices of industrial safety, including the causes of accidents, fundamentals of accident prevention, maintenance of health standards, and safety organization.

109. MAINTENANCE OF PLANTS AND EQUIPMENT. *2 credits.*

Prerequisite, 101. Maintenance embraces power metering; inspection, cleaning, lubrication and repair of equipment; estimating, control of maintenance costs.

167. MOTION STUDY AND MICRO-MOTION STUDY. *2 credits.*

Prerequisite, 62. The principles of motion study. Recitations are alternated with laboratory periods. Industrial application of motion study; process analysis; principles of motion economy; micro-motion study; film analysis and group motion studies.

168. TIME STUDY. *2 credits.*

Prerequisite, 62. Recitations are alternated with laboratory periods. Analysis techniques; time recording equipment; time study procedure; leveling and rating; fatigue; ratio delay study and standard data method. The student will make actual time studies and prepare a standard data method for an operation.

169. JOB EVALUATION AND MERIT RATING. *2 credits.*

Prerequisite, 163 or its equivalent. Purpose and significance of job evaluation; determining organization and policies; selling the plan; job descriptions; installing and maintaining the plan; determining the wage scale; types of merit rating and developing a merit rating plan.

203. Production Planning and Control. *3 credits.*

Prerequisite, 101 or permission. The necessity for production control; place in the organization; production planning and forecasting; centralized production control; scheduling; routing and dispatching; types of manufacture in relation to types of production control. Representative systems of production control are studied.

205. Quality Control. *2 credits.*

Prerequisites, 101 and 148. Quality mindedness and quality control; quality control and inspection in the organization structure; the inspection function; collection and use of inspection data; application of statistical methods to quality control and use of control charts.

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.

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.

SECRETARIAL SCIENCE

Professor Doutt, Associate Professors E. Flint and Tucker, Assistant Professor Self, Miss A. M. Flint, Miss Sterley, Mrs. Wettstyne, Mrs. Handwerk, Mrs. Oana, Mrs. Nelson

Students preparing for executive secretarial and office positions may choose between two programs offered in Secretarial Science: a two-year course leading to a certificate, and a four-year course leading to the degree B.S. in Secretarial Science. Both programs are combinations of technical subjects and Liberal Arts subjects. Degree students have an opportunity to concentrate in special fields of interest.

Admission: The secretarial programs are open to high school graduates whether they have taken commercial courses or not, provided they meet general university requirements.

Graduation: (1) Students must meet regular University requirements, and must meet departmental standards in skill subjects at time of graduation. (2) At least 60 semester hours must be in academic subjects.

Combination Courses: Two special five-year programs are available, each leading to two degrees: (1) Secretarial Science—Liberal Arts, and (2) Secretarial Science—Education. Those intersted should confer with the head of the department.

Special Fields: For those interested in preparing for such specialties as that of medical secretary, chemical secretary, engineering secretary, political secretary, social secretary, or legal secretary, special programs may be arranged.

Shorthand and Typewriting: Those who have had shorthand and typewriting before entrance will begin these courses in college at such point as their degree of proficiency permits as indicated by placement tests. Full credit will not be granted where undue repetition exists.

Curriculum: In addition to the 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	Spring Semester	Semester Hours
Advanced Shorthand and Transcription 63	4	Advanced Shorthand and Transcription 64	4
Secretarial Procedure 23	2	Filing Practices 27	2
Business Org. and Mgt. 61	3	Office Org. and Mgt. 296	3
Accounting 41 or 21	3	Accounting 42 or 22	3
Business Correspondence 133	3	Machine and Slide Rule Cal. 25	1
		Secretarial Training 74	2

SPECIAL TWO-YEAR CERTIFICATE COURSE IN SECRETARIAL SCIENCE

A special two-year course (at least 64 semester hours) is offered for those who feel unable to spend more than two years in college. This curriculum may be modified in the case of students who have had commercial courses prior to entering the University.

First Year	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 both for this course and 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 and also 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 and also 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 and also 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 and also 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 and also 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. Given 1953-54 and alternate years thereafter. 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.

4. Regular cooperative engineering students whose program requires Summer Session attendance.

5. Transient students from other institutions.

The thirty-third annual Summer Session is organized as follows:

1. A six-week session. (June 21-July 30, 1954.)

2. An eight-week term for Engineering students. (June 21-August 13.)

3. Evening classes. (June 23-August 13.)

ADMISSION REQUIREMENTS

Summer Session students are admitted on the same basis as students during the regular academic year.

STUDENT TEACHING

Student teaching will be done in the Akron and Barberton public schools from June 14 to August 6. All requests for student teaching should be made to the Dean of the College of Education before May 15 with the understanding that those first enrolled will be assigned first. A deposit of $10 is required with each formal application for student teaching.

APPLICATION FOR DEGREES OR CERTIFICATES

Students who expect to complete the requirements for degrees or certificates at the close of the 1954 Summer Session should inquire at the office of the Director 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 provides students opportunities to improve themselves for their employment, to study toward college degrees in liberal arts and sciences, engineering, education, and business administration, and to expand their knowledge in special fields of interest. Both undergraduate and graduate credit courses and special non-credit courses are offered in the evening.

The Division includes the Evening College credit program and the Community College non-credit offerings in the areas of culture, business and industry, home and personal living, and recreation.

Announcements of courses may be obtained from The Division of Adult Education office in Buchtel Hall. The catalogs for the evening program include the necessary information concerning admissions, prerequisites, student course loads, absences, withdrawals, grades, and other aspects of the evening program.

Evening student activities provide opportunity for the extra-curricular interests associated with college life. An evening Student Council of elected representatives and an evening Student Senate direct the extra-curricular affairs. Other organizations include a theater group, the national scholastic honorary fraternity Alpha Sigma Lamba, the evening local sorority, Gamma Beta, the evening social fraternity, Chi Sigma Nu, and the A. E. Honorary Fraternity.

RESERVE OFFICERS' TRAINING CORPS

In 1919, the United States Government established a unit of the Reserve Officers' Training Corps at The University of Akron. Instruction is divided into two parts: the basic course of the first two years, and the advanced course of the last two years.

In 1946, the United States Air Force established a unit of the Air Force Reserve Officers' Training Corps at The University of Akron.

OBJECTIVES OF THE ROTC PROGRAM

1. To develop character and good moral habits.
2. To inculcate good habits of citizenship in young men and acquaint them with the duties, responsibilities and obligations of citizens.
3. To make ROTC an integral and useful part of the college and community.
4. To produce qualified career officers for the U. S. Army and U. S. Air Force.
5. To produce qualified reserve officers for the U. S. Army and U. S. Air Force.

THE BASIC COURSE

A two year basic course in ROTC is required of all physically fit male students during the freshman and sophomore years with the following exceptions:

a. Aliens.
b. Men physically disqualified, carrying less than eight hours, or with more than one year prior honorable military service.
c. Men above 23 years of age or enrolled in short professional or pre-professional courses not leading to degrees.
d. Men who have completed 48 semester hours at another accredited college or university.
e. Men who submit written declaration of valid regilious or conscientious objections to military service.

During the basic course, uniforms and equipment are issued to students, and returned at the end of the year, or upon leaving the program. Each student pays a $10.00 deposit and is responsible for loss or damage to government property issued to him.

ARMY

GENERAL MILITARY SCIENCE

The Army ROTC at The University of Akron is a General Military Science type unit. This means that graduates of the Army program may be commissioned in any of the arms and services of the U. S. Army. The determination in which service the graduate will be commissioned will coincide with the desires of the student, the major field in which the academic degree was earned and the needs of the Army.

THE ADVANCED COURSE

The Army ROTC program consists of five hours per week during the junior and senior years. The advanced course is open to all students who have satisfactorily completed the basic course and veterans who have been honorably discharged or transferred to the Enlisted Reserve Corps and relieved from active duty, provided that they are selected by the President of the University and the Professor of Military Science and Tactics.

While the student is enrolled in the advanced course, the Government furnishes him with uniforms and equipment, and pays him a monetary allowance.

The Army unit requires that the student must not have reached his 27th birthday at the time he enrolls in the advanced courses.

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

The Army ROTC student qualifies for his commission in the Army Reserve Corps by completing the advanced course and four calendar years of academic work.

On the basis of scholastic attainment and demonstrated leadership, students will be designated distinguished military students and will be given an opportunity to qualify for a regular Army commission upon graduation.

THE ADVANCED CAMP

Six-week Advanced ROTC camps are conducted each summer. Students will be required to attend one summer camp program unless sooner discharged from the ROTC. The student will receive the pay of the seventh enlisted grade while at the advanced camp, and he will be reimbursed for his travel to and from the camp.

MILITARY SCIENCE AND TACTICS (Army)

11-12. FIRST YEAR BASIC MILITARY SCIENCE. *1½ credits each semester.*
Three 1-hour classes each week. Required of freshman men not taking 13-14.

43-44. SECOND YEAR BASIC MILITARY SCIENCE. *1½ credits each semester.*
Prerequisite 12.

101-102. FIRST YEAR ADVANCED MILITARY SCIENCE. *3 credits each semester.*
Prerequisite 44.

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

121-122. FIRST YEAR ADVANCED MILITARY SCIENCE. *1½ credits each semester.*
For Junior Cooperative Engineering Students. Prerequisite 112.

123. SECOND YEAR ADVANCED MILITARY SCIENCE. *1½ credits.*
Summer term or fall. For Cooperative Engineering Students. Prerequisite 122.

141. SECOND YEAR ADVANCED MILITARY SCIENCE. *1½ credits.*
For Senior Cooperative Engineering Students. Prerequisite 123.

151-152. SECOND YEAR ADVANCED MILITARY SCIENCE. *3 credits each semester.*
For Seniors. Prerequisite 102, Cooperative Engineers 141.

AIR FORCE

As a permanent program of instruction at civilian educational institutions, it is the mission of the AFROTC to select, educate and motivate students to serve as commissioned officers in the regular and reserve components of the United States Air Force. Specialized training in USAF occupational career fields is no longer incorporated into the AFROTC Program. Under the new generalized curriculum, the basic program serves two purposes: (1) The education, motivation, and selection of potential junior officers for the advanced phase and, (2) It provides an opportunity to offer an air-age citizenship course to a large segment of the male undergraduate population of the University.

THE ADVANCED COURSE

The advanced program consists of five class hours per week during the junior and senior years.

The advanced program is open to men who are physically qualified and are interested in flying with the United States Air Force, either as a pilot or observer, and to a limited number of selected engineering and science majors. Entrance into the advanced phase is limited to men who have successfully completed the basic course, will be in upper college at the time of entrance, who are in phase scholastically, and to veterans who have been honorably discharged from the Armed Forces or transferred to the Enlisted Reserve Corps and relieved from active duty. Final selection will be made by the President of the University and the Professor of Air Science and Tactics.

The student must not have reached his 25th birthday at the time of entrance into the advanced course and he must complete it prior to his 28th birthday.

Once the student enters the advanced course, he must complete it in order to qualify for a university degree.

A student may be appointed a Second Lieutenant in the Air Force Reserve following completion of the advanced course and his university degree.

Subsistence in the amount of $0.90 per day, not to exceed 595 days, is paid to all formally enrolled advanced students. (Subject to change by Comptroller-General.)

The United States Government purchases one complete, officer type uniform for the advanced student which becomes his personal property upon receiving his commission.

THE ADVANCED CAMP

A four week summer camp is conducted each summer. Students will be required to attend one summer camp, usually between the junior and senior year, unless sooner discharged from the AFROTC program. Students will receive the pay of an airman basic while at camp and will be reimbursed for their travel to and from camp.

AIR SCIENCE 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.

115-116. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 54. For Pre-Junior Cooperative Engineering Students.

117. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Summer Session or Fall Semester. Prerequisite, 116. For Junior Cooperative Engineering Students.

125-126. ADVANCED AIR SCIENCE. *1½ credits each semester.*
Prerequisite, 117. For Junior Cooperative Engineering Students.

153-154. ADVANCED AIR SCIENCE. *3 credits each semester.*
Prerequisite, 104. Full-time students.

155. ADVANCED AIR SCIENCE. *1½ credits.*
For first semester Senior Cooperative Engineering Students. Prerequisite, 126.

156. ADVANCED AIR SCIENCE. *3 credits.*
For Second Semester Senior Cooperative Engineering Students. Prerequisite, 155.

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.

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.

STUDENT ORGANIZATIONS

HONORARY

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

STUDENT CLUBS

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

SORORITIES

Kappa Kappa Gamma (N) Chartered 1877; Delta Gamma (N) Chartered 1879; Phi Mu (N) Chartered 1912; Alpha Gamma Delta (N) Chartered 1922; Zeta Tau Alpha (N) Chartered 1929; Theta Phi Alpha (N) Chartered 1931; Delta Pi Iota (L) Chartered 1934 (Inactive); Alpha Delta Pi (N) Chartered 1938; Theta Upsilon (N) Chartered 1939; Gamma Beta (L) Evening Session.

FRATERNITIES

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

Note: N means National. L means Local.

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